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ADVANCES IN GLOBAL EDUCATION AND RESEARCH

Volume 1

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Part 1: Adult Education
Growth Mindset and Adult Learners in Higher Education

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Abstract
The purpose for this poster presentation is to show what a growth mindset is, its relation to self-directed learning, explore some of the recent findings on growth mindset and other social-psychological interventions regarding bridging the achievement gap for disadvantaged adult learners, retention and suggest a way to explore the possibility that doing “in-depth, comprehensive training” of teachers in growth mindset strategies to support students in the classroom, in addition to online intervention with students, will intensify the decrease in achievement gap short term as well as increasing retention long term. Offering educators “in depth, comprehensive training with specific application to teaching and learning in the community college” (Auten, 2013, pg. 66) appeared to have had a positive effect on student success and retention during a one term, mindset intervention. Powers (2015) study including both faculty and students in a social-psychological intervention involving growth mindset showed changes in faculty and students. Yeager, et al. (2016) illustrated that a social-psychological intervention could be scaled up on-line and decrease the achievement gap for disadvantaged students. Pauneski (2013) and Pauneski, et al. (2015) show that the scaling up to a nationwide study still indicates a decrease in achievement gap. For the purpose of this poster presentation, adult learners are broadly defined to include college students over high school age, in or out of a formal school, with the primary focus being on college students.

Keywords: academic success, adult learner, growth mindset, retention, self-directed learning, achievement gap

Introduction
According to the May 2016 report from the National Center for Educational Statistics on U.S. 2 year and 4 year colleges with open admissions, based on 150% of expected completion time, 40% do not graduate (Kena, Hussar, McFarland . . . et al, de Brey, 2016). There has been no significant improvement since the May 2013 report. The purpose for this study is to understand what a growth mindset is and how it has been used in education for retention and academic success, specifically with adult learners. For the purposes of this paper, adult learners are broadly defined to include college students over high school age, in or out of a formal school, with the primary focus being on college students.

The starting point is to examine the term “Growth Mindset”, however, just as light cannot be known without knowing dark, growth mindset cannot be discussed without examining a fixed mindset. Someone with a growth mindset has a belief that is based the plasticity of the brain, a belief that the brain can grow with persistence and practice. Mistakes are to learn from. Challenges are opportunities to learn something new. The goal of every experience is to learn. A fixed mindset is based on the belief that you are born with so much intelligence and talents and you can’t do anything about it. You can learn some things, but only to the limit of your innate intelligence. Mistakes prove you are not smart and the primary goal is to look smart.
The response of someone with each of these mindsets is very different for the following five elements: Challenges, mistakes or setbacks, feedback, effort, and success of others.

With a growth mindset one sees challenges as an opportunity to learn something new or something more. Mistakes or setbacks are valued for the insights gained and the learning that allows them to come back and succeed using another route, resource, or procedure. This may be working with someone else, seeking information from someone successful in the field they are working in, or something else that is appropriate to the situation. Feedback is a valuable tool to gain a different perspective on what they are setting out to accomplish, something to learn from. They know that it takes effort to learn and get better in anything. Success of others is seen as inspirational and those that are successful are sought out for collaboration and shared learning.

The ramifications of having a growth mindset appear to be resilience, grit, persistence, social relating and teamwork, giving and receiving peer support. In the face of difficulty there is a willingness to seek out resources in the form of people, electronics, and other sources of information.

In contrast, someone with a fixed mindset avoids challenges so they will not look stupid. Mistakes or setbacks are to be avoided since they are perceived as proof that one is not smart. They may give up if something takes effort since that is also seen as evidence of not being smart and if someone else is successful resentment and a feeling of being threatened are elicited. In whatever area one has a fixed mindset, a person will continue to try to stay in their comfort zone and try to look smart, as opposed to trying something new for the learning experience.

This is not to say that one has a growth or fixed mindset about everything in their life. An individual may have a growth mindset about learning computer skills and pursue learning new skills on a continual basis but a fixed mindset about personal relationships with a “my way or the highway” attitude.

Another perspective on growth mindset is its congruence with Self Directed Learning (SDL), when individuals are learning in a formal education setting. Although it may be a “required” class that is being taken, when learning is done, applying the growth mindset will always demonstrate the definitive elements of SDL. Students are proactive, with help from others or alone, they embrace challenges by taking the initiative to be involved in the process of learning, by creating their own learning goals based on their personal needs or interest, in addition to any the instructor is requiring (Knowles, 1975). They must identify their resources, try out their learning strategies and look at their outcomes to see if they need to adjust their strategies and/or ask for more assistance or guidance from someone who has expertise in the subject. People who are successful are seen as resources and examples to learn from. Outcomes that do not give the result they desire, mistakes or setbacks, are used as learning opportunities.

Currently there is an online resource for schools, teachers, mentors and students, mindsetkit.org, this site is associated with the Project for Education Research That Scales (PERTS) which indicates on its website that it “helps educators apply evidence-based strategies in order to advance educational excellence and equity on a large scale. We believe that properly scaling educational research can empower schools to reduce inequality and create better experiences for students and teachers.”
Literature Review
Dweck (2006) Gives examples and illustrations of the effect of using growth mindset for learning by both children and adults. Her book defines and explains growth mindset and its effect in sports, business, relationships, education and parenting as well as including results of some of her first mindset workshops with students and accounts of the significant improvement of grades of the students who were in the targeted group.

Dweck’s theories on growth and fixed mindset come from personality theories in the field of social psychology. As she discusses self-theories in a book of essays (2000) she explains that fixed mindset, the belief that one has a fixed amount of intelligence, “the theory of fixed intelligence”, is an “entity theory” of intelligence. This is versus a “theory of malleable intelligence”, growth mindset, which is an “incremental theory” of intelligence (Dweck, 2000 pp 2-3).

Auten (2013) in her dissertation on growth mindset claims, with in-depth training, the community college instructor can foster a growth mindset in the classroom supporting students in being more resilient, in other words, more motivated to learn and work harder while finding difficulties challenging rather than discouraging. They use better, more effective, learning strategies and their academic performance is higher compared to students with a fixed mindset. Yet, there are still problems with a growth mindset not being reinforced or even being undermined in the classroom.

Auten’s (2013) research was a qualitative study that explored how educators in the community college can work to foster a growth mindset and what tools they may need to be equipped with to do so. This study supported the current research showing that adopting a growth mindset promotes retention and academic achievement. There could be further work done to see if training the instructors can be shown quantitatively to improve retention and academic success, specifically for students deemed at risk. Auten’s work included 12 modules used to give in-depth training to the instructors over the course of the semester. The contents of the modules were the high point in this project and seem to cover every aspect of growth mindset. This study did not have clear results concerning the instructors’ responses at the end of the project except to say they had changed their teaching methods after the training and they could see a positive difference in their students. If any quantitative data was collected to compare grades of students in the intervention classes with the grades of students in the same course, but not in the intervention, it was not included in the data.

Powers (2015) asserts that six brief mindset interventions increased success data influenced both students and teachers as well as transferring growth mindset behavior to other areas than the original classroom. He supports the assertion, that teaching according to the principles of growth mindset with the requisite strategies for using resources and with the goal for any experience to be learning rather than concern with looking smart leads to academic success.

Random selection and assignment of the English 60 course faculty was done for two campuses, Foundation College and Colonial College. The pre-intervention survey was administered to faculty after selection and assignment to either growth mindset group or the control group. The survey showed that all the faculty at Foundation College was very familiar with growth mindset and reported using it in their class, therefore there was no control group assigned for Foundation College. It would have been better to have administered the pre-intervention survey to the population of faculty at Foundation College that were available to participate in an intervention, then choose faculty for the two groups appropriately. Data was collected prior to the intervention,
during the intervention and at the end of the intervention. Appendix 1 shows data collection by research question.

Powers (2015) study was both qualitative and quantitative. The intervention course (English 60) completion was 95.73% (112) and success rate was 90.60% (106) (n=117). Contrast that to the Completion result for other English 60 courses on campus that semester which was 85.68% (712) with a success rate of 71.12% (591) (n=831).

Looking at the course completion and success data for the college whose faculty had less familiarity with growth mindset, Colonial College, the following was found as shown in Table 1.

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>Number</th>
<th>Percent</th>
<th>Number</th>
<th>Percent</th>
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<tr>
<td>Intervention</td>
<td>117</td>
<td>112</td>
<td>95.73</td>
<td>106</td>
<td>90.60</td>
</tr>
<tr>
<td>Campus</td>
<td>831</td>
<td>712</td>
<td>85.68</td>
<td>591</td>
<td>71.12</td>
</tr>
</tbody>
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The difference in percent for course completion and success is significant.

The emphasis in this study was multiple, training the intervention faculty so they could support growth mindset in the students, introducing students to brain plasticity, the foundation of growth mindset, people can change, can grow their brains, intelligent practice, seeing failure as something to learn from rather than a sign of low intelligence, and it is smart to seek help if you have done all you can to solve a problem and still don’t understand, you are part of the group, you belong. The ideas expressed were that sometimes you help others, sometimes they can help you.

Powers (2015) data collection was as follows. Prior to the intervention faculty groups were given an open-ended survey about growth mindset. The students of all groups were given a forced choice survey. During the study, faculty met to share reflections on each intervention and participate in focus groups. Students answered open-ended questions in response to each session. After the intervention, all faculty completed the open-ended survey on a computer and the intervention faculty participated in a focus group or, if there was a schedule conflict, an individual interview. The students in the control group received the same forced choice survey while the intervention students received an expanded open-ended survey evaluating the sessions in addition to questions about changes in their behavior and perceptions. Appendix 1 shows Powers data collection by Research question. Quantitative data was collected for retention, success, comparison between groups as well as comparison to historical course outcome measures from campus researchers.

All nine faculty in the intervention group observed positive changes in student behavior and attitudes and emphasized the importance to pairing the mindset concept including brain plasticity with the learning strategies such as conferring with peers, using library resources, the learning center, tutors, computers, experts in the field, as well as other resources and strategies as appropriate.

At the end of Powers (2015) intervention, 80% of all intervention students reported using strategies they had learned for growth mindset in the intervention class, in other classes or at home. Again, his research supports the other current research. Students indicated that when they saw scientifically that they could grow their brain it led to a fundamental shift in thinking about
learning. This in turn led to a willingness to try new strategies in the learning process and education in general, transferring those skills and ideas to other classes and areas of life.

Suggestions for future implementation were for a more flexible four-session versus six-session version. Ideally the program would be presented to the instructors early enough for them to integrate the growth mindset practices and concepts into their syllabus. Another suggestion was to integrate discipline specific strategies to increase perceived usefulness of the material.

The techniques used by Powers (2015) and Auten (2013), in contrast to those use by Paunesku (2013), who argues for scaling up social psychology interventions for positive changes in behavior such as academic achievement, are time consuming and are accompanied by logistics issues such as scheduling time for all face to face interventions.

Because of the expense and lack of sufficient generalization, Paunesku (2013) argues for scaling up for social psychology interventions. He uses the ongoing study, Project for Education Research that Scales (PERTS), in his doctoral dissertation as a case study in scaling up. To see information on this continuing study, go to www.PERTS.net.

As results from research need to be applicable to diverse populations in various areas and situations to be of greatest value, Paunesku (2013, p. 30) argues that by scaling up the research, it is more likely that interventions can be adjusted so that motivation for administration of interventions of individuals administering, expertise, and context become less relevant. Another aspect he points out is cost effectiveness of implementation. Although he does not say this specifically, if the interventions are successful, gain in academic achievement is possible, even without requiring training for teachers specifically in growth mindset strategies for their classes. Again, this is not explicitly said, but the only training evident in his description of the PERTS information is voluntary use of mindsetkit.org to gain more insight for their class instruction. This is in contrast to the work of Powers and Auten.

Paunesku (2013) chose an online delivery, removing location and geographic distance issues, reduced logistic issues and class time for colleges that participated. Training for college personnel was minimal as was class time, since intervention was delivered as online homework. There was also, greater consistency of administration of the intervention by using the computer.

Paunesku (2013, p. 33) asserts that as variability in effect size increases it will be reflected in “expected social benefit.” He insists on the importance of scaling up as he points out that even an effective intervention may statistically show a negative effect if results are taken from a smaller study with weak statistical power. He goes on to say that if one wants to impact policy, the study must be large enough to obtain accurate results that are statistically strong. Another argument for large studies is public perception. The smaller studies may cause an effective intervention to be rejected because of weak statistical information that indicates it is ineffective. In Chapter One, Paunesku (2013) describes how various psychological interventions can affect long-term changes in academic success and the circumstances in which each one “should be effective.” (Paunesku, 2013, p.10)

There have been multiple small scale interventions using brief, 15 minutes to 3.5 hours, psychological interventions that have had a long-term effect in academic achievement and now with PERTS there is the possibility of millions of students participating with a result of higher
academic achievement and reduction of the achievement gap found between advantaged and disadvantaged students by up to 40%. Appendix 2 shows results of one such intervention done at University of Texas by Yeager, et al. (2016, pp. E3343-E3345), (Tough 2014). With one 45 minute, online intervention the achievement gap for disadvantaged students was cut in half.

Experiment two in the study by Yeager, et al. (2016), mentioned in the previous paragraph, was completed in the fall semester of 2012 at UT, and done completely on-line with the entire freshman class, n=7,335. This appears to be one of the precursors of PERTS, the case study Paunesku (2013, 34-48) describes in Chapter 2.2. Yeager’s study (Yeager, et al. 2016) compared the newly enrolled students to those in previous and later cohorts not randomized to condition, n=14,216, showing the decrease in achievement gap as noted in the previous paragraph. Experiment two used completion of 12 or more credits during the both semesters during the first year as a measure.

The PERTS intervention is ongoing. Appendix 3 depicts of the results for a 45-minute intervention that included n=519 at risk students during the Spring Term of 2012, January to May of 2012 (Paunesku, Walton, Romero, . . . et al Dweck, 2015, p. 7). For the growth mindset portion, students were given material to read that discussed brain plasticity, the ability of the brain to grow making new connections when one works hard using good strategies on things that are challenging. Failures can be temporary and both failures and struggles were emphasized as part of the learning process, opportunities for growth and learning and in no way an indication of lack of intelligence. Two writing exercises were used as reinforcement. These results are part of the ongoing PERTS intervention described in Paunesku’s 2013 dissertation.

Chapter four of the dissertation by Paunesku (2013, pp. 68-90) is a scaled-up study of community college students from two colleges, “Increasing Resilience in Community College Math”. This study tested to see if two interventions, growth mindset and sense of purpose, relevant to resilience could improve academic success for students enrolled in 29 different math courses. See Appendix 4 for comparison. There were four groups of participants, growth mindset, sense of purpose, mixed, and control. The results were the same for the first three groups, so they were calculated as one group. “The students in the treatment group took 680 math courses and their completion rate was 6.4% higher, this intervention cumulatively led to 44 additional students earning satisfactory grades in math.” (Paunesku, 2013, p. 84)

The focus of Paunesku’s studies was on the general process of implementing interventions rather than a specific subject.

There is no documentation of instructor training in using growth mindset practices to support growth mindset behavior in students, such as intelligent practice, wise feedback, peer tutors, value affirmation, or grading practices that supports growth mindset. Although most instructors would say they have a growth mindset, they may not have learned how to promote growth mindset in their class and even buy into the idea that some people are limited in “x” type of learning. It is true that some students put in a lot of effort, for example in math, and still get the wrong answer. This may simply be due to the fact that they keep making the same mistakes, following the same steps over and over. Practice does not make perfect, it makes permanent. Some students need to be guided to a different strategy, perhaps have the procedure explained by a peer who has just recently learned how to be successful in that type of problem. Sometimes, when we are an expert, it is easy to miss that small obvious, essential step that we automatically use, when teaching the
process to someone else. Although nine out of ten of the students see that “obvious, essential” step, there may be that one student who does not.

If the point is for a student to learn a process, then there could be retest after remediation for either full credit or most of the credit when students do poorly on an assignment. In many classes the teaching process is set up as though the educational institution and all the instructors are mandated to have a fixed mindset with the goal being for students to look smart by spitting back all the right answers, even if they have not done any deep learning. If the institution and the teacher is to exhibit a growth mindset in which learning is more important than looking smart, then the idea of brain plasticity must be communicated to students and true cooperative learning opportunities must be promoted, not just allowed. These opportunities must lead to learning, not just passing a course.

In the study by Auten (2013), although it has shortcoming, she indicates the instructors found that using the training they had in growth mindset, for the intervention, worked so well in their classes that they were prompted to change some of their teaching processes. Furthermore, they reported transferring some of the growth mindset actions to their personal life including how they worked with their own children.

In contrast to Auten (2013) and Powers (2015), Paunesku, et al. (2015, p43, Fig. 1) apparently in the PERTS the instructors participating in his described interventions are given the “option” of viewing program materials. Those who choose to view the materials must complete a, one time, fifteen-minute survey. This does not specify if the materials instructors see are simply student materials or instructor training materials for growth mindset strategies such as those found on the website mindsetkit.org. Also, not indicated is how or if it will be determined that the instructors viewed all of the growth mindset information, unlike the studies of Auton (2013) and Powers (2015) which had required training, reflections, and discussion during the intervention. Powers (2015, p. 122) makes the point of the benefits of faculty professional education in his statement, “While workshops might give students new insights, the daily classroom environment and faculty attitude can also motivate, or demotivate students.”

Powers (2015) reported that, because of the collaboration and reflection activities for faculty, faculty adopted growth mindset strategies in their classes to motivate students. In other words, faculty changed their instructional practices due to the training they received and their participation in this intervention. Some of the new student practices that faculty reported included explicitly referring to growth mindset in class, including assignments that included reflection and “help-seeking behaviors” while new behavior of faculty included using strategies for grading and feedback based on growth mindset theory. Powers (2015, pp. 124-125) noted that the faculty who participated in the interventions, through reflection and collaboration, implemented new strategies not originally included in the intervention instructions.

A question that could be addressed in the future is, does the “in-depth training of instructors in the theory of growth mindset and how to influence it in the classroom” have a statistical effect size above simply administering an on-line growth mindset intervention to student? If an on-line training for teachers including the opportunity to reflect and collaborate on-line were created and given for in-service credit, what would the cost and benefits of implementation be?

Underlying these questions is the question, does a class taught by and developed by an instructor using growth mindset strategies, create significantly greater academic success for students? These
strategies would include grading and feedback that encourages embracing errors for learning, encouragement to ask for help from teachers, peers, mentors and other reliable sources, praise for effort, and exploring other strategies when the first approach to academic work does not bring success. This could also include support for a sense-of-purpose in the classroom work.

**Methods**

**Sample**
Auton (2013) conducted a case study using purposeful criterion sampling. Powers (2015) used a multiple-methods, experimental design to explore how growth mindset interventions changed faculty practice and student outcome. Faculty participants were assigned randomly to either a growth mindset intervention group or a comparison group. This should have been a purposeful selection to make sure the faculty in the comparison group were not familiar with growth mindset as he had to eliminate the results from the comparison group at Foundation College because of this omission.

Yeager, et al. (2016), used a double blind randomized, online, study to test the effects of an intervention based on social psychology theories of growth mindset and social belonging. Randomization was at the student level. Paunesku (2013) used case studies of social psychology interventions for academic success scaled up and online.

**Data Collection**
Auton’s data was collected via interviews and recorded in a reflective journal to keep track of impressions, reactions, and interpretations. (Auton, 2013). Powers (2015) data collection was as follows. Prior to the intervention faculty groups were given an open-ended survey about growth mindset. The students of all groups were given a forced choice survey. During the study, faculty met to share reflections on each intervention and participate in focus groups. Students answered open-ended questions in response to each session. After the intervention, all faculty completed the open-ended survey on a computer and the intervention faculty participated in a focus group or, if there was a schedule conflict, an individual interview. The students in the control group received the same forced choice survey while the intervention students received an expanded open-ended survey evaluating the sessions in addition to questions about changes in their behavior and perceptions. Appendix 1 shows Powers data collection by Research question. Quantitative data was collected for retention, success, comparison between groups as well as comparison to historical course outcome measures from campus researchers.

Yeager, et al. (2016) collected some student data through a pre-intervention random assignment survey on growth mindset and social belonging. Class registration and completion of 12 or more classes was done through the registrar’s office. Paunesku (2013) collected grade data from participating schools at the end of the intervention as well as obtaining data from semesters that there was not an intervention for comparison.

**Findings**
Growth mindset has significant effect on retention and academic success. Further research needs to be done on the relationship of academic success and retention with instructor in-depth training in fostering growth mindset and its accompanying learning strategies.
Conclusions
The studies using psychological interventions show significant improvement in academic achievement when scaled up and put online for students. A question that could be addressed in the future is, does the “in-depth training of instructors in the theory of growth mindset and how to influence it in the classroom” have a statistical effect size above simply administering an online growth mindset intervention to students? If an online training for teachers including the opportunity to reflect and collaborate online were created and given for in-service credit, what would the cost and benefits of implementation be?

Underlying these questions is the question, does a class taught by and developed by an instructor using growth mindset strategies, create significantly greater academic success for students? These strategies would include grading and feedback that encourages embracing errors for learning, encouragement to ask for help from teachers, peers, mentors and other reliable sources, praise for effort, and exploring other strategies when the first approach to academic work does not bring success. This could also include support for a sense-of-purpose in the classroom work.

- Other questions that could be addressed in online interventions are as follows.
- Is there a sense of belonging created as one practices growth mindset in the class and collaborates with peers and at what degree?
- How does the in-depth growth mindset training change the instructor’s practice?
- How does the in-depth growth mindset training change the instructor’s perception of the students?
- What changes do the instructors notice in their classes over the course of the semester?
- According to student perceptions and student success data, what are the effects of the mindset interventions offered by the trained instructor in class?

References


**Appendix 1**

<table>
<thead>
<tr>
<th>Data Collection Method</th>
<th>Research Question</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intervention Survey</td>
<td>According to student perceptions and student success data, what are the effects of six brief growth mindset interventions on students’ mindsets?</td>
<td>Pre-Post</td>
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<tr>
<td>Resource Use Questions</td>
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<td>Open-Ended Reflections</td>
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<td>Closed-Ended Reflections</td>
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<td>During</td>
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<td>Course Completion and Course Success</td>
<td></td>
<td>Post</td>
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<tr>
<td>2. Open-Ended Reflections</td>
<td>In what ways, if any, do students report a transfer of growth mindset practices beyond the intervention course?</td>
<td>During</td>
</tr>
<tr>
<td>Closed-Ended Reflections</td>
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<td>During</td>
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<tr>
<td>Intervention Survey</td>
<td></td>
<td>Post</td>
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<tr>
<td>3. Qualtrix Survey</td>
<td>How does a series of growth mindset interventions change faculty perceptions about instructional practices?</td>
<td>Pre-Post</td>
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<tr>
<td>Reflection Journals</td>
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<td>During</td>
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<td>Interviews</td>
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<td>During</td>
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<td>Focus Groups</td>
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<tr>
<td>Intervention Mindset Survey</td>
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<td>Pre-Post</td>
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<tr>
<td>4. Faculty Interviews</td>
<td>Based on student and faculty feedback, how can we improve the series of growth mindset interventions?</td>
<td>During</td>
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<tr>
<td>Faculty Focus Groups</td>
<td></td>
<td>Post</td>
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<tr>
<td>Qualtrix Survey</td>
<td></td>
<td>Post</td>
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<tr>
<td>Student Intervention Survey</td>
<td></td>
<td>Post</td>
</tr>
</tbody>
</table>

Powers (2013, p 40)

**Appendix 2**

**Figure 1.** Advantaged vs. disadvantaged
Appendix 3

Fig. 2. The effect of the interventions on satisfactory course completion in core courses among students at risk of dropping out of high school. The graphs in (a) show the percentage of students who received satisfactory grades (A, B, C, pass, or credit) in all core courses in the semesters before and after the interventions were conducted. The graph in (b) shows the average percentage of satisfactory course completion across all core courses in the same semesters. The error bars represent ±1 SE.


Appendix 4

Figure 6: Effect of treatment by prior GPA. A mixed effect model revealed that students in the treatment group earned higher grades than control group students.

Paunesku (2013, p. 83)
Community Engagement Model for Course and Program Development

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Abstract
This retrospective case study documents the development of a unique model for community engagement and engaged scholarship in higher education. The primary novel aspect of the model is participatory involvement of both the target audience for the program and representatives of various stakeholder groups in all aspects of program initiation, development, implementation, and evaluation. The model emerged while developing the Informal Science Institutions Environmental Education Graduate Certificate Program (ISI) at the University of South Florida. Also reported are sample benefits accrued to learners in the program, to the ISI community, to the community at large, and to the University.

Keywords: community engagement, engaged scholarship, informal science education, professional development, program development

Introduction
In this era of shrinking budgets for higher education and the call for accountability by the public, it is advantageous for a University to cultivate audiences previously not served in the surrounding community and beyond. Ensuring that the offerings by the University meet the actual and perceived needs of new audiences can be a challenge. Typical procedures for developing new courses and programs may need to be modified. A traditional approach commonly used by University professors to develop new courses is for a single professor to sit at a computer and design the syllabus based on the professor's expert knowledge and stream of logic. The course developed is usually totally teacher-directed. Discussion with other professors in the person's department regarding the need for a specific course may occur. Occasionally, a professor sends a short needs assessment to a sample audience prior to developing the course.

An alternative approach is to involve the community from the target audience for the course in initiating the idea for a course, verifying need, conceptualizing content, implementing a pilot, and conducting evaluation research. This approach is likely to meet authentic needs and engage members of that community in recruitment for the program. This approach contributes to a University fulfilling its commitment to community engagement and engaged scholarship.

A commonly used format for community engagement in higher education is for professors to give students assignments requiring them to use knowledge obtained in a particular course to assist members of a surrounding community to solve a problem identified by the community. This usually requires students to interact with community members by sharing their expertise individually or in small groups in the community setting. This is often labeled service-learning.

There are many definitions of service learning. They all have in common that it is a strategy addressing core curricula objectives while meeting real community needs (Alliance for Service Learning, 2014).
Learning and Education Reform, 1995). Bringle and Hatcher (1996) note that service-learning should also include reflecting on the experience to foster more understanding of course content, a broader appreciation of the discipline, and an increased sense of civic responsibility.

Other mechanisms for community engagement include community service, community outreach, community based participatory research, training and technical assistance, coalition building, capacity building, and economic development. Noticeably missing from this list are formal courses and programs. The model used for course and program development reported herein adds another vehicle to fulfill a University’s commitment to community engagement.

In the program reported herein, the Informal Science Institutions Environmental Education Graduate Certificate Program (ISI), the format for community engagement was the creation of four University graduate courses articulated, sequenced, and linked together into a graduate certificate program as a vehicle to solve a problem identified by a segment of the community, the informal science education providers in the Tampa Bay region. Admittedly, this process is extremely time consuming and burdensome for faculty, but it is equally as rewarding.

Literature Review
The relevant literature review for the theoretical framework addresses science education; scholarship of engagement; communities of practice, inquiry, and learning; and learning theory.

Science Education
The relentless rapid pace of change in science and technology drives change in our democratic society and continues to stimulate vehement calls from numerous segments of society for a scientifically and technologically literate population (Glenn Commission, 2000; Epstein & Reagan, 2011). This context has led to the longest-lived reform movement for science education in the United States. It began in 1982 and continues today. The documents guiding the reform are Benchmarks for Science Literacy (AAAS, 1993), the National Science Education Standards (NRC, 1996), and the Next Generation Science Standards (NGSS Lead States, 2013). Among reforms these documents and many succeeding national reports require are systemic reform, use of community resources for teaching school science, and continuous development of teachers from preservice learning in institutions of higher education through inservice learning (professional development) while working in schools (Mundry, Spector, Styles, & Loucks-Horsley, 1999).

The primary voices heard target reform of the K-12 enterprise as the mechanism to achieve scientific and technological literacy for all. It has been, however, documented that much if not most of the science knowledge in our population is derived from learning opportunities outside the formal K-12 enterprise through what is referred to as informal science education (ISE) or “free-choice” education. Schooling is necessary but not sufficient for lifelong science and technology literacy (Falk, Storksdieck, & Dierking, 2007). Thus educators and scientists who provide informal science education opportunities have enormous potential to contribute to the scientific and technological literacy of our society. These professionals work in a multitude of different types of settings with minimal connections and communication among them. The diversity of settings, or sectors, of the ISE field include film and broadcast media, science centers, museums, zoos, aquariums, botanical gardens, nature centers, digital media, gaming, science journalism, community centers, after-school programs, government agencies, research laboratories, and civic organizations. Organizations providing informal science education are often referred to as informal...
science education institutions (ISEI) or Informal science institutions (ISI). The acronyms ISEI, ISE, and ISI are used interchangeably in this article.

ISEI professionals have little opportunity to be educated specifically for their jobs as informal science education providers or for their own professional development once on the job. Given the amount of science learned by the public from informal sources, the need to focus on the quality of informal science education and its integration with K-12 reform is equally as important as K-12 reform to attain the goal of scientific and technological literacy for all.

In spite of the enormous diversity of types of loosely knit organizations providing informal science education in the United States and lack of coherence among them, it is still appropriate to label them a community.

From a sociological perspective, the notion of community refers to a group of people united by at least one common characteristic. Such characteristics could include geography, shared interests, values, experiences, or traditions. John McNight, a sociologist, once said that if one were to go to a sociology department in search of a single, simple definition of the word community, one would "...never leave". To some people it’s a feeling, to some people it’s relationships, to some people it’s a place, to some people it’s an institution" (CBC, 1994).

All the providers of informal science education share an interest in and value development of scientific and technological literacy for all the American population.

Scholarship of Engagement
The idea that institutions of higher education should fulfill their missions by conducting business in concert with the community outside the Academy was made public by Ernest Boyer, president of the Carnegie Academy for the Advancement of Teaching and Learning, in 1990. He labeled the concept, engaged scholarship. Barker (2004) described Boyer’s concept this way:

The scholarship of engagement, … consists of (1) research, teaching, integration, and application scholarship that (2) incorporate reciprocal practices of civic engagement into the production of knowledge. It tends to be used inclusively to describe a host of practices cutting across disciplinary boundaries and teaching, research, and outreach functions in which scholars communicate to and work both for and with communities. … The scholarship of engagement suggests a set of practices that cuts across all aspects of the traditional functions of higher education (p. 124).

Currently, the labels community engagement or community-engaged scholarship are used by many institutions to describe initiatives in which the three traditional dimensions of academia (research, teaching, and service) are integrated to work toward resolving an issue of significance to people in a region around the institution and leading to reciprocal benefit for both the University and the community. The label community-based participatory research is sometimes used expressly for research initiatives in which the focus is specifically on University personnel and community partners generating new knowledge collaboratively.

Communities of Practice/Inquiry/ Learning
Commonalities of these communities include sharing among people for a common purpose, incorporating shared values, and commitment (Furman, 2002). This is not typical of University classrooms in which a professor makes the management decisions about the structure and content in a course (teacher-directed). In a student-directed/centered classroom, the learners and the
professor work together to make decisions for structure and content. This is compatible with research on how people learn and consistent with the concept of community engaged scholarship. In student-centered courses (e.g., in the ISI program), learning opportunities are member generated and agreed upon, tested, and require feedback within the group to determine next steps. A development-testing-research cycle is established. In the ideal student-directed classroom, all the participants work on a level playing field, engage in inquiry, and function as a community of practice. The class unit functions as a learning community (Senge, et al. 1994).

The model in this case study emerged from a student-directed program incorporating communities of practice. Experts and novices interact in such communities with experts serving as mentors and facilitators. The instructor is an orchestrator, balancing student generated and instructor-generated topics (Richards, 2010). Trust among community members is essential to engage in the honest, multifaceted dialog needed for success. Dialog includes technical knowledge and skills, open disclosure of problems, supportive advice, consideration of feelings, and valuing each other (Wenger, McDermott, Richard, & Snyder, 2002). Such relationships go through developmental stages and take time (Richards, Bennett, & Shea, 2007). Communication that is honest, caring, other-oriented, and non-judgmental is called interpersonal communication (Beebe, Beebe, & Redmond, 2005).

The program described herein allowed for extended contact over a two-year period and contact beyond the end of the program. During this time participants engaged in the variety of forms of interpersonal communication as denoted by Beebe, Beebe, and Redmond (2005).

**Learning Theory**

Participants engaging in interpersonal communication are learning in accord with Novak’s theory of education: Empower learners to take charge of their own meaning making from experiences by integrating thinking, feeling, and acting (1999). The emergent model followed Kolb’s (1984) experiential learning cycle: This cycle includes: experience, reflection, abstract conceptualization, and action. Concrete experience is first. Reflective observation is second where the learner reviews the experience, understands its value, both cognitively and emotionally, and shares these data with others. Abstract conceptualization to connect the experience with past experiences and knowledge, generalizing features of the experience into lasting concepts and rules is third. Testing the veracity of these new concepts by applying them to new actions and experiences is fourth.

Reflection “slowing down our thinking processes to become more aware of how we form our mental models” (Senge, Kleiner, Roberts, Ross & Smith, 1994, p. 237) throughout the learning cycle, provides necessary processing time for learners to incorporate new knowledge into their existing cognitive frameworks containing many mental models, both short and long term. It follows that changes in short-term everyday mental models accumulating over time will gradually be expressed as changes in long-term, deep-seated beliefs (Senge, et al.1994). Changes in beliefs often bring about changes in behaviors. These changes lead to questioning, collecting more data, and evaluating. Learners become autonomous and increase their self-efficacy. ISI participants increased self-efficacy while testing learnings from the program in their work settings and moving into new roles within their institutions and the developing ISI network.
Methods

Sample
The sample consists of materials, published and unpublished, written by participants in the face-to-face 2006-2008 pilot test of the Informal Science Institutions Environmental Education Graduate Certificate Program. Some of the materials were research papers and their original data, while others were items written for use within and among ISI organizations. This study was needed to obtain guidance for development of the pilot test of an online version of the ISI program in 2010.

Data Collection
Faculty, participants, and stakeholders in the ISI program conducted community-based participatory research. They collected data through participant observation during formal class meetings and out of class meetings; electronic recordings of class sessions and online postings of open-ended reflections; unstructured and open-ended face-to-face focus group and individual interviews; site visits to participants’ organizations; and examination of artifacts collected during the face-to-face pilot. They documented what happened during the year leading up to the pilot test, throughout the two years of the face-to-face pilot test, and the ensuing three years after the program was completed. The studies and their original data were housed in the professor’s office archives and available for review.

Data Source
The data source for the community-based participatory research studies examined for the study herein, was the cohort of 15 students with diverse science and education backgrounds. They varied from second-year ISI staff to seasoned ISI executives, and novice and veteran teachers in school settings, along with some scientists who were interested in and involved with outreach programs.

Empirical Model
This is a retrospective emergent design qualitative study. The initial questions were, (a) “How does the emergent model from developing the Informal Science Institutions Environmental Education Graduate Certificate Program illustrate community engagement and engaged scholarship? “ and (b) “What were the benefits to stakeholders from developing and pilot testing the Informal Science Institutions Environmental Education Graduate Certificate Program? An inductive process was used to answer the questions. Categories emerged from the analysis of data from each sample and refined iteratively. Categories were triangulated among the samples by the authors working together. Emergent themes led to the development of a model, which was member checked with six participants of the original cohort studied.

Findings

Evolution of this Model for Community Engagement
The model evolved through iterations developing thirty-one courses initiated by Dr. Spector for science teacher education over 20 years. Each iteration modified the nature and amount of community participation increasing and diversifying aspects to which the community had input. Two series of courses were developed between 2004 and 2008: One series, Community Building in Ocean Sciences I-V, (community-building), consisted of five graduate courses presented sequentially over two years designed to bring scientists and educators together to fulfill the mission of Center for Ocean Sciences Education Excellence-Florida (COSEE-FL).
The second series of courses was an outgrowth of the first set. A stakeholder from the first set of courses, the Executive Director of the Pier Aquarium, discussed needs in his professional community. He indicated educators in informal science education institutions needed professional development. Others in the community-building cohort agreed and embarked on the following steps: Seven area ISI education executives were brought together for a focus group to explore whether they perceived such a need, and if so, what it encompassed. The need for extended learning opportunities in contrast to one day events was voiced. Thus, the idea of having formal courses for professional development of ISI providers emerged. The ISI executives also indicated they could donate in-kind resources, such as use of physical sites, materials, and human expertise to facilitate learning opportunities for such a program. About the same time, the University began encouraging faculty to develop graduate certificate programs and participate in community engagement. Thus the idea for the Informal Science Institutions Environmental Education Graduate Certificate Program was born.

**Expanded Community Engagement**

A subgroup from the community-building cohort generated a written survey for public distribution inquiring whether such a certificate program was needed. The survey was distributed at the Florida Marine Science Education Association meeting (formal and informal educators) in March 2006, Ocean's Day 2006 in the state capitol (politicians; government, academia, and private sector scientists and engineers; informal and formal educators K-graduate school; business and industry vendors; and the fishing community), a Summit at the Florida Aquarium on May 19, 2006; and to ISI individuals encountered incidentally.

At the Summit, supported by National Science Foundation (NSF) grant funds to COSEE-FL, the concept for the ISI graduate certificate program was presented. Participants talked about their needs for professional development and provided feedback to the tentative syllabi ideas developed by the group from the community-building courses. Everyone agreed the need for systematic, sustained professional development was endemic in the ISI enterprise. COSEE-FL could fund development of the formal courses and tuition assistance. The Summit's response encouraged the community-building group to go forward with the ISI program and incorporate ideas from the Summit. These questions crystalized to guide the development of courses: (a) What do we need to know and be able to do to establish and sustain a viable network that capitalizes on the unique niches of each organization? (b) What do we need to know and be able to do to create effective learning opportunities and interfaces with each other and with formal education institutions that will facilitate change consistent with the science education reform movement and the National Science Education Standards? University faculty and community members jointly generated answers to these questions and tested them as content in the pilot Informal Science Institutions Environmental Education Graduate Certificate Program.

Concurrently, availability of formal ISI professional development opportunities nationally was explored. Informal science educators were canvassed orally at the 2006 COSEE National Network meeting in Washington, D.C. At a COSEE - CA workshop in Berkeley, Dr. Spector discussed the ISI program ideas with a representative from Oregon State University and a representative from the Lawrence Hall of Science at Berkeley exploring the potential for collaboration. In January 2007, Dr. Spector and the Executive Director of the Pier Aquarium met with the NSF Informal Science Education Division program officers. All present concluded there was a need to specifically prepare people to serve as science educators in informal science education settings. The problem was summarized this way: Currently, most people working in informal science education...
education settings are hired because they have a bachelor’s degree in one of the sciences. Typically, the people have no formal training in education and communication of science to varied audiences. They commonly have to learn on-the-job. A few hired may have teaching experience in a K-12 setting and are not trained to communicate in an informal setting. ISI staff commonly knows very little about the ISE enterprise as a whole, or about management structures within which they function in a particular ISI. As a result, ISIs invest much effort to maximize output from staff. Generally low salaries lead to large staff turnover presenting a constant burden to an institution and a barrier to continuous improvement of delivery of science to multiple audiences. For those individuals who do stay on in an ISI or move among ISIs, there is a need to constantly update their science. Further, the literature base about learning in an ISI is relatively small, thus there is a need to increase the research base. Creating an academic home in one or more universities with formal coursework designed for informal science educators would result in better prepared and more effective science educators working in the multitude of ISI settings and a research program investigating ISI related questions. They may stay in the profession longer in spite of the low pay. Formalizing preparation and certifying individuals to work in ISIs would contribute to this enterprise being viewed as a profession and potentially raise salaries.

The NSF meeting led to discussions with the two leaders in ISI research, John Faulk and Lyn Dierking, who were going to move from Washington, D.C. to Oregon State University, and identification of four other fledgling ISI course initiatives begun in 2006 at the University of Oregon, California State University at Long Beach, University of California at Berkley, and Minnesota State University at Moorhead. Our local community-building cohort reiterated not only was the professional development needed in the Tampa Bay area, but also in other places in the country.

Audience responses to presentations describing experiences in the ISI certificate pilot test at mid point made by pilot test cohort members at the 2007 National Marine Education Association conference in Portland Maine and the 2008 National Science Teachers Association Informal Science Day in Boston again affirmed that the community need was national. Thus the decision was made by the community-building cohort and the participants in the ISI pilot test courses to put the ISI courses through the formal course and graduate certificate approval process in the University and put the program online for distance learning.

In January of 2009, the National Research Council (NRC) released a report titled, Learning Science in Informal Environments: People, Places and Pursuits (Bell et.al., 2009). It documents the condition and needs of the informal science education enterprise. This comprehensive report was the first of its kind and validated the need for the Informal Science Institutions Environmental Graduate Certificate Program and the appropriateness of its contents.

**Participatory Process**

In this model's unique approach, community members (including those enrolled as students) were equal and active partners in decision-making for all phases of course and program development from initiating the idea, to needs assessment, to conceptualization, to development, to recruitment, to pilot test, to evaluation research, to refinement of the individual courses and the program as a whole, to redesign for distance learning. This extensive experience with collaborative decision-making helped students grow into capable leaders.
The community-building cohort recruited the students for the pilot test of the face-to-face program, and stakeholders in organizations not a part of the community-building cohort, such as the Vice Presidents for Education at the Florida Aquarium and MOTE Marine Laboratory recruited students. ISI organizations of which students and developers were a part engaged with USF faculty and students in community-based participatory research. They contributed to the research on the impact of the learning in the ISI program by facilitating data gathering, interpretation, publication, and dissemination of case studies and other types of research. Students in the ISI courses engaged additional ISIs in case study research of their organizations. These have been used for publication, and as tools for teaching and enabling ISI providers to learn about each other’s strengths, thus contributing insights for networking. Studies of the face-to-face pilot test and its long term impact on participants and their respective organizations culminated in a dissertation (Ball, 2012), which was a formal summative evaluation. Similarly, the pilot test of the online distance-learning cohort enacted from 2010 to 2012 culminated in an evaluation dissertation (Lake, 2017), which confirmed the earlier findings.

**Description of the ISI Certificate Program**

The Informal Science Institutions Environmental Education Graduate Certificate Program was composed of four three-credit courses: (a) Methods for Interpretive and Transformative Standards-Based Education, (b) Community Resources for Environmental Education, (c) Environmental Site Explorations, and (d) Survey Update of Environmental Research and Management Policies. Designated face-to-face meeting times (180 hours) were augmented by frequent one-to-one meetings with the instructor or small group interactions among student participants. The program was intended to educate ISI providers in ways to enhance their ability (a) to become productive partners in a systemic approach to forwarding STEM education reform, (b) function effectively in ISIs, and (c) develop meaningful, mutually beneficial relationships among ISIs and with formal education institutions. The target audience for this program included ISI educators and other ISI personnel, formal K-12 classroom teachers, University science education professors, and University and corporate scientists and engineers interested in education. This audience possessed a variety of knowledge, skills, and abilities representative of novices and experts.

Originally the course syllabi designed by the community-building stakeholders included information in the following areas: (a) how people learn science, (b) how to interface effectively with science teachers in K-16 schools, and (c) updated scientific research and policy. From this baseline, the content evolved through an iterative process based on the needs and concerns of the participants. The program was learner-driven. Issues, events, and projects with which participants were engaged at work were used as case studies. Other professional experiences, such as attending professional conferences and developing grant proposals were also fodder for learning. Timing and sequencing of learning opportunities were based on learners’ expressed need to know. Some face-to-face classes included on-site experiences in a variety of informal science institutions. These experiences provided first-hand opportunities to construct a holistic view of the informal science education industry, its organization, career paths, management concerns, unique niches, and the nature and relationships among programs and partnerships.

Designing learning opportunities in collaboration with the students (community participants) led to course and program features consistent with communities of practice, learning communities, and communities of inquiry in which the participants developed emotional, intellectual, and practical support systems. The knowledge constructed enabled participants to resolve issues in
their own institutions and the ISI community throughout the program. Thus the program itself fostered further community engagement.

The pilot test cohort was aware they were expected to wear two hats during their time in the program: One was as learner, and the other was as program developer for future distance-learning cohorts. The flexible order of the learning opportunities during the pilot test facilitated scaffolding based on learners’ prior knowledge, in contrast to the professor’s logic. For example, the community-building design group selected Community Resources for Environmental Education as the first course in the sequence. Six weeks into the course, the pilot test cohort determined their discussions would be more fruitful if they first knew the information in the course Methods for Interpretive and Transformative Standards-Based Education. Thus, the seventh week of the first fifteen-week semester we began investigating topics from that course. The professor was able to ensure the concepts identified in the approved University syllabi were addressed by examining data from her own and group reflections, analyses, and abstract conceptualizations of experiences. She used Kolb’s experiential learning theory (1984), Novak’s (1977) theory of education, the National Science Education Standards (NRC, 1996), and Benchmarks for Science Literacy (AAAS, 1993) as her frame of analysis.

Benefits
This section identifies sample benefits accrued (a) to the participants in the ISI program, (b) to the ISI community, (c) to the community at large, and (d) to the University.

Benefits to Participants
Participants developed knowledge, skills and abilities in several areas that lead to them being more effective and productive ISI providers. Participants continually integrated new information into their cognitive frameworks that help them become more effective network builders within their own organizations, with other ISI providers, and in partnerships with schools and the University. This networking led to increased resource sharing and lessened duplication of services that had previously existed among members of the network.

Participant growth. Participants developed the following:

(a) A realization that "I don't know what I don't know!" There was more to learn about the industry and learning than the participants ever anticipated.

(b) Abilities to immediately use information from the program and apply it at work. For example, a program participant began working with an ISI that facilitated service-learning projects between formal schools and community organizations. The organization’s trainer had been using a didactic, reductionist model. The trainer lectured to teachers for four days about science content and how to guide their students through the organization’s six-step inquiry and action process. The program participant converted the training sessions to active learning inquiry in which the teachers experienced a process conforming to the 5E’s learning cycle (Bybee, 1991). He explicitly used constructivist theory, questioning strategies, and other features of NSES with the teachers. His success led to changing the organization’s training model locally and influenced the training model used at sister centers in other parts of the country.

(c) Skills in networking and coalition building. Among the skills developed was recognizing the cultural differences among organizations. These included how language is used, context specific vocabulary, understanding organizational structures, missions, needs, motivations, and rewards.
Most participants enhanced their human interaction skills, including being sensitized to identifying interaction patterns and relationships. They enhanced their listening skills, and discovered that people interpret things through their own perceptual screens resulting from their life experiences. The program also contributed to a gain in self-efficacy, and development of strategies to improve relationships, expedite collaborative work, and establish organizational partnerships. For example, one participant convened a meeting of 40 people representing 25 informal science providers in her county to establish a communication network beyond that developed in the ISI program and connected this new group with a national network.

(d) Skills and understandings that led to leadership roles within their institutions and within the enterprise. As participants developed awareness of the vast diversity of ISI organizations they saw career opportunities and structured new plans. Participants encouraged and supported each other in taking on a variety of leadership positions in state and national professional organizations. Three participants were elected to presidencies, one to a secretary, and four to boards of directors during the program. Seven participants either changed jobs or moved up to a higher position in their own organizations resulting from their employers being aware of their participation in the certificate program.

(e) Motivation for more education. The program set the hook for further education in order to answer questions that arose from the program. Three participants were motivated to continue their formal education and enrolled in science education graduate programs and one enrolled in an MBA degree program for nonprofit organizations. The ISI program also set the experiential base and framework for participants to recognize patterns in other courses in the University and understand the content of the other courses.

(f) Knowledge integration. Over two years, participants integrated knowledge and made it their own to the point of having difficulty distinguishing what they learned in the certificate and what they just “do” now. This is evidence of knowledge assimilation into their individual personal idiosyncratic conceptual frameworks and into their professional lives.

Benefits to the ISI Community
Here are samples of the benefits to the ISI community: (a) increased capacity to construct effective initiatives consistent with how people learn and with current scientific research findings, and teacher in-service programs consistent with the National Science Education Standards; (b) creation of a career ladder that lessens the amount of time and investment each ISI makes in new hires; (c) professionalized education role in ISIs, (d) collaborations among ISIs and between ISIs and schools and universities in the community; (e) increased ease of resource sharing and additional funding opportunities, and (f) additions to the research base on ISIs.

Benefits to the Community at Large
This ISI program established an infrastructure in the Tampa Bay Region that enables (a) all teachers in the community to benefit from ISI resources and services to improve the learning of children in schools, in addition to their learning outside of schools, thereby creating a continuum of meaningful learning opportunities for school-age young people in the community; (b) ISI providers to develop ways to interface successfully with teacher education programs and in-service teachers in schools to promote systemic change; and (c) ISI providers to assist teachers in making learning relevant and meaningful to their students.
**Emergent Model**
The steps in the emergent model follow in Table 1:

**Table 1. Community Engagement Model for Course/Program Development**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Identify an audience not served by the institution</td>
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<tr>
<td>2.</td>
<td>Engage audience representatives in designing and conducting multiple types of needs assessments with different stakeholder groups</td>
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<tr>
<td>3.</td>
<td>Conduct a focus group of leaders in the target audience</td>
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<tr>
<td>4.</td>
<td>Enable audience leaders to advocate for formal courses to meet the identified needs</td>
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<tr>
<td>5.</td>
<td>Engage potential audience and related stakeholders in initiating draft of course(s)</td>
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<tr>
<td>6.</td>
<td>Present drafts of courses to larger target audience for input</td>
</tr>
<tr>
<td>7.</td>
<td>Pilot test courses with a cohort comprised of target audience novices through experts</td>
</tr>
<tr>
<td>8.</td>
<td>Work with the cohort to establish a level playing field and create a community of practice</td>
</tr>
<tr>
<td>9.</td>
<td>Facilitate cohort participants to function as both learners and course developers</td>
</tr>
<tr>
<td>10.</td>
<td>Use participants’ current professional experiences as fodder for study</td>
</tr>
<tr>
<td>11.</td>
<td>Assist participants in applying their new knowledge to implement change in their organizations</td>
</tr>
<tr>
<td>12.</td>
<td>Facilitate participants conducting research on their course experiences, their applications, and on other related organizations</td>
</tr>
<tr>
<td>13.</td>
<td>Encourage research products to be presented in professional settings and published</td>
</tr>
<tr>
<td>14.</td>
<td>Keep organizational stakeholders involved by using their resources for the cohort of learners throughout, and by informing stakeholders of participants’ progress</td>
</tr>
</tbody>
</table>

**Benefits to the University**
The results of the research participants conducted as the program progressed benefitted the University in the following ways: (a) by providing data to use to refine the ISI courses, (b) by facilitating incorporation of community resources when teaching potential and current teachers how to teach, (c) by providing an ISI infrastructure to incorporate in grant proposals requiring ISI partnerships, (d) by allowing publications demonstrating USF’s position as a forerunner in an emerging field nationally, (e) by increasing graduate enrollment through engaging an audience this University had not previously served, (f) by providing an alternative procedure incorporating effective methodologies found in social science research for professors to develop courses meeting authentic needs of a new audience, and (g) by establishing a new research context for professors interested in community engagement.

**Conclusion**
A model emerged from this case study of the Informal Science Institutions Environmental Education Graduate Certificate Program (ISI program) that provides an alternative approach to course/program development for universities to fulfill their commitment to community engagement and engaged scholarship. The community identified its own problem and engaged University expertise and academic structure as the vehicles to mitigate the problem. Participation of stakeholders as partners on an equal playing field with University faculty in all phases of program development from initiation through refinement for distance learning involved all participants in several mechanisms commonly considered to be community engagement, such as community-based participatory research, training and technical assistance, coalition building, and capacity building. Benefits to stakeholders from developing and pilot testing the ISI Program were documented in four categories: participants in the ISI program, the ISI community, the broader community, and the University. Partnerships and coalitions developed that helped mobilize resources, influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices in the ISI community. Benefits indicated the ISI certificate program was a viable strategy to respond to the needs of a community not previously served by the University. The infrastructure in the community created by the program provided a
seamless continuum for meaningful science learning across the K-graduate school science education enterprise and ongoing lifelong learning in settings outside of school.

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Part 2: Curriculum and Instruction Development
A Pedagogical Approach Towards Assembly Language

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Abstract
Assembly Language Programming is an important Core Course in the department of computer science. The authors hope that this article can crucially help the instructor as a pedagogical tool for teaching most fundamental principle behind assembly language. Moreover, it provides the most appropriate sequence in which assembly concept should be deliberated that makes it more meaningful and easy to grasp.

Keywords: appropriate sequence, interrupt, string, structure of program, addressing modes

Introduction
Curriculums of computer science departments are constantly upgrading worldwide. With the advancement in technology, new and state of art research arenas, such as Computer Vision, Mobile Applications, Bioinformatics, Computer security and Computer networks, has expanded coverage on their important topics. Mostly Application Software development programs are written in contemporary high-level languages. Unfortunately, low level computer languages are ignored or downplayed. In order to develop a profound understanding of a computer system and to be able to design assiduous and efficient programs it’s incumbent to develop expertise in low level programming languages.

Assembly Language is an Intermediate low-level programming language which is generally considered to be a level higher than machine language while on the other hand it is term to be at level lower than high level language; such as Java, C, and FORTRAN; for a computer, microcomputer, or other programmable devices. It implements a symbolic representation of binary machine instructions. Every type of computer hardware has its own Machine Language and consequently Assembly Language. In the beginning of Programming era, all programs were written in assembly language. Now, mostly programs are written in high-level languages such as BASIC, C or Java, which are generally portable across multiple systems.

Programmers still use assembly language when efficiency is essential or when the accessibility to system hardware is required, that is not possible with a high-level language. Efficiency refers to how “well” a program performs in terms of space and time (space and time efficiency).

Time-efficiency conveys how much time is consumed to execute a program where as Space-efficiency describes the memory required by the program (i.e., the size of the date and code). It has been observed that the programs developed in assembly language seems to generate faster and
compact executable code as compared to high-level language program code. This is mainly because they are optimized by humans rather than automated code optimizers.

The basic direction and sequence in which assembly language concepts are delivered plays a crucial role in quick learning and better understanding of students. A sound conceptual grasp will enable the students to write more meaningful and efficient programs in assembly language. This paper focuses on the most appropriate sequence in which assembly concepts should be delivered for desired outcome. The paper is divided into four sections; section 2 will cover the related work, section 3 will cover the Basic appropriate Sequence of an ALP, and section 4 will cover the conclusion.

**Literature Review**

Assembly Language is an important factor for software engineers and computer scientists. For achieving knowledge of overall system programming, comprehensive exposure of assembly language and commendable understanding of computer architecture is an important aspect. The two major elements that bring success in assembly language are deep understanding of Assembly language syntax and practicing it through programming.

In (Xiao Yong-peng, Yin Ming-hao, 2010), the author mainly focused on how to teach assembly language based on teaching activities, using students as the major roles, to improve student’s Assembly Language programming ability and expand their range of knowledge.

In (Ying Zhu, 2010), the author addressed the issue of “Refining Teaching Method” for technologies related to software interfacing. Moreover, the author teaches issues related to assembly language and interfacing. The author stressed that these topics were the most important sections which should be comprehended in depth. While, on the other hand, they seemed hard to be explained. To further endorse the quality of teaching, they introduced other methods, such as Discussion based teaching method; discovery methods and exploration based teaching Method.

In (Mu Lingling, 2008), the author discussed the tool for the automatic assessment of assembly language programs. This paper focused on the assessing strategy and implementation of an assembly language program. It also explained the background and aims for developing the assessment tool, based on MASM, a development tool for assembly language.

In (Eric Larson, October 22 – 25, 2008, ), author focused on ANNA (A New Noncomplex Architecture) assembly language, which is based on a novel 16-bit architecture whose instruction set is quite comparable to MIPS. In ANNA few instructions are adequate in demonstrating how high-level languages are translated into low level assembly language, how to implement pipelining, and how to design a CPU data path. The paper described how ANNA can be used effectually in a programming course such as assembly language and computer organization.

In (*, September 9-12, 2007), the author introduced a new programming approach in which most important and frequently used assembly instruction were substituted into simple equivalents for assembly language programming; as it was hard to recall the mnemonics for each instruction. These equivalent instructions used simple familiar operator which established a significant explanation in assembly language programming. This new approach had a free format structure so it was therefore called the Free Format Assembly Language. VC++ tool was used for assessing the
performance of this language. The result showed that it was a good substitute for assembly language.

In (Xu, 2011), the paper focused on how to improve the teaching practices for “Assembly language programming”, it predominantly emphasized on the topics relevant to DOS assembly, 80x86 assembly and Win 32 Assembly. Low level languages are closest to the hardware; therefore they are non-intuitive, convoluted and demanding for students to learn. These difficulties can alleviate if teachers have an in-depth understanding and knowhow of key concepts. The paper mainly focused on how to efficiently elucidate the teaching tactics and the teaching content, and how to assume better pedagogical methods.

In (Zhang Jun, 2009) the author discussed how to practice training for Assembly Language and Programming.

For more convenience of the assembly student and teacher, the experimentation devised to teach of Assembly language programming were focused into three areas, which were technical experiments, verified experiments, and comprehensive experiments, and their thorough purpose was also deliberated. The author focused on arranging experiments and assignments of the total time for the student to grasp the concepts delivered in the classroom.

In (Ronnie Yang Kum Yuen, 1997), the author designed an assembly language software development tool that covered the deficits in the conventional book reading approach towards the learning process of assembly language programming. The software tool converted the text based code into hierarchical flow chart format. Its extensive collection provided the editing in flow chart, and also the capability to accommodate the conception of debugging program code control of program flow that made this application an outstanding tool for assembly programmers.

In (Mackenzie, 1988) the author introduced structured programming techniques, also called pseudo code, for assembly language programming. It used three basic structures: linear, conditional and loop. Using this pseudo code method, students successfully developed software in assembly language.

The research findings indicated that there was no defined convenient way to make students understand assembly language courses. Neither was an appropriate research conducted that emphasized on teaching methods for assembly language in an appropriate sequential manner. Hence, the researchers were motivated to take up the subject and work on it.

**Basic Sequence for Assembly Language Curriculum**

**Structure of Program**

A program developed in assembly language entails a sequence of instructions that instructs the computer to perform a specific operation. A typical program will have three sections; the data part that contains all the static global variables, the code part that contains all the instruction to be executed, and the stack part that is accessed using last in first out policy (FIG 1). The directives used to mark the start and end of each section are given below:

1. Assembler directives: Assembler directives are assembler commands that are used to control the assembler. Assembler directives are not directly translated into machine but they affect the
generated machine code. Directives are commonly used to define segments, procedures, variables, constants and macros. Few of the commonly used directives in a typical program are as follows:

A) TITLE: The title directive usually optional and stipulates the title used for the program. Any text typed next to the directive is displayed atop of every page in the complete listing of the program file.

B) MODEL: It is used to specify a specific memory model for the program deemed suitable by the programmer. The assembler reserves the essential amount of segments of data, code and stack, as shown in Fig.1.

![Figure 1: Memory model of a typical program](image)

2. Segment directive: The following directives are used to specify the segments:
   a. .STACK: It marks the start of stack segment of the program; the size of the stack can vary up to 64kb.
   b. .CODE: It marks the start of the code part of the program containing the instructions.
   c. .DATA: All the static and globally used variables are defined in this. The directive marks the start of data part. Subsequently, other directives like DB, DW, DD and DQ are used to reserve one, two, four and eight byte sized memory locations.
   d. PROC: It is used to define the start of a procedure. A name is declared just before the directive which serves as the name of the procedure.
   e. ENDP: It marks the end of the procedure.
   f. END: It marks the end of the assembly language program. Any lines of text, placed after this directive, are simply ignored by the assembler.

Assembly Language Instructions
The initial few letter of the instruction specifies the operation performed by the instruction in mnemonic code. The assembler translates this symbolic opcode into a machine language opcode. These instructions may be classified into different categories: data movement, arithmetic/logic, and control flow, string handling, processor control, interrupt control and miscellaneous instructions.

Comments
The assembler ignores anything typed after the comment mark on that line. It is almost impossible to UNDERSTAND an assembly language program without good comments. A semi-colon (;) is used to signify start of comments line (Table 1).
Table 1: Basic Structure of a Program

<table>
<thead>
<tr>
<th>Addressing Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Memory Addressing Mode</td>
</tr>
<tr>
<td>MOV instruction, explicitly LOAD and STORE, is used to transfer a primitively sized data operand from source to destination. It is further divided into direct and indirect addressing modes:</td>
</tr>
<tr>
<td>1. Direct addressing: The value to be stored in memory is obtained by DIRECTLY retrieving it from another memory location.</td>
</tr>
<tr>
<td>2. Indirect Mode: The Register indirect addressing allows data to be accessed from any memory location through an offset address held in Base or index Register.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Memory Addressing Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>It allows conditional and unconditional branch, using a multitude of jump instructions to any location in the code segment. A conditional jump typically checks some condition of flags and decides to branch or not; while unconditional jump branches anyway. With this addressing mode, the Segment address and offset address of instructions are overwritten in CS: IP registers.</td>
</tr>
</tbody>
</table>

Stack Memory addressing Modes: The stack plays a vital role in all microprocessor. The stack memory is a LIFO (Last-in, First out) memory, which holds data temporarily. Data is placed onto the stack with push and removed with a pop instruction. It is basically used in Recursion and Function calls operations (FIG 2).
Arithmetic and Logical Instructions

The processor instruction set provides arithmetic instructions that include addition, subtraction, multiplication, division, increment, decrement, negation and comparison. The following opcode ADD, SUB, MUL, DIV, INC, DEC, NEG, and CMP are used for arithmetic instructions. Table 2 shows the syntax of arithmetic instructions. The processor instruction set provides a set of logical instructions like OR, AND, NOT, XOR and TEST, which sets, tests, and clears the Bits according to the need of the program. Table 3 shows the syntax of logical instructions.

It is important to emphasize the significance of multiplier and multiplicand in case of multiplication and also dividend and divisor in case of division. Typically, students face difficulty in grasping the idea that MUL and DIV are single address instructions contrary to ADD and SUB instruction.

The students can be given as an exercise to develop an algorithm that computes the sum/difference of large numbers i.e 256 bit numbers. Such exercise will enable them to grasp the significance of extension SBB and ADC instruction.

Table 2: Arithmetic Instructions

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD</td>
<td>ADD &lt;REG&gt;, &lt;REG&gt;</td>
</tr>
<tr>
<td>SUB</td>
<td>SUB &lt;REG&gt;, &lt;REG&gt;</td>
</tr>
<tr>
<td>MUL</td>
<td>MUL &lt;REG&gt;</td>
</tr>
<tr>
<td>ADD</td>
<td>ADD &lt;REG&gt;, &lt;MEM&gt;</td>
</tr>
<tr>
<td>SUB</td>
<td>SUB &lt;REG&gt;, &lt;MEM&gt;</td>
</tr>
<tr>
<td>IMUL</td>
<td>IMUL &lt;MEM&gt;</td>
</tr>
<tr>
<td>INC</td>
<td>INC &lt;REG&gt;</td>
</tr>
<tr>
<td>DEC</td>
<td>DEC &lt;MEM&gt;</td>
</tr>
<tr>
<td>CMP</td>
<td>CMP &lt;REG&gt;, &lt;REG&gt;</td>
</tr>
</tbody>
</table>

Table 3: Logical Instruction

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>AND &lt;REG&gt;, &lt;REG&gt;</td>
</tr>
<tr>
<td>OR</td>
<td>OR &lt;REG&gt;, &lt;REG&gt;</td>
</tr>
<tr>
<td>XOR</td>
<td>XOR &lt;REG&gt;, &lt;REG&gt;</td>
</tr>
<tr>
<td>AND</td>
<td>AND &lt;REG&gt;, &lt;MEM&gt;</td>
</tr>
<tr>
<td>OR</td>
<td>OR &lt;REG&gt;, &lt;MEM&gt;</td>
</tr>
<tr>
<td>XOR</td>
<td>XOR &lt;REG&gt;, &lt;MEM&gt;</td>
</tr>
<tr>
<td>TEST</td>
<td>TEST &lt;REG&gt;, &lt;MEM&gt;</td>
</tr>
<tr>
<td>NOT</td>
<td>NOT &lt;REG&gt;</td>
</tr>
<tr>
<td>TEST</td>
<td>TEST &lt;REG&gt;, &lt;CON&gt;</td>
</tr>
<tr>
<td>NOT</td>
<td>NOT &lt;MEM&gt;</td>
</tr>
</tbody>
</table>

The microprocessor provides rotate and shift instructions that are used to manipulate bits of any memory or register data. There are four Shifts operations: 2 logical SHL, SHR and 2 arithmetic SAR, SAL shift operations. There are also four rotate operations: 2 logical ROR, ROL and 2 arithmetic RCR, RCL shift operations, (B.Brey, 2008). Table 4 shows the syntax of shift and rotates instructions.

Table 4: Shift and Rotate Instructions

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHL</td>
<td>SHL &lt;REG&gt;, &lt;CON&gt;</td>
</tr>
<tr>
<td>SHR</td>
<td>SHR &lt;REG&gt;, &lt;CON&gt;</td>
</tr>
<tr>
<td>ROL</td>
<td>ROL &lt;REG&gt;, &lt;CON&gt;</td>
</tr>
<tr>
<td>ROR</td>
<td>ROR &lt;REG&gt;, &lt;CON&gt;</td>
</tr>
</tbody>
</table>

Permanent & Temporary Branch

The Processor normally executes instructions sequentially. The next instruction to be executed is placed sequentially at the next memory location, after the current one. Branch instructions allow the flow of program to change. These branches are of two types: permanent and Temporary. As shown in Fig. 3. The most basic kind of permanent branches is the unconditional (JMP) and conditional branches structure (IF, IF-ELSE, While, Do-While, Switch) jump.
Figure 3: Permanent and temporary branch

The JMP (jump) instruction unconditionally transfers control to another point in the program, which skips all the instructions to be executed next. A conditional branch may or may not cause a transfer of control depending on the value of stored bits in the FLAG register. If the condition is true, control is transferred to the effective address (IP←Add). If the condition is false, the program continues with the next instruction (IP←IP+1).

Procedure CALL and Return from the Procedure instructions are the kind of temporary branch. When a procedure is called, the starting address of the procedure is stored in the IP and the instruction following the current instruction is temporarily stored in Stack. When the procedure is executed, the return is made to the main program by loading the IP with its old value, (Irvine).

Table 5 shows the flow of temporary and permanent branch instructions

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JMP Label</td>
<td>Unconditional Branch</td>
</tr>
<tr>
<td>CMP &lt;REG&gt;, &lt;REG&gt;</td>
<td>Conditional Branch</td>
</tr>
<tr>
<td>JE Label1</td>
<td>Conditional Branch</td>
</tr>
<tr>
<td>Call Label2</td>
<td>Procedure Call</td>
</tr>
<tr>
<td>RET</td>
<td>Temporary Branch</td>
</tr>
</tbody>
</table>

Interrupt Calls
An interrupt transfers control from a program that is currently running to an interrupt handler routine, as a result of externally or internally generated request. A callback subroutine called when an interrupt is received, also known as Interrupt Service Routine (ISR), (Yatha Yu). There are two types of interrupts:

1. Hardware Interrupts: Generated as a result of a signal from some device e.g. mouse, keyboard, etc.
2. Software Interrupts: Caused by some exceptional condition or by some specific instruction.

The INT instruction invokes the respective ISR to perform the task assigned, it has the format

INT Interrupt Number
Interrupt number specifies a specific routine. Number of interrupts supported by instruction set are 256 but every interrupt can have up to 256 sub interrupts (services). So, the total number of interrupts is:

\[(256 \times 256) = 65,536\]

The difference between INT and CALL instructions is that a CALL instruction gives a specific address within the instruction to branch inside the 1 MB address range but if INT is given an
Interrupt number, it goes to a fixed memory location in the Interrupt Vector Table to get the address of the interrupt service routine.

**Input and Output Instruction**

Each microprocessor provides instructions for Input/output (I/O) IN and OUT instructions; which are used to input data from peripherals or output data to peripherals. Peripherals are the devices that are externally attached to the processor, e.g. keyboard and screen. Memory-mapped I/O as well as isolated I/O subsystems both requires the attention of CPU to move data between the peripheral IO device and the main memory, as shown in Fig. 4.

![Figure 4: Processor interfacing with an isolated input\output and memory mapped I/O](image)

Table 6 shows the syntax of an Isolated Input\Output.

**Table 6: Isolated Input\Output**

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN &lt;REG&gt;, Port number</td>
<td>(Read input data from peripheral devices)</td>
</tr>
<tr>
<td>OUT Port number, &lt;REG&gt;</td>
<td>(Write output data to peripheral devices)</td>
</tr>
</tbody>
</table>

**String Instruction**

The String instructions are designed for array processing. String in assembly language is just sequentially stored data operands. By using these string instructions the size of the program is considerably reduced. The major string transfer instructions are: MOVS, STOS, LODS, SCAS and CMPS. Each string instruction allows data to be transferred in single byte, word or double word. With the help of these string data transfer instructions different string operations can be performed like copying a string into another string, storing characters in a string, concatenation of two strings, searching a string for a particular byte or word, comparing strings of characters, and searching the length of a particular string, (B.Brey, 2008).

**Assessment and Reflection**

Assessments are an essential component of the pedagogical process without which the whole practice maybe rendered useless. Assessment is a feedback mechanism for students as well as teachers. They motivate the student to study and perform well in terms of understanding and practical applications. Furthermore, assessments also help the teachers to deduce that how effective his pedagogical technique is, what he is lacking and where he needs to emphasize more. Formative assessments help to understand the need of the student while summative assessment works as a feedback mechanism for the teacher as well as the student about his understanding of the problem. In both the cases the teacher can deduce where the students are lacking. It is suggested
to carry out this feedback mechanism in an iterative manner such that deduce the shortcomings and the problems faced by students and hence improve the pedagogical process. These principles are easily adaptable for assembly language teaching. The teacher can setup short term and long term checkpoint during the progression of the course. An optimal policy would be to setup formative assessment at short term checkpoints and conduct summative assessments at long term checkpoints. One method could be setup long term checkpoints at the conclusion of each of the major topics discussed earlier. Subsequently, short term checkpoints can be setup at the conclusion of each class or at the end of weekly sessions.

Religiously following the given guidelines is not merely road to success. In order to excel and improve the pedagogical process a teacher needs to reflect on his practices. He needs to take his time to ponder what went well, what needs improvement and what did not go well. In the process he can make use of feedback received in form of summative and formative assessments. Focus should be put onto each of the aspects of assembly language constructs discussed earlier. Feedback collected in an iterative pattern from consecutive semesters can play role as an important information for reflecting upon pedagogical techniques for assembly language teaching.

Conclusion
Since the Assembly language is complicated and elementary therefore, it highly requires practice for learning. It is difficult for students to learn and master without adequate Content sequence. An appropriate sequence should be designed to make it pedagogically easy for instructors to deliver and for students to grasp its concepts. Furthermore, teachers should have a strong grasp of key concepts and common difficulties faced by a student in assembly language. Consequently, this paper offers the most basic and appropriate sequence in which assembly concept should be delivered. The purpose of a most apt sequence is to aid teachers and help the students to better understand and grasp the essence of the Assembly Language, and eventually apply it in practice. The objective is to endorse the teaching of assembly language programming, and to let students develop an in depth knowledge and skills pertaining to programming practices in assembly language.

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**Ebbing the Flow**

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**Introduction**

Public school districts across the United States face a dilemma of epic proportions (Mazin, 2011; Leko & Smith, 2010; Duesberg & Werblow, 2008). Accredited teachers are exiting the teaching profession in record numbers. Decades of high attrition rates have created an inadequate provision of qualified teachers coupled with an increase in demand creating an imbalance necessitating immediate action (Provost, 2009). Billingsley, (2004), also indicated that high attrition rates show that many teachers do not survive the initial growth from bright-eyed beginner to the highly qualified, experienced teacher that ensures student learning (Billingsley, 2004). This departure creates critical shortages in many areas of teaching. Nowhere is this exodus more keenly felt than in the field of special education (Connelly & Graham, 2009; Mershon, 2016). What will it take to curtail the flow of highly qualified teachers in the field of special education? What steps will need to be taken to increase the quantity of competent special educators? How can school districts hire and retain more quality teachers to ensure higher student outcomes?

Given our societal propensity to treat systemic educational issues by placing a Band-Aid on it without due consideration of the complex root cause, there is little doubt that the issue of teacher critical shortage areas will continue to exist and even expand. According to a report printed in March 2015, the areas of Math, Science and Special Education have experienced a critical shortage in teachers since 1990 (Education, 2015; Thornton, Peltier, & Medina, 2007; McLeskey, Tyler, & Flippin, 2004; McKenna, 2015). Special Education continues, even after many years, as areas of specific critical shortage (Ward & Wells, 2001). Identification of this chronic and critical area makes it imperative that colleges, administrators, supervisors, and superintendents gather information to find a solution to this plaguing enigma. During the 2016-2017 school year, nearly fifteen percent of the 2,800 special education teachers were on waivers from the state (Mershon, 2016).

**Problem Statement**

Teacher critical shortages create far-reaching repercussions some of which include ineffective instruction, diminished student achievement and deficient proficiency of students in the workforce (Billingsley, 2004; Ward & Wells, 2001). The loss of special education teachers during the formative beginning years of teaching blocks the formation of experiences that helps them become the highly qualified professionals mandated by IDEIA (Darling-Hammond, 2003; DeNik, 2008; Kohl, 2013). Research shows that 25 to 50 percent of teachers in the United States abandon the teaching profession during the first three years of teaching due to their lack of skill set to handle the stress of teaching in this specialty area (Janik & Rothmann, 2015; Hentges, 2012; Kohl, 2013). According to a study completed by Kuehn, (2013), some districts were forced to fill approximately one-third of the special education positions with non-certified teachers during the 1990-91 school year (Kuehn, 2013; Billingsley, 2004; Prater, Harris, & Fisher, 2007). High attrition rates create a fragile substructure that leads to a disintegration in scaffolding necessary for increased student learning (Hentges, 2012; Wasburn-Moses, 2005). The exigency for special educators continues to escalate due to continued growth in the identification of pupils with disabilities and high teacher
attrition rates (Prather-Jones, 2011; DeMik, 2008; Connelly & Graham, 2009; Mershon, 2016; O'Donovan, 2011). The critical shortage of highly qualified special education teachers, as well as the increased growth in identification, have created a crisis within the special education classrooms (Kuehn, 2013; Mazin, 2011; Connelly & Graham, 2009; Yaffe, 2016; O'Donovan, 2011). Because of the deficiencies created by the lack of highly qualified teachers, the mandated quality education is not being received by students under IDEIA (Kuehn, 2013; Mershon, 2016).

Propose of Study
Research on the topic of why special education teachers leave the profession within the first five years creating a vacuum of highly qualified teachers in the classroom has been extensive. However, the studies and articles, to date, failed to compile a comprehensive list of reasons for low retention rates or to present a feasible model to alleviate the critical shortage of special education teachers in Arkansas. The purpose of this study is two-fold. First, this study determined the top five reasons why special education teacher attrition rates remain high in Arkansas. By inviting special education teachers from the 238 public school districts across Arkansas to express their perceptions of why special education teachers choose to leave the field of special education or abandon the profession altogether; the researchers created a summary of the top five reasons shared by the teachers. Secondly, based on the research results of this study and a close study of the literature, the researchers constructed a sustainable state-wide model to assist in the recruitment and retention of new generations of special educators in Arkansas over the next decade.

Objectives
The long-term goal of the research was to develop a sustainable model that reduced the departure of highly qualified special education teachers in Arkansas over the next decade. Retention of qualified special education teachers in Arkansas is imperative to providing the exactitudes of instruction indicated in IDEIA. The sub-objective of the current study is:

1. Based on the survey results, to compose a comprehensive list of reasons why special educators leave the profession within the first five years of teaching.
2. To develop an awareness of the detrimental effects of teacher attrition rates for student achievement, school districts, and teacher education programs.
3. To determine, based on the results of the study, how special education teacher perceptions of teacher program training correlates to attrition rates in Arkansas.

The results of this study will provide a valuable tool to assist colleges/ universities, administrators, school districts and community leaders in identifying best practices to train, hire and retain highly qualified special teachers.

Literature Review
Many studies completed over the past two decades indicate the shortages of teachers are not a product of the lack of new teachers being produced by colleges and universities but instead are a direct result of retaining teachers once they enter the profession (Darling-Hammond, 2003; Mazin, 2011). Another study states that one explanation for the teacher shortage in the area of special education is that the number of graduates is not keeping in sync with the needs of the districts (Leko & Smith, 2010). Many areas of education shoulder the burdens of high attrition rates, however, the two greatest areas of loss continue to be budgetary concerns and the loss of student achievement especially in the area of special education. Connelly and Graham, (2009), indicates that 97 percent of all school districts, nationwide, report vacancies in their special education
Higher attrition rates over the past two decades have placed many school districts in the undesirable position of hiring uncertified or unlicensed staff in reportedly one-third of all special education positions nationwide (Kuehn, 2013). Connelly & Graham, (2009) indicated attrition rates accounted for the majority of special education instructional shortages (Connelly & Graham, 2009). Financial burdens realized by the loss of experienced special education teachers through crisis level attrition rates is rivaled only by the loss of student productivity. According to Sedivy-Bon, (2012), retention of high-quality teachers is imperative to improving the quality of both teachers and school districts (Sedivy-Benton, 2012). Several quantitative studies link the lack of skills training during teacher education programs to classroom success. This study indicates an increase in teacher skills acquisition would affect attrition rates of special education teachers (Kuehn, 2013; Janik & Rothmann, 2015). Kuehn, (2013) also indicated that the shortage of special education teachers had been cited in studies many times over the past two decades, although it was only brought to light in the educational communities with the enactment of No Child Left Behind (NCLB) (Kuehn, 2013). In looking at school accountability, a measure that clearly focuses on limiting the achievement gap for students with special needs, it is imperative that schools hire and retain highly qualified special education teachers (Duesbery, 2008). The increase in non-certified teaching staff creates substandard educational outcomes as mandated by IDEIA (Connelly & Graham, 2009, Billingsley, 2004, Kuehn, 2013). McLeskey, Tyler, and Flippin, (2004) stated that approximately 11 percent of all special education teachers are uncertified (McLeskey, Tyler, & Flippin, 2004). A report from the Arkansas Department of Education noted that nearly 15% of the 2800 special education teachers in Arkansas were on a waiver (Mershon, 2016). Duesbery and Werblow, (2008) indicates that the low achievement levels of students with disabilities present a barrier to increased achievement stressing the continued need to retain experienced, highly trained special education teachers (Duesbery, 2008; Steinbrecher, Mckeown, & Walteher-Thomas, 2013).

Teacher attrition rates are exceptionally costly to the districts as they strive to implement programs and services to meet the needs of special education students (Connelly & Graham, 2009; Sedivey-Benton, 2012). According to Connelly & Graham, (2009), high attrition rates destabilizes effective school practices and impedes the implementation of programming (Connelly & Graham, 2009). Retention of highly qualified teachers is imperative to improving teacher and school quality nationwide (Sedivy-Benton, 2012; DeMik, 2008). Teachers who leave the institute of teaching represents a loss of money, time and essence for the teachers and everyone associated with their training and employment (Hentges, 2012). Districts bear the brunt of the expenses when teachers leave. Studies indicate that as many as one-third of all teachers leave during their first three years and even as many as one-half leave within the first five years, this costs districts approximately $8000 per teacher (Darling-Hammond, 2003; University of Arkansas; Office for Education Policy, 2005). Teachers who leave during the first three years cause the districts to take funds necessary for school improvements and invest them in a way that produces little to no long-term payoffs regarding student growth (Darling-Hammond, 2003). Kuehn, (2013), indicated that NCLB requires that every student with a disability show yearly progress for schools to continue receiving federal funding (Kuehn, 2013). However, with the lack of highly qualified teachers in the classroom, students may not be receiving the quality education mandated by IDEIA (Steinbrecher, Mckeown, & Walteher-Thomas, 2013). According to the Mazin study, (2011), parents are concerned not only with the variety of opportunities for services for students with special needs but also with the qualifications of the teachers (Mazin, 2011). Inadequate preparation...
for teachers of students with disabilities meets with ineffective practices, struggling to apply what they have learned during preparation programs and eventually supersedes any sustained long-term efforts at providing quality instruction (Billingsley, 2004). One study shared that the provision of quality instruction is a powerful tool in warranting economic, democratic, and social development of any educational community (Janik & Rothmann, 2015).

While some reports state that there has been a decline in the number of education degrees awarded it also shares that of those who graduate with educational degrees only about 60 percent apply for teaching licenses (University of Arkansas; Office for Education Policy, 2005). Training of additional teachers along with the retention of licensed teachers already in the field of special education is an essential ingredient in solving the critical teacher shortage in this area (Prather-Jones, 2011). With the shortage in the area of special education, many school districts are looking for more ways of retaining special education teachers within their districts. Kohl, (2013) affirms that mentoring beginning teachers appreciably increases the prospect of teacher retention by as much as 50 percent (Kohl, 2013; Ward & Wells, 2001). Kohl, (2013), also notes that the teachers working environment during the critical first three years of teaching frequently influences their decision to remain in the profession (Kohl, 2013). Ward and Wells, (2011), reported that mentoring, teacher perceptions and teacher appeal are factors that lure future teachers into the teaching field (Ward & Wells, 2001). Another major factor that influences teacher’s career decisions was the level of support from administration (Prather-Jones, 2011).

Prather-Jones, (2011), indicated that retention of highly qualified teachers in the field of special education is strongly influenced by their perception of the level of support they receive from administrators (Prather-Jones, 2011).

Methods
A quantitative research design was used for this study as a way of generating the numerical data concerning the perceptions and attitudes of special education teachers from the 238 school districts in Arkansas. Specifically, the focus of this study looked at the perceptions and attitudes of special education teachers in Arkansas regarding the importance of administrative support, mentorship in the early years, working conditions, teacher training models and how these perceptions correlate with retention and attrition rates.

Since teacher attrition rates have a direct, significant effect on the critical shortage rates of special education teachers in Arkansas as well as across the United States, this study was designed to answer the following four research questions:

1) How important do teachers feel administrative support is in the retention of early career special education teachers?
2) How important do special education teachers feel mentorship of early-career special educators is in correlation to current attrition rates?
3) How do teachers feel working conditions affect attrition rates of special education teachers?
4) How effective do teachers feel teacher preparation programs are in the areas of recruitment and attrition rates of special education teacher?

The research study employed by the researchers was a survey methodology and used a self-reporting instrument developed as a direct result of the related literature and recent studies. A convenience sample of local teachers was used to validate the content of the instrument. The
survey consisted of information related to the demographics of the teachers (e.g. certification and years of teaching experience). It included eleven Likert Scale statements concerning the perceptions of special education teachers in correlation to the importance of administrative and LEA support, personal and professional respect, caseload, paperwork, professional development opportunities, pay, and one open-ended question relating to personal factors influencing a special education teacher’s decision to stay or leave the special education classroom.

The researchers either contacted the administrator/LEA of the school to get the special education teachers email or identified the special education teacher’s email address through the school's website. In some cases, the administrator was sent the invitation with the SurveyMonkey survey link to distribute to the special education teachers in the district. The invitation was sent to the special education teachers from each of the 238 school districts in Arkansas to respond to the series of eleven multiple choice and one open-ended questions through SurveyMonkey. A consent form was attached to the beginning of the survey. Also, the beginning question asked for their permission to use the content of their survey. There was a yes or no consent at that point. If the respondent answered yes, then the survey continued. However, if the respondent answered no, then the survey would automatically end. The open-ended question required respondents to list their opinion of the top five reasons why special education teachers would choose to leave the field.

From these responses, the researchers compiled a list of steps needed to increase the rates of recruitment and retention of special education teachers. Using the compiled information, the researchers created a functional model for lowering teacher attrition rates of special education teachers in Arkansas over the next decade.

Secondly, the functional model for recruiting, supporting and retaining special education teachers generated from the data gathered would be available for presentations to the district, state, national, and global conferences. The creation of this model would enable colleges, universities and school districts to create enhanced training programs enabling future special educators to successfully transition from novice to highly qualified teachers further dropping teacher attrition rates.

The target population for this study was special education teachers in the k-12 public school system in Arkansas. These teachers were chosen as the target population because they are intimately involved in the exodus of teachers within the field of special education.

Teachers from the private schools were not invited to participate in this study. Teachers from the private school sector were not chosen because private schools do not use the same recruitment and hiring practices as public schools do.

Day treatment centers and other treatment facilities were also not included in this study. Day treatment centers and other treatment facilities do not operate on the same level as public schools for hiring and environment.

A convenience sample of seven special education teachers was given the address to the online survey to validate the reliability of the survey. The teachers were selected because they are special education teachers in neighboring districts.
The researchers determined that there are approximately 238 school districts in Arkansas through contacting the Arkansas Department of Education’s website. The researcher printed out the district’s contact information. District special education teachers listed on the website were contacted individually and given a link to the survey. The districts that did not list their special education teachers contact information were contacted to either provide the contact information or were sent the invitation to the survey to share with their teachers. Many chose to send the invitation out themselves. In that case, the researcher sent a copied invitation with the survey link provided at the bottom that could be sent by the LEA to the special education teachers involved.

The survey was left open for a two-week period. The survey data was collected and analyzed through SurveyMonkey. The results of this study provided both credences to the hypothesis as well as some added outcomes.

The researchers looked at the demographic information of the respondents to ascertain the age, gender, employment status, level of education, grade levels taught, the type of teaching position, and the area of the state of the respondent. These questions made up the first ten questions of the survey.

The demographics section revealed that the majority of respondents were female between the ages of 40 and 49. The majority suggested that they had achieved a graduate degree and had taught eleven years or more in rural central Arkansas. The respondents also indicated that they were currently employed in a public school, teaching grades k-5 special education classes.

The remaining areas of the survey consisted of questions 11-20, focusing on areas of specific concern identified through the literature review. Areas researched included support for special education teachers by administrators, expect from general education teachers, and the effects of caseload on teachers decisions to remain in the field. Other areas of concern examined were: teacher perceptions of smaller class sizes for beginning teachers, mentoring by someone experienced in special education, effectiveness of teacher education programs, the amount and use of professional development given, the amount of paperwork required, working conditions and how salary influenced teachers to either stay in the field or leave the field of special education.

The last question of the survey, question 21, asked the teachers/respondents to list their top five reasons they believe that would compel special education teachers to leave the special education classroom.

In response to question 11: “How important is administrative support?” Teachers responded with 95 % that having the support of administrative was very important in teachers decisions to remain in the field. 4.45 % felt that having administrative support was important while only .21 % felt it was not important.

In response to question 12: ”How important respects in the workplace?” 93% of the respondents indicated that respect in the workplace was very important. 6% of the respondents felt that respect in the workplace was important and 1% felt that it was not a concern.

For question 13: “How much does your caseload affect your decision to stay at your current job?” 44% of the respondents noted that it affected their decision a lot and another 38% indicated that it
affected their decision to stay, somewhat. 17% shared that caseload did not affect their decision to remain in their current position.

On question 14: “How important do you think it is to assign new teachers to smaller classes?” Teachers responded with a 51% saying that it matters very much with 43% indicating that it somewhat matters and 6% stating that it is not important at all.

For Question 15: How important do you feel it is to be mentored by someone experienced in special education?” teachers indicated by 92% that it was very important to have mentorship by someone with special education experience, while 7% shared that they felt it was somewhat important. Only 0.42% indicated that it was not important to have mentorship by an experienced special education person.

Question 16: “Overall, how well do you feel your teacher education program prepared you for your current teaching assignment?” Overall 21% signified that they felt their program of study prepared them very well for their current teaching position. 57% indicated that they felt their teacher education program somewhat prepared them for their current teaching position and 21% stated they felt their program prepared them very well for their current teaching position.

Question 17: “How much does the amount of professional development affect your decision to stay at your current job?” 13% of respondents indicated they felt that the amount of professional development affected their decision to stay in their current position a lot, while 38% said that it had some effect on their decision to stay. 52% of those surveyed indicated that the amount of professional development had no effect on their decision to remain in their current position.

Question 18: “How does the amount of paperwork needed for IDEIA affect your job performance?” 68% of those surveyed indicated their job performance was very much affected by the amount of paperwork they were required to do, while 29% suggested their job performance was affected, but not too much by the amount of paperwork required by IDEIA. 4% indicated their job performance was not affected at all by the amount of paperwork they were required to do under IDEIA.

Question 19: “How important are working conditions, such as the number of extra duties assigned to your decision to remain in your current position?” 69% indicated that working conditions were very important in their decision to remain in the field. 28% noted that working conditions were somewhat important in their decision to remain in the field and 3% indicated that working conditions were not very important in their decisions to stay in the field.

Question 20: “How important is salary in determining if you continue working in your current position?” 55% of the respondents indicated that salary was a very important factor in their decision to stay in their current position. 37% indicated salary was somewhat important in their decision to remain in their current position and 8% indicated salary was not an important factor in their decision to remain in their current position.

The last section of the survey asked each respondent to list their top five perceptions of why a special education would choose to leave teaching. Each respondent listed their responses in order of importance. The researchers categorized the responses purely by the percentage that listed the response. The researchers listed only the top five responses in this report.
The highest rated item listed by the teachers was paperwork. 73% of respondents reported the top reason for service teachers leaving special education is the amount of paperwork that is required by IDEA. Even with the paperwork reduction implemented over the past couple of years, teachers feel that time required to do the paperwork has a direct impact on the amount of time that they have with their students. They indicated that many times they were staying after hours to complete the paperwork or coming in on breaks and weekends. The after hours non-work schedule creates frustration because it takes time away from their own families.

The second highest response from the teachers was support. 67% of the respondents listed the amount of administrative/supervisory support as a major concern. Some of the respondents listed ideas such as lack of support for behavioral issues, parents, and concerns about legal issues without administrative support as an area of major concern.

Next, respondents ranked caseload as the third highest concern. 49% of the respondents indicated that the number of children with special needs folders held by the teacher is a concern. Teachers report being overwhelmed by the number of IEP’s to monitor, the tracking of modifications and the varying degrees of disabilities within the class periods. With each separate subject areas, a special education teacher teaches not only are there a great many ability levels, but there is also more than one grade level, and sometimes even different subject areas themselves. The variability of each of the student’s needs creates a unique level of need for teaching the student. Special education teachers are given the same amount of plan time as general education teachers, but they must prepare for more student variability.

Two areas that tied for fourth place in reporting from teachers was stress or burnout and respect. 40% of all respondents noted stress and burnout to be high on the list of reasons that special education teachers leave the profession. Respect was a close with 39% of the respondents noted the lack of respect from general education teachers, staff, and administration as a reason that retention rates remain high. Teachers commented that with the mounds of paperwork, lack of support, and the rising caseloads of children with special needs, special education teachers experience burnout more rapidly than do general education teachers. An added burden causing distress is the lack of respect shown by general education teachers and some administrators for the teaching certification and professionalism of special education teachers. Teachers feel that this lack of respect enhances their isolation from other teachers and hastens burnout.

The fifth-highest perception of the respondents for reasons why special education teachers leave teaching was pay. Many of the respondents reported that they felt the workload vs. pay should be more proportional. The respondents noted the workload of teaching, paperwork, grading, and prepping for multi-level classes were more involved and required more time than in the general education classes, but they received the same pay.

**Discussion**

Overall the study found several areas that needed to be addressed to reduce the exodus of special education teachers. This section will discuss the model produced as a direct result of this study and the review of the literature to recruit and retain highly qualified special education teachers in Arkansas over the next decade.

The perspective of special education teachers in Arkansas shows administrative support to be a major influencing factor in their decision to leave or remain in the field of special education. On
the survey, 95% of the respondents indicated that the amount of support shown to them by administrators played a significant role in their decision to stay in the field of special education.

Administrators play a crucial role in not only the recruitment of special education teachers but in their retention as well (Hanson, 2011). Luke Duesbery and Jacob Werblow, (2008), confirmed the findings of this study as they indicated 70 to 80% of the respondents ranked administrative support as one of the top three reasons teachers remain in the profession (Duesbery, 2008). This information is useful in that administrators have control over the majority of factors concerning induction, retention, school climate, professional development, and mentorship within the school setting.

This section will discuss some ways for administrators to be proactive in their support for special education teachers, increasing the likelihood that they will remain in the teaching field. Some of the areas construed from this research that would be helpful in supporting special education teachers are providing clearly defined roles of special education teachers, understanding the variety of capacities in which each special education teachers must function and providing a strong level of school community support.

Given the vast array of levels in each disability category, it is imperative to focus on limiting the number of students for which each teacher is responsible. Along with limiting class size counseling the special educator in classroom and behavior management strategies through professional development would increase their skill levels as well as their efficacy levels. Another way of helping new teachers transition from theory to successful practice is ensuring they have the means of setting up operations in their classroom.

Helping new teachers with organization skills is also another way of increasing teacher skill levels and ensuring success in the classroom. Studies show that classroom management is one of the principal concerns of new teachers. While each set of students are different, there are certain elements of getting a learning environment set up that are constant. For example making sure that rules are written and displayed within easy access to the student's aides in getting the year off to a good start. Facilitating behavior training for new teachers is another essential skill that will ensure a positive start. As an administrator being proactive in discussing classroom management techniques and school policies on behaviors will subsidize professional development training new teachers receive. Another topic that came up during the research was that of expected extracurricular activity participation by faculty.

Limiting extracurricular activities for special education teachers limits the demands placed on them as they fulfill the job expectations of meetings and the untold amounts of paperwork that accompanies special education requirements. Allocating special education teachers time to complete paperwork required by IDEA not only meets the requirements of the laws governing special education but also eases the stress levels for the teachers. While some extracurricular activity participation is expected, placing a limit on the number of duties placed on new teachers at least for the first two years is a way of helping them evolve and grow in their new positions. Preemptive actions in this area on the part of administrative leadership help to give special education teacher a more level playing field with teachers in other areas that may not have the burden of IDEA paperwork.
Another expanse controlled by administrators is the ability to provide appropriate and meaningful professional development. Professional development for special education teachers is unique and should focus mainly on IDEA requirements. Strategies and innovations presented during workshops should also be funded through the district for implementation in the classrooms. As special education is an ever-changing field, the laws and regulations are evolving almost daily. Assisting teachers to not only attend the workshops but affording them the opportunity to practice these new skills gives them the confidence to branch out and try new strategies that will invariably increase student achievement.

Mentoring with an experienced special education teacher is probably the most important tool that school districts have to instill self-confidence and self-efficacy in new teachers. Experienced special education mentors have a wealth of information and tried and true strategies to divulge to new teachers. Mentoring provides a means of not only introducing strategies that ensure professional success, reduce the fear factor and alleviate detrimental stress and burnout but also communicates value. Providing time for special education teachers to collaborate with colleagues also helps with a lessening of isolation.

The field of special education is such a specialized field that they can sometimes feel as if they are the only ones in the building. Administrators need to take the initiative to sanction activities that integrate different grades, subjects, and specialized areas. They serve as a catalyst to the socialization of new teachers into the learning community (Jones, 2008). One of the vital roles of administrators is to ample time for collaboration between grades and subject area teachers. Projects that assimilate the talents of both general education and special education students are helpful ways to create paths for collaboration. Activities that encompass all students also afford teachers an opportunity to value each other and builds stronger community bonds. The last segment that this study discusses in the administrative model is the concept of respect.

Everyone wants to feel valued. Teachers are no different. Research shows that administrators are the primary facilitator in creating a positive environment for all teachers (Combee, 2014). In this study, 39% of the respondents indicated that they felt the lack of respect among their peers was a reason they would leave their current positions. The administrative leadership should work towards effective strategies for promoting merit of all teachers in the district. Supporting the attributes of special education teachers as valued members of the faculty increases the probability of teacher retention.

This section will examine another important theme discovered through this study, the topic of teacher preparation programs. University and college teacher education programs prepare teachers for successful careers in the classroom. Several issues immersed from the study that showed the need for teacher preparation program improvements.

One theme focused on the need to increase the number of contact hours pre-service teachers spend in classrooms before graduation. The teachers surveyed indicated that they felt ill-prepared to take on the job of a head teacher after they graduated. An AACTE report indicated that many new teachers who had fewer contact hours in the pre-service setting felt less prepared to begin their own career as a teacher (American Association of Colleges for Teacher Education, 2012). Another area explored was the lack of pre-service experience with multiple disability groups.
Under IDEA, there are 13 different categories of disabilities. Under the 13 different categories, there is a multitude of variables making each student with a disability very individual. Understanding the differences in students and how they learn comes under the heading of theory and practice. Every teacher education program provides some contact hours for pre-service teachers. However, this study showed that special education teachers felt they were not given sufficient diversity in their contact hours to prepare them for the varieties of disabilities in their classes. The last area of concern noted in the study was pre-service programs not focusing on the specific paperwork required by IDEA.

Teacher prep programs focus on preparing the preservice teacher for content and theory, however, the study showed that teachers felt unprepared for the vast amounts of IDEA paperwork. Even though IDEA has issued several initiatives that focus on the reduction of paperwork, new teachers feel overwhelmed by the amount of paperwork and finding time to complete the paperwork without spending hours of their family time to do so. While school districts and educational coops spend much of their budgets on professional development to ensure that teachers receive the most up to date training, teachers feel overwhelmed with the amount of paperwork done each year.

**Conclusion**

Through this study many themes have emerged to help districts, schools and college preparatory programs meet the needs of new and pre-service special education teachers. Through the use of the models developed as a result of this study and a review of the literature, administrators and teacher education programs should work together to increase the number of teacher candidates that successfully enter the work force. Administrators and school districts should then work closely with new special education teachers to meet their unique needs of assimilating into the world of special education. Providing for a smooth transition from pre-service to highly qualified teacher helps not only the district recruitment and retention efforts, but ensures higher student learning outcomes.

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Teaching Values and Resilience From Eastern and Western Perspectives Through Literary Analysis

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Abstract
A global priority is for teachers not only to teach academic skills, but to nurture students’ resilience, and values. Accumulating evidence suggests that storytelling may be related to personal values and provide an important role in promoting resilience. A line of previous research studies conducted by the investigators and others was reviewed to serve as an empirical framework for the present study. The present study builds upon previous research to investigate the practical applications of teaching values and resilience through storytelling using literary analysis for Western adolescents (American and German) versus Eastern (Vietnamese) adolescents. Vietnamese college students of three majors, business n = 258, educational management n = 284 and education n = 365 (total n = 907) were asked to respond to survey items on a predictor of value preferences. Analysis of variance (ANOVA) established significant value preference differences between the three majors. The data suggested that education majors tended to prefer openness to change values more than business and educational management majors and therefore are more likely to draw upon storytelling as a teaching method. Comparing Eastern versus Western prospective teachers’ values preferences across studies revealed interesting cross cultural differences when approaching the challenge of teaching adolescents’ values and resilience. Preliminary findings on the potential effectiveness of teaching American and Vietnamese educators how to teach adolescents storytelling and the literary analysis of novels for fostering the development of values and resilience are discussed.

Keywords: culture, values, storytelling

Introduction
The Prime Minister of Vietnam called for the whole society together to improve education quality, which he described as key for Vietnam’s sustainable development. Also he stressed educators should improve students’ living values of respect and social responsibility (Nhan, 2016). Teachers are encouraged to teach academics, a good command of English, and soft skills also known as personal values needed for success in life. He encouraged teachers to nurture students’ confidence, resilience, creativity, and teamwork. Similarly in America, the relevance of literacy educators promoting educational resilience and values was underscored by the Children’s Defense Fund (2014) report, The State of America’s Children. The statistics for all children are startling. (p.11):
Each day in America for all children, 737 babies are born into poverty, 7 children or teens are killed by guns, 303 arrested for drug crimes, 404 are corporally punished, 1,055 high school students drop out, and 5,233 public school students are suspended.

Cohen (1998) calculated that (as cited in Vanderstaay, 2006, p.333) “U.S. teachers save their communities more than a quarter of a million dollars each time their efforts keep one student from dropping out.”

To teach living values to students teachers should consider using storytelling, a student centered approach. Accumulating evidence (Bems, 2003; Lien, 2014; Schutt & Stoehr, 2013; Stewart & Ames, 2014; Van, 2009) suggests personal storytelling and the reading and discussion of literature are “bibliotherapeutic,” related to personal values and provide an important role in promoting resilience.

This study is significant in that it helps us gain a better understanding of how college students’ values, might inform their instruction of adolescents’ values, and resilience. In a recent study (Ha, Lout, & Rozycka-Tran, 2015) of Vietnamese parents and adolescents values, researchers concluded that future research, like this, should consider the transmission of values and how values orientations change.

**Literature Review**

Values represent basic individual motivations (Schwartz, 1992) and are also internalized as specific cultural practices through social institutions. Values define what is important for us, are stable through time and situations and guide choices and behavior. Storytelling is one of the primary ways children are introduced to cultural values. The fundamental characteristics of a culture are revealed through an examination of its stories and literary traditions that are passed from one generation to the next. Researchers have characterized the Western (American) and Eastern (Vietnam) cultural differences as individualism versus collectivism. Vietnamese stories are influenced by Confucianism and often focus on heroes as people who sacrifice for the benefit of the group. In American stories individual achievement and accomplishment are considered more important.

Nguyen, Stanley, Rank, Stanley and Wang (2015b) in a comparative study on storytelling perceptions of Eastern versus Western cultures, found that Americans and Germans had more frequent and longer childhood experiences of storytelling and more exposure to different genres of stories than the Chinese and Vietnamese. Anecdotal evidence from conversations with Vietnamese parents suggested that storytelling is often viewed as appropriate only for young children and not taken seriously as an academic subject. Furthermore, American instruction tends to be more student-centered with more discussion, and cooperative learning. At the heart of Vietnamese teaching which is teacher centered is the necessity of obedience and respect for authority. The lecture method predominates and children speak up in class seldom.

Nguyen, Stanley, Rank, Stanley and Wang (2016) examined the mediator effects of values for the relationship between storytelling and resilience in Eastern versus Western prospective teachers. The best model from the study indicated storytelling and resilience were partially mediated by values. The findings indicated that prospective teachers who reported having significant childhood experiences of storytelling, and prefer openness to change values such as Benevolence, Self-Direction, and Stimulation perceive recalling, or telling stories more often for improving
resilience. On the other hand, prospective teachers who report having less significant childhood experiences of storytelling, and prefer conservatism values such as Conformity, Tradition and Security perceive recalling, or telling stories less often for improving resilience. The data suggested that the perception that one can draw upon remembrances of stories for improving resilience is related to a combination of factors: one’s values, individual and cultural differences.

Recent research (Nguyen, Stanley, Stanley, & Wang, 2015) identified five protective factors for resilience: (1) social competence, (2) problem-solving skills, (3) autonomy, (4) sense of purpose, and (5) use of storytelling. Hope at Hand (www.hopeathand.org) is a non-profit agency that provides poetry and art therapy to the homeless, teenagers in recovery and organizations in Jacksonville Florida. At the heart of the Hope at Hand mission is the belief that storytelling helps students connect their pasts to create desirable futures. Student-centered learning through storytelling creates opportunities for participants to explore feelings through poetry, stories, and songs, reflect through journaling, increase self-awareness, trust others in a supportive community, experience joy and success and consider choice and change. Resilience, the ability to bounce back from ordeals, and other living values can be learned by students telling the personal stories of their lives immersing ourselves in the lives of outstanding literary characters and understanding the wisdom of the ways they overcame adversity.

The literary analysis approach has theoretical connections with sociolinguistic theories and narrative psychological theories. It is alternatively known as storytelling, teaching literature with reader-response theory, discourse analysis, and bibliotherapy. For example, Berns (2003) explored bibliotherapy as a process in which death-related literature is used to help bereaved children cope with experiences of death and loss. The bibliotherapeutic process or literary analysis involved a skilled adult who used books, discussion and storytelling to help children in many ways.

Stewart and Ames (2014) described the use of culturally affirming, thematically appropriate bibliotherapy as part of a long-term program to assist a group of elementary school aged African-American children displaced by Hurricane Katrina to become more resilient.

Lien (2014) focused on the potential use of discourse analysis in literature teaching English as a foreign language (EFL) in Vietnam. In an ethnographic, reflective essay he described how he radically changed the teaching culture at a private university in Vietnam which used to consider the analysis of literary works as reading comprehension lesson. Using this novel approach has gradually formed a class in which the teacher talks, the students talk and the literary texts talk.

Methods

Participants
Undergraduate college students (total n = 1,144) of three majors (business n = 411, education n = 306, and educational management n = 427) from one college of Eastern culture (N = 569) in North Vietnam participated in this study. The majority (81%) of the respondents was female, aged 18-25, prospective elementary and secondary teachers enrolled in teacher education programs.

Data Collection
Using the back-translation method, the English version of the survey was translated into Vietnamese, by native bilingual speakers. Another native bilingual speaker then translated each version back into English and comparisons were made to the original English version.
Modifications were made to each of the two versions to accurately reflect the conceptual meaning of the original English version. Participants were recruited through email. A database of participants was generated from one university education class and one business class email lists from Vietnam. The researchers emailed participants an invitation to complete a values survey, their age, gender, and major. Participants clicked on a link to access a secure website and completed the *The Portrait Values Questionnaire (PVQ)* in Vietnamese.

**Data Source**

*The Portrait Values Questionnaire (PVQ)* (Schwartz, 1992) consists of 40 items designed to measure ten-value types that are ordered along two dimensions: 1) Openness to Change (Stimulation, Self-direction and Hedonism) vs. Conservatism (Tradition, and Security), and 2) Self-Enhancement (Achievement, Power and Hedonism) vs. Self-Transcendence (Universalism and Benevolence). Adults respond to each item by answering *how much like you is this person?* On a six-point Likert-type scale ranging from 1 (*not like me at all*) to 6 (*very much like me*). The items include 40 short verbal portraits, gender matched to the respondent. Each portrait describes a person’s goals, desires or aspirations representing one of the 10 basic values.

![Figure 1. Portrait values structural relations (Schwartz, 1992)](image)

**Empirical Model**

The conceptual framework for this study was synthesized from a constructivist perspective using the theoretical and empirical literature of storytelling, resilience, values and culture. Schwartz's (1992) complex theoretical model which is comprised in various iterations of his Portrait Values Questionnaire (PVQ) is one of the most widely used and researched measures in the world. It allows researchers to study values on both the cultural and individual levels, including individual differences in value priorities and their effects on attitudes and behavior. His theory on the structure of human values refers to culture-specific universal aspects. Values have been found to be significantly related to learning approaches with the value preference of self-determination related to creative, deeper learning/teaching approaches such as storytelling (Lietz & Matthews, 2010; McDryur & Alterio, 2002; Tarabashkina & Lietz, 2011; Yeung, Craven, & Kaur, 2014). Iyer (2013) confirmed that individuals’ value preferences are related to the types of stories they like to experience. Numerous qualitative studies (Duke, Lazarus, & Fivush, 2008; Frude & Killick, 2011; Narra-Tumma & Claudius, 2013) quantitative studies (Nguyen et al., 2016; Nguyen et al., 2015a; Nguyen et al., 2015b) have shown the important role of culturally responsive storytelling and values in promoting resilience.
Findings
Participants were surveyed about values preference. There were was one predictor variable (college major) and one outcome variable (values). Investigated were the relative strengths of each of the three college majors in predicting values preferences. Based on previous empirical findings, three research questions were proposed:
1. Were there significant differences between three college major groups on values?
2. How do the hierarchy of values compare among Eastern culture adolescents, and education majors compare to Western culture education majors?
3. What are the implications of the results for teaching values and resilience with storytelling and literary analysis?

The mean rankings of 10 value preferences based on the Schwartz’s model were calculated from three college majors: business, education, and educational management. The results are shown in Table 1. The results show that generally all three majors highly prefer conformity, universalism, benevolence in contrast to power and stimulation, which is expected for a collectivist, Eastern culture and congruent with recent studies (Ha, Lout, & Rozycka-Tran, 2015; Nguyen et. al, 2016). However, the highest ranked value preference for all three majors was hedonism which is more expected for an individualist, Western culture. All three majors favored lesser the conservative value of tradition which is highly valued by Eastern culture parents which is consistent with the most recent study of Vietnamese adults (Ha, Lout, & Rozycka-Tran, 2015). Younger college students are generally found to be more liberal than their parents. All three majors preferred moderately self-direction, an openness to change value found to more preferred by individualistic, Western cultures (Ha, Lout, & Rozycka-Tran, 2015; Nguyen et. al, 2016).

To test for differences between college majors analyses of variances (ANOVA) were conducted. The Tukey-HSD, post hoc procedure (p< .05) was employed to examine all possible pairwise differences. Given the large number of ANOVA tests, the p level required to reject the null hypothesis was set at p < .001 for each comparison (see Table 1). Specifically, there were significant differences across the three college majors on all values. Business majors prefer the openness to change values of hedonism and stimulation more than education and education management majors. (hedonism: M = 4.89, M = 4.69, M = 3.93, p < .001). Business majors prefer...
the conservative values of achievement, power and security more than education and educational management majors (achievement: M = 4.09, M = 4.69, M = 3.80, p < .001; power: M = 3.69, M = 3.07, M = 3.14, p < .001.; security: M = 4.37, M = 4.13, M = 3.60, p < .001).

An analysis of the hierarchy of values was conducted by comparing findings from three studies. Results of a study (Ha, Lout, Rozycka-Tran, 2015) of Eastern culture-Vietnamese adolescents was compared to the present study (Nguyen, Stanley, Hoang, Stanley, 2017) of Eastern culture -Vietnamese education majors, and with a study (Nguyen et al., 2016) of Western culture-American and German education majors. All values were ranked in order of highest to lowest mean rankings for each group. The hierarchy of values of Vietnamese adolescents, Vietnamese education majors, and American and German education majors is presented in Table 2. As can be seen there are similarities and differences in the values of Eastern versus Western culture education majors. Both Easterner’s and Westerner’s value hedonism, benevolence and universalism the most, power, tradition and stimulation the least. Westerner’s value self-direction highly which is characteristic of individualistic cultures. Easterner’s highly valued hedonism, a preference for openness to change rather than conservatism. Ha, Lout, and Rozycka-Tran (2015) stated that because of globalization and the influence of internet and television, young people of Eastern culture are becoming less traditional, less self-sacrificing for the benefit of the group and more open minded, and more motivated for self-enhancement like Westerners. Interestingly, Eastern adolescents hierarchy of values preferences have a higher agreement with Westerner’s than Easterners. Ha, Lout, and Rozycka-Tran (2015) and Nihan, (2016) both observed that the values of young people in Vietnam are changing rapidly, often unsettling parents and educators. The hierarchy of value preferences for Vietnamese adolescents and education majors are similarly characterized as trending toward individualistic, openness to change values. However, Ha, Lout, and Rozycka-Tran, (2015) found the general population of Vietnamese adults to prefer values of collective conservatism more so than their children. It is challenging to balance a community culture which respects others and the demands of global development that promote individual success and power. It is not surprising the trend for Vietnamese educators to want to improve students living values of respect and social responsibility. (Nhan, 2016). The transmission of values by educators and parents to help adolescents be resilient in a changing time of conflict and globalization is also concern of Westerners (Children’s Defense Fund (2014; Nguyen et al. 2015b).

<table>
<thead>
<tr>
<th>Level</th>
<th>Rank</th>
<th>Adolescents ¹ Eastern n = 472</th>
<th>College Education Majors ² Eastern n = 306</th>
<th>Western ³ n = 276</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>Universalism</td>
<td>Hedonism</td>
<td>Benevolence</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Benevolence</td>
<td>Conformity</td>
<td>Self-Direct</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Conformity</td>
<td>Universalism</td>
<td>Universalism</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Self-Direction</td>
<td>Benevolence</td>
<td>Hedonism</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Security</td>
<td>Security</td>
<td>Security</td>
</tr>
<tr>
<td>Moderate</td>
<td>6</td>
<td>Hedonism</td>
<td>Self-Direction</td>
<td>Conformity</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Achievement</td>
<td>Achievement</td>
<td>Achievement</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Tradition</td>
<td>Tradition</td>
<td>Stimulation</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>Stimulation</td>
<td>Stimulation</td>
<td>Tradition</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Power</td>
<td>Power</td>
<td>Power</td>
</tr>
</tbody>
</table>

Results Sources: ¹(Ha, Lout, & Rozycka-Tran., p. 294, 2015), ²(Nguyen et al., p. 7, 2016), and ³(Nguyen, Stanley, Hoang, Stanley, 2017)
Conclusion

Three research questions guided this study. One, were there significant differences between three Vietnamese college major groups: business, education and educational management on values? All three majors highly preferred conformity, universalism, benevolence in contrast to power and stimulation, which is expected for a collectivist, Eastern culture. The highest ranked value preference for all three majors was hedonism which is more expected for an individualist, Western culture. All three majors favored lesser the conservative value of tradition which is highly valued by Eastern culture parents. Research question two, how do the hierarchy of values compare among Eastern culture adolescents, and education majors compare to Western culture education majors? Both Easterner’s and Westerner’s value hedonism, benevolence and universalism the most, power, tradition and stimulation the least. Westerner’s value self-direction highly which is characteristic of individualistic cultures. Easterner’s highly valued hedonism, a preference for openness to change rather than conservatism. Young people of Eastern culture are becoming less traditional, less self-sacrificing for the benefit of the group and more open minded, and more motivated for self-enhancement like Westerners. Three, what are the implications of the results for teaching values and resilience with storytelling and literary analysis? Research question two, how do the hierarchy of values compare among Eastern culture adolescents, and education majors compare to Western culture education majors? Both Easterner’s and Westerner’s value hedonism, benevolence and universalism the most, power, tradition and stimulation the least. Westerner’s value self-direction highly which is characteristic of individualistic cultures. Easterner’s highly valued hedonism, a preference for openness to change rather than conservatism. Young people of Eastern culture are becoming less traditional, less self-sacrificing for the benefit of the group and more open minded, and more motivated for self-enhancement like Westerners. Three, what are the implications of the results for teaching values and resilience with storytelling and literary analysis?

The results provide insights for educators and parents approaching the challenge of teaching adolescents’ values and resilience in the face of globalization. Can educators of values have it both ways? That is, is it possible to teach the Eastern value of respecting parents and community and also teach the Western values of individualism and self-reliance? The authors’ previous research (Nguyen et al., 2016) suggested that Eastern and Western values can be balanced and developed by teaching American and Vietnamese educators how to teach adolescents storytelling and the literary analysis of novels for fostering the development of values and resilience. Results showed that storytelling and resilience were partially mediated by values. The findings indicated that prospective teachers who reported having significant childhood experiences of storytelling, and prefer openness to change values such as benevolence, self-direction, and stimulation perceive recalling, or telling stories more often for improving resilience. Research (Nguyen et al., 2015) indicated Vietnamese youth are becoming more individualistic and prefer openness to change values, therefore are likely to benefit from a student-centered approach like storytelling. Eastern culture stories of resilience focus on how an individual or character sacrificed for the group, particularly the family. Western culture stories of resilience focus on the individuals’ overcoming challenges for achieving personal success. Preliminary research (Nguyen& Stanley, 2017) suggested that literary analysis of novels coupled with discussion and storytelling show promise for teaching adolescents values for resilience. They developed a narrative resilience character rating scale for literary analysis informed by research. Recent research (Nguyen et al., 2015) identified five protective factors for resilience: (1) social competence, (2) problem-solving skills, (3) autonomy, (4) sense of purpose, and (5) use of storytelling. In clinical practice at an art and poetry therapy center as well as in the classroom, showed adolescents these qualities of resilience in their own lives and the fictional lives of characters in books. In this approach educators through
active learning transmit to adolescents the value of appreciating the relationship of literature to social life. The literary analysis approach advocated here has theoretical and empirical support from the sociolinguistic and narrative body of work known as reader-response theory, discourse analysis, and bibliotherapy. It is a social dialogue between an author of a text (novel, story, poem or song), a reader, and a teacher for the purpose of exploring values and developing resilience. It is an interaction of personal storytelling with literary characters’ storytelling. There are compelling reasons, informed by the research (Nguyen et al., 2015a & b) for educators to consider this approach. Since ancient times, stories have been shared in every culture as a means to educate, entertain, preserve culture, and instill knowledge, values and morals. Storytelling affirms students’ cultural identities by encouraging them to express and validate what they already know. Values have been found to be significantly related to learning approaches with the value preference of self-determination related to creative, deeper learning/teaching approaches like storytelling. Numerous qualitative and quantitative studies have shown the important role of storytelling and values in promoting resilience.

The current research significantly contributes to the practical real world in a number of ways. First, significant differences of values’ perspective between Western and Eastern cultures, between adults and adolescents and .the influence of globalization on values for resilience found in this study will help researchers, educators and parents to be aware of the fact that storytelling and literary analysis should be better understood. Understanding the role of storytelling and literary analysis in transmitting values and enhancing resilience will help parents to make time to do more storytelling for their children at home. This also helps teachers in Eastern and Western cultures to understand why they might use storytelling more effectively. This also fosters researchers/educators to find methods to make storytelling and the reading of literature more compelling and to use more effectively at schools and in the family.

References


Teacher Efficacy as a Driving Force to the Democratization of Education

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Introduction
The big question of ownership of learning has been widely debated in the field of teacher education with scholars such as Deborah Meier, Ron Berger, Dylan Wiliam, Carol-Ann Tomlinson, and Alfie Kohn, for example, arguing for the democratization of education where students have more voice and choice in the process of learning. Under this broad topic come related questions: What is democratic teaching and learning? What is student-driven learning? Are they the same thing? What is the impact of student voice and choice in the classroom on student learning? What role does the teacher play when power is shared with students?

Based on our years of experience as classroom teachers where students were integral players in the decision-making processes around how and what was learned in our respective classrooms (one in elementary and one in secondary in a publicly funded Catholic school board in Ontario, Canada), our belief in the benefits of the democratic classroom on student learning, not to mention our perceived comfort level with its implementation, was high. Even though we were developing our classroom practices in different settings and at different time periods, each of us were defining for ourselves and with our students what a democratic classroom looked like, how it differed from the conventional classroom experience, how community and relationship building was fundamental to our practice, and what attitudes, skills, and knowledge were essential in its implementation. What we learned when we began collaborating with one another at the university level was that while we were working as classroom teachers in the public system, both of us had been operating in isolation, with little/no support from colleagues. We were the outlier, the renegade teacher who was experimenting with innovative instructional practices that we had heretofore had only read about in educational texts.

As educators we wanted to be agents of change and transform education by empowering students who were often tuned out, disconnected, struggling or simply complying and playing school to want more and to demand their voices be heard. We witnessed the powerful effects of inviting students to co-learn with us in a safe and caring learning community where the students’ curiosity and questions and not content drove instruction thus resulting in deeper learning that was intrinsically motivated and ignited students’ passion for learning. In this environment, the learning in community mattered and was valued more than simply achieving grades. We were genuinely excited about the potential for students and teachers alike, but also knew that despite this real potential, this type of democratic teaching and learning was happening in classrooms few and far between.

We experienced, first hand, the transformative effect democratic teaching practices had on our students, both as learners and as citizens. As a result of our implementation of this teaching and
learning approach, we were able to witness our students' levels of engagement increase in demonstrable ways, their critical thinking and interpersonal communication skills improve dramatically over time, we saw an increase in the number of students taking responsibility of their own learning resulting in better overall learning outcomes, and we experienced the benefits of creating a positive, collaborative, safe, and inclusive learning community, where all students were able to learn, grow, and thrive.

In order to break the inevitability of isolationism for future teachers who might be willing to attempt this teaching and learning approach, we were convinced that by modeling the democratic classroom at the faculty level we could embolden more teacher candidates to embrace this approach and bring it into their future practices in larger numbers than previously seen and not feel the burden of being the "few and far between" teachers who are willing to challenge the status quo. By seeing the benefits of the democratic classroom themselves as learners, our expectation was that teacher candidates would whole-heartedly want to implement this approach in their own teaching practices.

By sharing our journeys as instructors at a faculty of education in Toronto, Ontario, Canada, we will be disclosing our challenged assumptions, teacher candidate push-back, collegial pressures to conform, and how our co-dependence on one another served to buoy us forward against the resistance to change we encountered along the way. At the same time, our goal is to honour multiple perspectives on the issue, and create an opportunity for deep and rich learning for both our participants and us.

skills deemed necessary to achieve learning that is relevant and meaningful to the learners.

**Theoretical Framework**

According to our experiences and understandings, the term "democratic" has an underlying assumption that the classroom environment is made up of a collaborative, caring, community of learners, where multiple perspectives are honoured, and where participants are encouraged and expected to listen to one another with an open-to-learning stance. Within this environment, the instructional/pedagogical approach is a process by which decisions around the teaching and learning experience, from the classroom environment, curriculum and modes of instruction, to the number and types of assessments to be completed, are made in collaboration with students and the classroom teacher. In this context, students are not passive receptors of content; rather they are active participants in the co-construction of content and

When discussing the term "self efficacy" we are referring to the term as described by Albert Bandura as: "one's belief in one's ability to succeed in specific situations or accomplish a task. One's sense of self-efficacy can play a major role in how one approaches goals, tasks, and challenges." (http://positivepsychology.org.uk/self-efficacy-definition-bandura-meaning/) We understand the term to refer to those people who have a strong feeling of self confidence in their ability to complete a task, are willing to see new and challenging tasks as opportunities for growth and learning, are able to recover quickly from setbacks or failures, and are those who allow their interest and sense of commitment towards a task to grow as their experiences of success in the new task grows as well. (https://www.verywell.com/what-is-self-efficacy-2795954)

Albert Bandura names four sources of efficacy beliefs:
1. Mastery Experiences
The first and foremost source of self-efficacy is through mastery experiences. However nothing is more powerful than having a direct experience of mastery to increase self-efficacy. Having a success, for example in mastering a task or controlling an environment, will build self-belief in that area whereas a failure will undermine that efficacy belief. To have a resilient sense of self-efficacy requires experience in overcoming obstacles through effort and perseverance.

2. Vicarious Experiences
The second source of self-efficacy comes from our observation of people around us, especially people we consider as role models. Seeing people similar to ourselves succeed by their sustained effort raises our beliefs that we too possess the capabilities to master the activities needed for success in that area.

3. Verbal Persuasion
Influential people in our lives such as parents, teachers, managers or coaches can strengthen our beliefs that we have what it takes to succeed. Being persuaded that we possess the capabilities to master certain activities means that we are more likely to put in the effort and sustain it when problems arise.

4. Emotional & Physiological States
The state you’re in will influence how you judge your self-efficacy. Depression, for example, can dampen confidence in our capabilities. Stress reactions or tension are interpreted as signs of vulnerability to poor performance whereas positive emotions can boost our confidence in our skills.

5. Imaginal Experiences
Psychologist James Maddux has suggested a fifth route to self-efficacy through “imaginal experiences”, the art of visualising yourself behaving effectively or successfully in a given situation. (http://positivepsychology.org.uk/self-efficacy-definition-bandura-meaning/)

Lastly, our understanding of teacher efficacy refers to Bandura's definition that states: "Teacher efficacy is a teacher’s belief that he or she has the ability to influence student learning" (Bandura, 1997). Such teachers who believe they are capable of supporting student learning are more likely to implement new, high yield instructional strategies such as the democratic teaching and learning approach, and persist with them in the face of obstacles, than teachers with low efficacy. As well, high efficacy teachers produce higher student achievement, have a greater impact on the development of student self-regulation, and build student confidence to a greater extent than low efficacy teachers. (http://sim.abel.yorku.ca/wp-content/uploads/2012/10/CIL-M-Three-Year-Summary-FINAL.pdf)

Our auto-ethnographic study asks the question: How is teacher efficacy affected when teacher candidates engage in democratic learning cultures at the faculty level? Our goal is to share our experiences and “Aha” moments around the essence of teaching and learning within these types of progressive and responsive teaching cultures.

Methods
In our positions as Course Directors and Practicum Facilitators at a Faculty of Education we discovered that teacher-directed teaching and learning was still the predominant mode of
instruction, thus finding ourselves on the fringes in terms of our pedagogical approach to classroom instruction methods. We made a conscious decision to share “power” in our courses by promoting democratic learning experiences that focused on the process of learning and that honoured student voice and choice throughout the learning cycle.

We undertook the task of redesigning programs with the explicit purpose of transforming education at the faculty of education by modelling ourselves for our teacher candidates the progressive, democratic instructional strategies they were learning in their readings but not experiencing in their courses.

Our work reflects on the impact moving away from non-traditional teaching in favour of a more democratic approach has on the teacher candidates’ learning and emerging teacher efficacy. Our non-traditional teaching methods honoured the process of learning within a learning community context, and put teacher candidates in the driver’s seat of their learning while working collaboratively, instead of competitively, with peers.

In these progressive teaching and learning environments where learning did not follow a linear path but was seen as multilayered, inquiry based, and open-ended, the instructor was seen more as a mentor and facilitator working alongside the teacher candidate as a co-learner, rather than a lecturer whose purpose was to transmit knowledge by focusing on content. Our role was also to ensure the learning was integrated and purposeful, linked theory and practice, and promoted real-world competencies. Ultimately, we believed it was our responsibility to be change agents advocating for educational transformation.

More specifically in our pedagogical approach, we endeavoured to foster learning opportunities where we co-created with the teacher candidates not only the content of our courses of study, but the number and types of assessments they believed were necessary to complete in order to fully and authentically demonstrate their learning excellence. In these learning cultures (versus traditional grading cultures) where mistakes were seen as necessary, teacher candidates experienced the process of learning through the use of a variety of formative assessments (For and As). By receiving timely feedback on one’s work from both the instructor and peers along the way in combination with self-reflection, there occurred a natural shift from valuing grades to valuing continual improvement while adopting a growth mindset.

To further inform our research we invited the teacher candidates to engage in two round discussions regarding our central research question. We chose the roundtable session format, which is, in our opinion, the most democratic in nature, in order to engage the participants in a conversation around feelings, observations, and reactions to the notion of the democratic teaching and learning approach and their feeling of self-efficacy in relation to their experiences. To uncover their thinking around their experiences in our classes we posed the following questions:

1. What do you think a democratic classroom looks, feels, sounds like? What are its salient features?
2. In your opinion, what are some skills, attitude, and knowledge that a "democratic teacher" would identify as essential to have in his/her pedagogical backpack?
3. How did your participation in this type of classroom impact your teaching practice, if at all?
4. Under what conditions could you see yourself implementing this type of teaching and learning approach?
5. What is your sense of self-efficacy as a practitioner of a democratic teaching and learning approach as a result of your experiences in this type of learning environment?

Findings
We discovered that there was a varying degree of comfort with this type of learning style at the faculty of education level. Teacher candidate participants revealed a range of reactions to their experiences as students in our classes. Some expressed a strong sense of teacher efficacy as a student in and practitioner of a democratic teaching and learning approach after their experiences, while others expressed discomfort and even anxiety in the role of student and teacher resulting in a feeling of low teacher efficacy when invited to experiment with this instructional approach in their practicum placements. Teacher candidates, whose self-efficacy was high with learning in a democratic fashion, expressed greater likelihood of implementing democratic instructional approaches within their own teaching. Teacher candidates who expressed a high sense of efficacy in the role of student and teacher of a democratic classroom we feel shared the greatest likelihood of using the democratic model of instruction in their future classrooms.

Teacher candidates also expressed that their sense of self-efficacy around future implementation of democratic instructional practices increased when the teacher candidate's host teacher modelled these teaching and learning practices with success. More specifically, when the teacher candidates were able to witness the positive impact this approach had on student learning in the classroom setting, their level of teacher efficacy increased. Basically, it was not enough that they experienced it themselves as learners, but they had to "see it to believe it" with their own students. More questioning around the rationale for its implementation in our courses and pushback occurred when teacher candidates were not exposed to these methods in their practicum placements.

Discussion
Our initial assumption that experiencing democratic instructional approaches in their course work at the faculty would be enough to entice teacher candidates to experiment and explore this kind of classroom culture with their own students in practicum. This research challenged this assumption because it reveals that for some the exposure was enough, and for others it was not. It also brought to light the potential effect of aligning practices between faculty course directors and practicum host teachers had on a teacher candidates' sense of teacher efficacy with progressive instructional strategies. This observation raises questions around how host teachers are selected and partnered with prospective teacher candidates. In certain instances, teacher candidates believed they affected the host teacher's attitudes and approaches to instruction as a result of their willingness to implement democratic teaching and learning strategies.

Our contribution is a revealing of what risk-taking looks like at the faculty level with respect to engaging in democratic teaching and learning and why self-efficacy or "believing in yourself " matters. Teacher efficacy is the driving force to democratizing education. We argue that if we want to transform the educational system to reflect principles of democratic teaching and learning, a greater emphasis on the development of teacher candidates’ self-efficacy both in theory and practice are essential.

In conclusion, this auto-ethnographic research project sheds new and exciting light on the transformative power of engaging in this type of learning at the faculty of education, the need to provide opportunities to develop teacher candidates’ self-efficacy, and raises further questions
around the importance of practicum experiences aligning with instructional methods at faculties of education.

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Global Leadership Competency Development in Adult Education Graduate Programs

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Abstract
This paper presents the results of a multiple-case study describing the curricular and co-curricular practices to incorporate global leadership competencies in selected adult education graduate programs in the United States and Western Europe. In 2014, the Commission of Professors of Adult Education (CPAE) published updated Standards for Graduate Programs in Adult Education, which included two standards addressing globalization and leadership. The global leadership competencies described in this study are defined by Bird’s (2013) framework of nested global leadership competencies. Faculty participants in the selected adult education graduate programs reported eleven curricular (within the classroom) themes as well as eleven co-curricular (programmatic) themes. The curricular themes included embedded discussions, writing exercises, selection of readings/texts, targeted assignments, presentations, teamwork, self-directed learning, online learning, personalized projects, use of guest speakers, and innovative use of technology. The co-curricular themes included developing a research agenda, providing specific courses, encouraging attendance at conferences, engaging in mentoring, accepting more international students, expanding study abroad opportunities, coordinating alumni support, offering professional development opportunities, encouraging volunteering/campus involvement, and increasing awareness at admissions.

Keywords: global leadership, curriculum development, program development

Introduction
Graduates of adult education masters and doctoral programs are entering an increasingly globalized workforce and facing a multifaceted and dynamic work environment (O’Dell & Hwang, 2008). As a result, faculty in adult education graduate programs are increasingly being called upon to incorporate high quality global competency development initiatives into the training and curriculum of their student populations (Caligiuri, 2006). Merriam and Brockett (2007) discussed how graduate degrees in adult education are among the most practical—and adaptable—in all of higher education. Furthermore, Hoppe (2007) posited that adult learning theory may be a catalyst to boost global leadership competency development. Bolman and Deal (2008) discussed how graduate programs can provide a source for the new leaders required by these increasing challenges. Specifically, adult education graduate programs prepare students for careers in adult education fields such as business and industry trainers, higher education faculty, literacy education, independent training consultants, educational program writers and evaluators, individuals with special consulting skills and interests, or community or organizational leadership positions (Merriam & Brockett, 2007).

The Standards for Adult Education Graduate Programs—originally published in 2008 by the Commission of Professors of Adult Education (CPAE) and revised in 2014—include, among others, both of the following standards: (a) the study of leadership, including theories or organizational leadership, administration and change; and (b) the analysis of globalization and
international issues or perspectives in adult education (CPAE, 2014). With these standards in mind, this paper examined the curricular and co-curricular practices to develop global leadership competencies, as defined by Bird’s (2013) framework of nested global leadership competencies, reported by faculty participants in selected adult education graduate programs in the United States and Western Europe.

**Conceptual Framework.** Central to this study was the construct of global leadership competencies. Bird’s (2013) framework was used to explore the content domain of the research question. In this model, Bird systematically evaluated the existing literature and consolidated the semantic differences, arriving at 15 competencies—five within each of three broad categories: (a) business and organizational acumen, (b) managing people and relationships, and (c) managing self. By sorting and organizing the complex original list found in the literature of over 160 competencies down to 15, and ordering them into three broad categories, Bird’s (2013) framework of nested global leadership competencies incorporates multifaceted competencies spanning predispositional, attitudinal, cognitive, behavioral, and knowledge aspects. See Table 1 for a visual representation of the conceptual model used in this study.

**Table 1: Categories and Competencies of Bird’s (2013) Framework of Nested Global Leadership Competency Development**

<table>
<thead>
<tr>
<th>Business and Organizational Acumen</th>
<th>Managing People and Relationships</th>
<th>Managing Self</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision and strategic thinking</td>
<td>Valuing people</td>
<td>Inquisitiveness</td>
</tr>
<tr>
<td>Leading change</td>
<td>Cross-cultural communication</td>
<td>Global mindset</td>
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<td>Interpersonal skills</td>
<td>Flexibility</td>
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<td>Teaming skills</td>
<td>Character</td>
</tr>
<tr>
<td>Managing communities</td>
<td>Empowering others</td>
<td>Resilience</td>
</tr>
</tbody>
</table>

The five competencies associated with the category *business and organizational acumen* include (a) vision and strategic thinking, (b) leading change, (c) business savvy, (d) organizational savvy, and (e) managing communities. *Vision and strategic thinking* describes the ability to understand and act in complex and strategic settings, including the development of a global vision for an organization and the development and implementation of strategic plans. *Business savvy* encompasses general business and technically-oriented knowledge, as well as the attitude of integrating entrepreneurialism and creativity into an organization. *Managing communities* centers on global leaders’ ability to succeed within the vast network of relationships developed through interactions of a global workforce, and includes the skills of spanning boundaries, influencing stakeholders, and accomplishing strategic objectives. *Organizational savvy* includes the ability to design organizational structures and processes. Finally, *leading change* indicates a results-oriented competency derived from the application of all previous competencies.

The five competencies associated with the category *managing people and relationships* include (a) valuing people, (b) cross-cultural communication, (c) interpersonal skills, (d) teaming skills, and (e) empowering others. *Valuing people* describes the respect shown for people and their differences, a deep-level understanding of the emotions and motivations of others, and the creation and maintaining of trusting relationships. *Interpersonal skills* consists of emotional intelligence (sensitivity, engagement, and self-awareness) and relationship management (influencing, listening, goal setting). *Cross-cultural communication* includes the mindfulness of a general cultural awareness and specific cognitive and behavioral skills in an intercultural context—including foreign language skills, negotiating, and communication skills. *Empowering others*
addresses talents such as increasing self-efficacy within the relationship of direct reports, colleagues, and superiors, as well as the skills related to coaching, instructing, personal and professional development, and delegation of authority. Finally, teaming skills refer to effectively working in multicultural and global teams.

Finally, the five competencies associated with the grouping managing self include (a) resilience, (b) character, (c) inquisitiveness, (d) global mindset, and (e) flexibility. Resilience is characterized by the dimensions of optimism, hardiness, and stress-reduction, resourcefulness, and self-confidence. Character includes such traits as honesty, maturity, and diligence. Inquisitiveness refers to a willingness to be open to new ideas, experiences, and people. Additionally, humility refers to the trait of not letting pride or self-consciousness interfere with the learning process. Global mindset is a cognitive competency that reflects the complex melding of new perspectives, attitudes, and knowledge within a global context. It includes cognitive complexity and cosmopolitanism, including interest in and knowledge of the greater world. Finally, flexibility refers to both intellectual flexibility (a tolerance for ambiguity) and behavioral flexibility (a willingness to adapt behaviors to fit the demand of the situation).

Literature Review
Global leadership has emerged from traditional literature studies with a growing collection of empirical research in its own right. Mendenhall and his colleagues (2013) collected a growing list of definitions for the nascent construct, and found only one agreement among all the definitions their study collected: “Global leadership is significantly different from domestic leadership due to the salience of the context—characteristics of the global context appear to exert greater influence than is the case for domestic contexts” (p. 494). There is a presumption among scholars that research in global leadership represents a complementary, though alternative line of leadership research (Osland, Bird, & Oddou, 2012). Osland and colleagues in Advances in Global Leadership reported a greater need for global knowledge, stronger communication across boundaries, heightened need for cultural understanding and diversity, and greater ambiguity surrounding decision making (Osland et al., 2012).

The identification of a core set of global leadership competencies has proven to be a difficult task, and researchers and practitioners alike have struggled not only with coming up with a comprehensive set, but also with organizing them into a useable framework (Bird & Osland, 2004). Twenty-seven publications were reviewed for this study, and eight were highlighted as attempts to provide an organizing framework or model for the 160+ global leadership competencies delineated throughout the literature. These include two literature reviews— Mendenhall and Osland’s (2002) global leadership dimensions and Jokinen’s (2005) integrated framework of global leadership competencies—as well as six models—Brake’s (1997) global leadership triad, Rosen, Digh, Singer, & Philips’ (2000) global literacies, Bird and Osland’s (2004) pyramid model of global leadership, Peters and Gitsham’s (2010) the global leader of tomorrow, Bird, Mendenhall, Stevens, & Oddou’s (2010) content domain of intercultural competence in global leadership, and ultimately, Bird’s (2013) framework of nested global leadership competencies. Altogether, over 160 competencies have been described by the literature reviewed for this study. Overlapping concepts, semantic differences, and categories which are qualitatively different fill the literature (Bird, 2013; Jokinen, 2005). Global leadership research is still reminiscent of the kind of literature which explores traits and lists found in the early stages of the field of domestic leadership (Oslan, 2013). Gaps exist in global leadership process, development, and theory.
As a field of graduate study, adult education is characterized with a “distinctive body of knowledge that embraces theory, research, and practice relating to adult learners, adult educators, adult education and learning process programs, and organizations” (CPAE, 2014, p. 3). In 2012, the American Management Association (AMA) stated that in addition to academic careers in continuing education, postsecondary environments, cooperative extension, and adult basic education, among others; graduate students in adult education are also entering the global workforce in the areas of program development, workplace learning, nonprofit organizations, corporate training, and human resource development (AMA, 2012). In 2014, the Commission of Professors of Adult Education (CPAE) published revised Standards for Graduate Programs in Adult Education, suggesting “guidelines and standards for high quality planning, administration, and evaluation of adult education” (p. 3). These Standards describe four distinct sections: (a) administration, (b) organization of graduate study, (c) curriculum, and (d) faculty members. CPAE (2014) acknowledged, “Adult Education programs of study encompass a wide range of specialty areas and institutional contexts” (p. 4). For the purpose of this study, two of the nine standards are highlighted: (a) the study of leadership, including theories or organizational leadership, administration and change; and (b) an analysis of globalization and international issues or perspectives in adult education.

Methods
This article reports findings from a qualitative, multiple case, phenomenological study. Seven cases—four in the United States and three in Western Europe—were purposively selected to increase an understanding of how the phenomenon of global leadership competency development is incorporated into the selected adult education graduate programs. Two current faculty members from each institution were interviewed, for a total of 14 participants. An interview protocol was developed and vetted through a multi-level panel process incorporating peers and professionals in the fields of adult education, leadership development, and research and measurement.

The data collected were from multiple sources, including the semi-structured interviews, researcher field notes, reflective journals, and supporting documentation. Prior to the interviews, the researcher conducted an examination of available syllabi, mission statements, program descriptions, and other supporting documents which led to additional probing questions and deepened the researcher’s familiarity with the selected adult education programs.

The data were mined for meaning in a detailed line-by-line analysis of the information (Braun & Clarke, 2006; Strauss & Corbin, 1998; Tracy, 2013). Both within-case analysis and between-case analysis were conducted to answer the research question. The emergent themes were a direct reflection of the interview questions and the research questions, and the labeling of the themes were modified and relabeled as the research progressed through the process of constant comparison. Rich, thick description of notes and all data were documented to strengthen all coding decisions. All data was validated utilizing triangulation, member checks, audit trails, and multi-layered peer reviews.

Findings
The research question addressed the practices incorporating the 15 competencies identified by Byrd’s (2013) framework of nested global leadership competencies in the seven selected adult
education graduate programs in the United States and Western Europe. Eleven themes describing the most commonly discussed practices emerged in two categories each: (a) curricular (within the classroom) practices and (b) co-curricular (programmatic) practices. Table 2 presents an overview of the findings which emerged from the data.

Table 2: Overview of Emergent Themes Describing Practices From Curricular and Co-Curricular Categories Presented in Rank Order of Word Count(s)

<table>
<thead>
<tr>
<th>Curricular (In Classroom) Themes</th>
<th>Co-curricular (Programmatic) Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embedded discussions</td>
<td>Develop research agenda</td>
</tr>
<tr>
<td>Writing exercises</td>
<td>Provide specific courses</td>
</tr>
<tr>
<td>Selection of readings/texts</td>
<td>Encourage attendance at conferences</td>
</tr>
<tr>
<td>Targeted assignments</td>
<td>Engage in mentoring/advising/shadowing</td>
</tr>
<tr>
<td>Presentations</td>
<td>Accept more international students</td>
</tr>
<tr>
<td>Teamwork</td>
<td>Expand study abroad opportunities</td>
</tr>
<tr>
<td>Self-directed learning</td>
<td>Promote learning communities</td>
</tr>
<tr>
<td>Online learning</td>
<td>Coordinate alumni support</td>
</tr>
<tr>
<td>Personalized projects</td>
<td>Offer professional development opportunities</td>
</tr>
<tr>
<td>Use of guest speakers</td>
<td>Encourage volunteering/campus involvement</td>
</tr>
<tr>
<td>Innovative use of technology</td>
<td>Awareness at admissions</td>
</tr>
</tbody>
</table>

Curricular Themes
This section describes the 11 curricular (within the classroom) themes identified from the data.

Embedded discussions. Each of the 14 participants reported they incorporate the competencies under inquiry into the classroom discussion. As one participants said, “The key to awareness is discourse,” and the participants in this study all embed these competencies into their curriculum through conversation and dialogue. Through discussions about a global society or learning teaching strategies to empower students, the participants infuse challenging dialogues related to the issues important to the field of adult education at all levels of graduate study. A discussion about race may lead to talking about other groups in society, which leads to awareness about the Latino culture or the gay and lesbian community; and people in the classes who are part of those communities may contribute specific examples to that dialogue. Social justice, disenfranchised populations, international travel, cultural competence, ethical dilemmas are all examples which emerged from the data as topics of conversation throughout the curriculum. Raising awareness of issues and keeping them open for discussion was the most common practice identified in the data for the development of the global leadership competencies under inquiry.

Writing exercises. Writing is a fundamental skill for any graduate student. Taking the form of dissertations, book reviews, book chapters, grant proposals, conference proposals, articles, and papers for class, the participants in this study use writing as a way to deepen the student’s levels of knowledge and critical thinking. One participant uses writing as a way of empowering her students, designing assigned paper requirements around conference guidelines. She offers as much feedback as possible, pushes her students to produce the best manuscript possible, then allows them the option to submit it for publication or not. Many of the participants described the sense of pride they feel when a student’s work has been accepted for publication. One participant added she firmly believes a lot of knowledge is lost when professors do not encourage their students to write and publish and access that system.

Selection of readings/texts. Development of most of the global leadership competencies discussed in this study is represented in the classroom through the selection of texts. The introduction of
international research articles was a common theme to help students expand global mindset. Case studies of ethical dilemmas help develop character. Stories of social justice initiatives facilitate dialogue about empowerment and valuing others. Evaluations and program planning initiatives highlight the need for increased business and organizational savvy. The selection of texts is a way to stay relevant and up-to-date on the issues, as well as allow for the kind of flexibility in dialogue which keeps the curriculum fresh and enlivening.

**Targeted assignments.** The participants in this study have much leeway with regards to the assignments they can require in their classroom. Regarding the competency of managing communities, one participant described an assignment in which her students had to select a city or town of their choice, then use Schroeder’s Typology to locate five examples of adult education institutions within each category. Discussing global mindset, another participant described an exercise where students bring in a cultural quiz of at least 10 questions related to their cultural heritage. The entire class then takes the quizzes and reviews them in class: It’s a great ice-breaker exercise and expands cultural competency as well.” A third example is one participant’s use of Rokeach’s instrumental and terminal values survey to encourage discussion of values and self-reflection. Discussing vision and strategic thinking, yet another participant described all of her assignments as a program with one assignment leading to another. For example, in a Learning Theory course, the first assignment is about the literature review. Grading the assignment, she can tell who learned the objectives well and who did not, and she can give suggestions. The next assignment is to identify an adult education program related to the theory. Again, if the student was not able to do the second assignment correctly, she knows they did not learn from her feedback. Using this step-by-step progressive method, she can return to the point in time when there was a gap in the student’s learning. For the final assignment, the students bring all they have learned together into a final demonstration to verify their understanding of how the theory works.

**Presentations.** Presentations emerged as one of the most common practices by the majority of the participants in the study, especially for assessment purposes. The purpose is to demonstrate competency in whatever subject matter is being taught. One participant provides a guide called “Fifteen Things I’d Like to See in a Good Presentation.” When a student conducts a presentation, everyone in the class anonymously completes this guide. If the student was unsuccessful, another chance is offered. This is designed to build competence and confidence: “Walking the talk with adult education.”

**Teamwork.** The development of teaming skills emerged as one of the most common practices in classroom management. One participant stated: “The students do it all the time, but they do not always like it.” Adult students are often reticent to work with others and to put any kind of control over their own grade and learning experience into the hands of someone else. Yet, examples of students forming teams to accomplish some part of the curricular requirement permeated the data. One participant from Europe said she did not like those free conversations where everyone says just bits and pieces of some topic. She requires students to go deeply through the material and identify the key points, discussing and presenting each of the key points to the team: “This has been very fruitful and the students always produce fascinating results.”

**Self-directed learning.** A number of the participants discussed the idea of choice and personal selections with regards to all aspects of the curriculum. Research projects, presentations, conference attendance, internships, book reviews, and individualized or group work all emerged as ways in which the student is given power to select their own areas of interest or research. One
participant discussed his willingness to negotiate assessment—essay questions, multiple-choice, short answer, long answer, oral presentations. His only concern was that the learning was taking place. Another participant talked about passion, and how students must be able to choose their own research agendas in order to break through the natural barriers that occur during the graduate school process.

**Online learning.** Not all of the participants in the study fully supported the trend towards online learning, but all of them acknowledged the reality that this is where much of the learning in the field of adult education is now taking place. Challenges and successes were discussed in the transition to online learning. Some of the professors teach exclusively online, while others are moving towards that learning environment. One participant commented that younger faculty with stronger skills in developing effective online learning experiences are required in many adult education programs. A participant in Italy discussed the hesitance her students portray toward trying to communicate this way, since it is so different from the traditional teacher-centered approach they are used to. Another participant talked about the use of student moderators as a technique to help build leadership and empowerment within the online platform.

**Personalized projects.** Many of the participants discussed projects as a way in which to take the curriculum outside the classroom. Student-led projects such as youth development, literacy program development, and pro-choice awareness campaigns are examples of students taking what they have learned and applying it to the field of adult education beyond the institution of higher education. Often, these projects are completed in conjunction with Internships, but sometimes they are simply assignments within a given class. One participant discussed a project in the Adult Learning Theories course where she asked her students to deeply explore an adult education institutions and investigate which theories and frameworks were used to design the program in order to better understand how theory can be turned into practical contexts. While most students chose local organizations, one student chose an institution in Australia. The student contacted the leaders of that organization, interviewed them, and later designed a program of his own based on the knowledge he gained from the Australian model. The leaders in Australia were so happy with the experience, they wanted to collaborate with him on future projects. Another example was provided by a participant facilitating a course focused on Organizational Community Processes. She put the class into groups, whose projects were to create an organization designed to solve some problem in the community. The students had to identify the problem and the solution and build a business plan in which to form this organization. It must include the vision, detailed plans, and funding requirements in order to prepare for writing a grant. The focus on strategic planning developed multiple global leadership competencies, such as managing communities, vision and strategic thinking, teaming skills, business savvy, organizational savvy, flexibility, character, cross-cultural communication, and interpersonal skills.

**Use of guest speakers.** Guest speakers are one way to bring the practical world of adult education into the classroom. One participant has used guest lecturers to talk about prisoner education as well as mental illness issues in the community: “These speakers have so much more to add to the discussion than I could alone as the instructor.” She encourages involvement with the guest speakers in order to expand networking skills and research interests. In Germany, a participant spoke about guest speakers he brought into the classroom from the Volkshochschule (adult education center) to discuss program planning, as well as someone from a big car manufacturing enterprise. A participant in Ireland spoke about how his students take control of a given topic by
Innovative use of technology. The use of technology is embedded throughout the curriculum. In an online context, the traditional method is to simply post on the discussion board and respond to two or three other students. In order to regain a personal touch, one participant requires her students to use the voice control to respond to their peers, as well as use blogs to summarize accomplishments each month and discuss the plan for the coming month. She admitted that many students resist using these tools. When the students ask why they have to use so many technology tools in a non-technology course, she explains to them the ways in which these tools are used in the workforce. Technology is embedded everywhere. Another participant provides short video tutorials to explain the step-by-step procedures for learning how to use each new tool and she believes her students have increased their competency in this area immensely.

Co-Curricular Themes
The following 11 themes were identified from the data as the reported co-curricular (programmatic) practices to develop global leadership competencies at the departmental level.

Develop research agenda. The development of students’ research agenda is an important aspect of their time in the graduate program. One participant discussed the importance of helping his students develop multiple strands of research, while another participant develops her entire teaching philosophy on supporting her students to become the best researchers they possibly can. Papers for classroom assignments, book reviews, articles, conference proposals and presentations, grant writing, and, of course, the student’s dissertation all connect to a research agenda. In Germany, one participant allows his international students to produce research in their native language as a way of encouraging cross-cultural communication and sustaining their passion: “I consider writing as a way of knowing and how we’ve learned.”

Provide specific courses. The development of the global leadership competencies associated with this study can take place within an exhaustive list of courses and modules throughout the adult education graduate program. The competencies of managing self, for example, permeate all areas of the curriculum, from courses on micro-didactics and counseling to human resource development and foundational courses in adult education. Only one program in the study had a course specifically directed towards International Adult Education, although it was mentioned as a desired course from participants at three other institutions. Internship emerged as the most mentioned course from the data, related to conversations regarding character, business savvy, organizational savvy, managing community, inquisitiveness, resilience, empowering others, and leading change. Internships provide opportunities to work in the community, gain real-world experience, and begin making their own choices with regards to their research agenda: “The students go out and they build. They might put together a training program for someone, put something online for an organization, or many other possibilities.” Students have to be ready for constructive criticism of their work, both from an academic perspective as well as a practitioner perspective, experiencing the challenges of working in the field and seeing how organizational development differs from classroom learning.

Encourage attendance at conferences. Professional conferences provide multiple opportunities to develop global leadership skills. The theme of conference attendance and presenting at conferences emerged from the data with regards to the competencies of managing communities, empowering
Others, vision and strategic thinking, inquisitiveness, business savvy, and global mindset. Participants encourage their students to attend as many conferences as possible, even if they are not presenting. Specific classroom exercises are designed to prepare proposals for conferences and the students are strongly encouraged to submit, often working together in groups. Conferences provide the opportunity to interact with peers from other institutions, meet scholars in the field, and make contacts with other adult education professionals. It helps them to think critically about their own research agendas, to ask questions, and continue the dialogue around self-knowledge.

Engage in mentoring/advising/shadowing. Mentoring for adult education professors is an integral, daily part of their profession. Some of the institutions reported having formal mentoring programs, with regular check-in and status reports, advising sessions, and professional development aspects. Mentoring and advising is conducted on a more informal basis. Oftentimes, this role is a part of helping students learn resilience and dealing with the stress and anxieties of being a graduate student.

Accept more international students. Eight of the 14 participants mentioned the increase of international students within their adult education programs as a primary source of dialogue in a global context. Institutional support from the universities is an important contributor to this increase in international students in graduate programs. Participants reported how increased learning by all as a result of the one-on-one interactions with international students. Another participant in the study encouraged adult education programs to accept international students from as many languages and cultures as possible.

Expand study abroad. Five participants discussed the value of study abroad in the development of competencies such as global mindset, cross-cultural communication, inquisitiveness, flexibility, and interpersonal skills. The caveat is that study abroad needs to be disciplined, appropriately designed and thought out, and not just a vacation for the student. Given the time and financial restrictions of many adult education graduate programs, effective study abroad is difficult to achieve. However, it has been an incredibly rewarding experience for both the faculty and the students.

Promote learning communities. This can take the form of peer support groups, dissertation support groups, organized mix-and-mingles supported by the department, or regular weekly walk-in sessions with the faculty advisor. Once students enter dissertation stage, this form of learning community is often the only opportunity students have to interact with each other on a regular basis and to support each other towards completion of the program.

Coordinate alumni support. In Germany, one participant talked inviting practitioners who have graduated from the program back into the courses in order to share their experiences in the field. He said it is important for students to learn more about the practices post-graduation. Similarly, another participant spoke about the importance of having graduates of the program return to speak with the students who are just starting: “We really do live in each other’s shadows, and that is an important part of my job.”

Offer professional development opportunities. Identified practices include allowing the students to help with teaching responsibilities, conducting research with the students, publishing with the students, and helping students build their own vita. The development of portfolios and e-portfolios was also mentioned as a way to start a storage system, a place to keep artifacts of their teaching
and their knowledge, skills, and abilities, so that they have these relevant artifacts on hand when they go for an interview.

**Encourage volunteering/campus involvement.** One participant discussed how she encourages students to get involved in campus activities in order to build stronger networks with other students. Another discussed volunteer opportunities for her students in order to help them gain experience in community work, adding it has brought some very rich learning experiences into the program.

**Awareness at admissions.** Two participants discussed the importance of the competencies, specifically resilience and inquisitiveness, at the level of admissions. One said he hoped that students come into the program with competence in these personal dimensions; it was the kind of characteristic he looks for before admitting a student into the adult education program. Another added they can also be reinforced during their academic career.

**Conclusions**
This paper sought to expand discussion about the connection between two specific Standards (CPAE, 2014) related to globalization and leadership, through an examination of the phenomenon of global leadership competencies, and the ways in which they are incorporated into the curricular and co-curricular elements in selected adult education graduate programs in the United States and Western Europe. During the course of the discussion of each competency, a gap emerged between the participants’ focus on the global angle of the study, and the leadership aspect. Most of the participants agreed that the unique nature of the field of adult education, which includes program planning, non-profit organization administration, corporate training, and human resource development, would be enhanced with more of an emphasis on leadership development. Yet, the conclusion across the study indicated there was little emphasis on any specific global leadership competency within the adult education programs.

Reviewing the data, the practices within the classroom which emerged represent good instructional methods for the teaching of adult education graduate students; but within the context of this study, the participants described the utilization of these techniques to facilitate learning within a global context. Practices at the co-curricular (programmatic) level indicate institutional ideas which have been utilized both in the movement towards internationalization of the adult education program, as well as basic practices for fundamental leadership development.

Most of psychological-based competencies associated with the first broad category, managing self, were reported to be developed at the individual level between the professor and the student. There was a general recognition of the value of these identified competencies, but much less of a focus on designing curriculum or programs around such a model. The emphasis of the second broad category, managing people and relationships, seemed to have been centered more on the building of the skills and experiences leading to completion of the program. Discussions for the competencies associated with the final category, business and organizational acumen, focused on how the adult education program prepared the students for success once they have graduated. This structure from micro- to macro-level thinking was consistent across all seven cases.

The participants focused much more on the global aspect of the competencies rather than the leadership component. Although some of the participants indicated a program-centered approach to their course of study, the many examples of student-centered learning they provided belied a
rigid adherence to this mindset. Also, faculty members within the individual institutions usually did not know what the other faculty members teach within the individual courses each teaches. Additionally, there was little collaboration of thought processes regarding the themes associated with this study within the individual cases.

The findings from this study indicate adult education administrators and faculty offer a variety of approaches and mindsets in regard to global leadership competencies and development. Administrators and faculty in adult education graduate programs could enhance the opportunities for their students, infusing actions which give students a broader range of experiences for leadership development, especially in a global context. Specific courses in International Adult Education and International Human Resource Development, if not already offered, could provide a path toward accomplishing this goal. Internships for the graduate students emerged as a valuable experience in consolidating many of the global leadership competencies in a complex environment. Adult education administrators and faculty could enhance these Internship experiences by partnering with multi-national corporations and non-governmental organizations which maintain global objectives.

The programmatic practices which emerged from the findings of this study indicated supporting flexibility in admission requirements, increasing study abroad support, and accepting more of international students. As a result of these ongoing practices, professional development of the administration and faculty in terms of increasing global mindset and improving cross-cultural communications could also facilitate improvement in the development of global leadership competencies of the adult education students.

A central assumption of this study was the desire for all adult education graduate students to obtain fulfilling employment in the global workforce upon graduation. To this end, adult education graduate students could seek out opportunities in support of this goal. Adult education graduates have a broad range of backgrounds compared to many other degree offerings. They represent a unique population for global leadership competencies to manifest itself at the graduate school level. Students could establish a global research agenda during their programs, attend and present at international conferences, collaborate with international scholars on globally-focused research projects, and actively participate in discussions, assignments, and global teams to facilitate a more global perspective and learning experience during their progression through the graduate program.

The breadth of the field of adult education, which includes areas of interest such as human resource development, corporate training, non-governmental organizations, non-profit community initiatives, entrepreneurial endeavors, and social justice education, would benefit greatly from a stronger focus on leadership development initiatives, especially processes which aid in the development of these competencies within a global context. There just needs to be greater focus and care in the early developmental aspects of the program in order for those seeds to turn into a strong workforce with the mindset, knowledge, skills, and attitudes to succeed in the complex and multi-faceted challenges facing our graduates today.

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The Impact of New Teacher Mentoring Programs: A Mentor’s Perspective

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Abstract
High attrition rates among new teachers are negatively impacting the stability and continuity of school-based instruction. The U.S. Department of Education federal initiatives (e.g., No Child Left Behind, Race to the Top, and Common Core) as well as district-based mandates have increased the attention and demands on recruiting and supporting high quality teachers. Mentoring programs are a feasible and practical venue to significantly increase teacher retention, increase stability and collegiality in local schools and districts, and create effective strategies to increase new teacher confidence and competencies. This study explored the experiences of seven new teacher mentors. Data was collected through focus group sessions. During these sessions, the mentors identified characteristics and competencies for new teachers and mentors, shared some of the personal successes and challenges they experienced as a mentor, explained the key professional responsibilities and interpersonal aspects necessary to make the mentor/mentee relationship flourish, and shared some positive outcomes that resulted from the mentor experience. Findings from this study can be used by the education and research communities to improve the induction experiences of new teachers, increase the commitment and engagement of veteran teachers, and reduce the attrition rates of dissatisfied teachers who choose to leave the field.

Keywords: mentoring, new teacher induction, professional development, training

Introduction
Beginning teachers face many challenges when they enter the classroom. Early in their tenure, they often develop a survival mentality where they are focused primarily on solidifying classroom management skills and establishing procedures and routines (Achinstein & Barrett, 2004). These basic skills can be difficult to attain especially if the new teacher is placed in a school where the socio-economic status, ethnicity, and home language of the students is different from their own (Darling-Hammond, 1997).

These hurdles, and others, make it difficult for schools and districts to recruit and retain teachers. Research suggests that a significant number of new teachers leave the teaching profession within the first five years. St. George and Robinson (2011) conclude that 18-50% of new teachers exit within their first three to five years of teaching. New teacher turnover has been documented as a chronic, systemic problem which has “a profound effect on the learning community as a whole and disrupts the educational process, thus impacting student learning” (St. George & Robinson, 2011, p. 25). This attrition is not only daunting for districts, but for the U.S. as a whole, as they spend over $7 billion annually on matters related to teacher turnover (Morettini, 2016). To combat this issue, the development of new teacher induction programs and supporting professional development programs have been implemented to help those who transition from pre-service to in-service teaching (Akiba, 2012; McCarthy, 2016).

The success of mentoring programs are often dependent on how mentors are selected and prepared, as well as their orientation when working with mentees. When mentoring programs are
thoughtfully designed and executed, they can effectively guide new teachers’ views of and interactions with their students and assist with the establishment of procedures in their classroom (Wang & Odell, 2002).

**Literature Review**

Like orientation programs in other professions, teacher induction provides a series of support mechanisms to acclimate new teachers to the classroom. These programs are specifically designed to bridge the gap from student teacher to teaching professional. Induction activities often include procedural skill development, assessment and reflection, socialization and relationship building, and content knowledge development. Support for induction can take on many forms including: seminars, courses, workshops, self-directed learning, and mentoring (Ingersoll & Kralik, 2004; McCarthy, 2016). The establishment of a mentor/mentee relationship can be formal or informal. How mentors are assigned, the frequency of their visits, and the structure of their communication are guided by teacher needs and district/site mandates. Mentoring in teacher induction programs can be pivotal in teacher retention as participation in these programs promote inquiry in the classroom, reflective teaching, and increased focus on student reasoning and understanding (Feiman-Nemser, 2001).

Over the last 20 years, mentoring has become a dominant feature in induction programs (Ingersoll & Smith, 2004). According to St. George and Robinson (2011) mentors serve a variety of functions where they “assist, coach, consult with, collaborate with, and guide new teachers to support their transition from novices to successful educators committed to the profession” (p. 25). These programs “shape new teachers’ perspectives of and interactions with students” (Achinstein & Barrett, 2004, p. 718) and address feelings of being “under-prepared, overwhelmed, and under-supported” (Kent, Green, Feldman, 2012, p. 1). Research has demonstrated that when mentoring is facilitated by veteran educators, it supports the development of teaching practices with new educators (Edwards-Grove, 2014). While the benefits of mentoring are well-established, the facilitation of the mentor/mentee relationship can vary greatly depending on the mentor’s values and beliefs about education and the role the mentoring experience has in the mentee’s overall professional development plan.

**Selecting and Preparing Mentors**

Proper selection and training is necessary when a veteran teacher transitions to the mentoring role. Rowley (1999) identifies six qualities for an effective mentor. First, the teacher must be committed to their new role as a mentor. They must be dedicated to find the most appropriate ways to support and develop their mentee. This involves proper mentor training when they start their role and a commitment to continued development. Second, the mentor must be accepting of the new teacher. They must view the individual as a developing professional and view deficiencies as challenges to be overcome. Third, the mentor must be adept at providing instructional support. New teachers begin their careers at varying skill levels. Mentors must adapt to their mentee's abilities and develop strategies for improvement. This most effectively occurs when observation techniques and constructive feedback are utilized. Fourth, the mentor must be able to adapt and work with varying personalities. Just as student populations are diverse, so are teachers. A good mentor will adjust their communication skills to meet the needs of their mentee. Fifth, mentors must be self-directed learners. The diversity of classrooms calls for the continual exploration of strategies and ideas. This ensures professional growth for both the mentor and mentee. Finally, effective mentors promote positivity and hope. New teachers face many challenges, and it is
important for mentors to reaffirm their potential and see them through their struggles and frustrations.

In addition to possessing fundamental qualities, mentors must be properly oriented to their new role. Wang and Odell (2002, p. 525) contend that “mentor preparation can substantially influence knowledge of particular mentoring techniques and skills to shape their mentoring practice.” This is further supported by Ambrosetti & Dekkers (2010) who found that individuals entering the mentoring role had little knowledge of the mentor process and were unsure of their role in the mentor/mentee relationship. Therefore, training experiences are necessary to onboard new mentors. In addition to formal training, mentors must also pull from their own experiences as teachers. How a mentor chooses to work with and train their mentee relies heavily on their own professional experiences, beliefs, and proficiencies (Aspfors & Fransson, 2015).

**Orientation to Mentoring**

Once trained and in the field, mentors often fall into one of two orientations: a developmental conception or an instrumental conception (Franke & Dahlgren, 1996; Orland-Barak & Klein, 2005). Mentors will often draw from both conceptions simultaneously, but will usually favor one over the other (Clarke & Jarvis-Selinger, 2005; Van Ginkel, Verloop, & Denessen, 2016). Mentors who have an instrumental orientation are focused on effective teaching practices. Classroom management is often the primary goal when working with new teachers. A speedy proficiency in the methods of teaching is also emphasized, with the mentors focused on making their mentees autonomous as quickly as possible (Graham, 2006; Norman & Feiman-Nemser, 2005; Young, Bullough, Draper, Smith, & Erickson, 2005). When conferencing with mentees, the mentors will review their lesson from beginning to end, focusing on behaviors and the mentees feelings about their teaching. The relationship is viewed as hierarchical by the mentor, where they provide their mentees with tools and demonstrate routines so they can quickly become proficient in their teaching role (Graham, 2006; Orland-Barak & Klein, 2005).

Mentors who hold a developmental conception are more focused on the professional needs of the mentee. They take into account the unique experiences and perceptions of their mentees when developing their messaging (Feiman-Nemser, 2001). They focus on communication and promote the idea of student autonomy in the classroom (Franke & Dahlgren, 1996). They often present different viewpoints on teaching and strive to create collaborative and creative partnerships with their mentees (Orland-Barak & Klein, 2005).

**Benefits of Mentoring**

Whether mentors apply an instrumental or development approach, working with new teachers provides them with opportunities for professional development and career growth. Research indicates that mentors improve their professional competency by working with new teachers (Hudson, 2013; Huling & Resta, 2001). While preparing for meetings and facilitating the mentor/mentee relationship, mentors source and acquire new philosophies on curriculum and instruction. The mentees can also become the source of information when they provide mentors with information on new teaching techniques and content knowledge as well as literature on effective educational practices (Mei, 1993).

When serving in their role, mentors develop the improved ability to be reflexive of their teaching practices. In order to prepare new teachers entering the field, mentors have to reflect on their own values and beliefs regarding teaching practice, student interaction, and their identity as an educator.
Critically reflective teachers often develop a renewed sense of purpose, and become re-energized and more committed to the teaching profession (Ford & Parsons, 2000; Hudson, 2013; Steffey, Wolfe, Pasch, & Enz, 2000). They also develop greater self-esteem and renewed purpose in the profession (Carger, 1996).

Interactions with mentees prove to be rich experiences for mentors. They gain improved self-confidence, develop mature coping and communication skills when working with adults, reaffirm their teaching beliefs, and are more objective of their practices as educators (Hudson, 2013; Huling & Resta, 2001). Mentors are often solicited to take on greater leadership roles within their schools and districts as well as asked to participate in action research within their school sites or local higher education institutions (Huling & Resta, 2001).

While there is a sizable amount of research on the benefits of mentoring to pre-service and new teachers, few researchers have studied the impact of mentoring experience on the mentors themselves (Aspfors & Fransson, 2015; Bullough, 2012). By studying the mentor experience, educational agencies and districts can pinpoint the attributes for effective induction and work to overcome site-based challenges to create an effective and sustained teacher workforce.

Methods
This study sought to explore the knowledge and experience gained from serving as a new teacher mentor. Participants were asked to identify the qualities of effective mentors and teachers, share the challenges and successes of serving as a mentor, identify the psychosocial supports that were fundamental to building a relationship with a mentee, indicate the professional responsibilities they viewed as most important to new teachers, and describe how their experiences as a mentor have impacted them as an educator. This research was structured using a single-category focus group study design.

Sample
The sample for this study was taken from a large urban public school district with an established new teacher mentoring program. The program was designed to pair veteran teachers with new teachers entering the field. Mentors were employed full-time by the program. As part of their position, each mentor had a group of assigned new teachers which represented a variety of content areas and grade levels. The mentors would work with their mentees on a set weekly or bi-weekly schedule, depending on the mentee’s years of experience. The mentor program had an established curriculum for the mentor/mentee meetings; however, mentors were also able to incorporate their own content while working with their assigned teachers.

The district employed 87 mentors at the time of the study. A recruitment email was sent to every mentor in the program inviting them to participate in the research. Seven mentors indicated an interest and chose to participate. The group consisted of six females and one male. Their years of teaching experience ranged from 5 to 19 years. Four of the members had earned a degree in an education discipline, the other three were non-education members who had completed an alternate certification program to earn their teaching credentials.

Data Collection
This study utilized focus groups as the primary method for data collection. The decision to utilize focus groups was three-fold. Focus groups enable a researcher to discover factors that affect the motivation, opinions, and behaviors of others; they encourage group think which potentially
generates a greater number of ideas than individual interviews; and they elicit a wide range of attitudes and thoughts on a topic (Krueger & Casey, 2009).

A series of questions were developed for the focus group sessions. The questions were pilot tested with two mentors in the program. These individuals did not take part in the focus group sessions. Minor adjustments were made to the questions based on the feedback received from the pilot participants. Two focus group sessions were held to collect the information for this study. Participants were encouraged to attend the session that worked best with their schedules.

Each participant was provided a copy of the focus group questions, and their informed consent form, before the session meeting. They were encouraged to read each document fully beforehand. Both sessions were facilitated after school and were audio recorded. Each session lasted approximately 90 minutes. In addition to providing informed consent, participants were also asked to complete a short demographic questionnaire.

Analysis
Krueger and Casey (2009) contend that focus group data analysis must be systematic, verifiable, sequential, and continuous. The data analysis in this study sought to address all four qualities. The researcher transcribed the recordings from the two sessions. The transcriptions, along with field notes, were used to systematically analyze the responses to identify major themes. The participants were sent sections of their transcribed responses to verify what they stated in the session was in fact what they meant to convey. The interview questions were designed to have a sequential flow, starting out first with generalized questions and progressing to ones that were more personal in nature. Finally, the data analysis and procedures were reviewed continuously. After the first session, additional question prompts were created by the researcher to elicit more in-depth responses from the participants in the second focus group session.

A classic analysis strategy was used to identify themes and categorize results. Responses to each session question were analyzed separately. Comments that addressed the questions directly asked were highlighted. Responses that were similar in nature were grouped. Then data from both sessions were compiled. Particular focus was given to responses that were frequently cited and/or specific or extensive in nature.

Findings
Although there were series of questions asked during the focus group sessions, seven of the questions generated pertinent outcomes. The findings from the sessions are presented in the following paragraphs.

Qualities of Effective Teachers
When the mentors were asked to identify the qualities of an effective teacher, themes emerged from the analysis of responses. Participants felt that new teachers needed to be resilient, have a love of learning, express a calling to serve, possess content knowledge in their teaching area, and exude confidence. The mentors expressed that new teachers face a tremendous amount of challenges from a variety of sources (colleagues, parents, administrators, and coursework/training) in their positions. They must develop a thick skin to push through and overcome these difficulties. They also have to be open to hearing and acting on feedback. Several mentors stated that regardless of whether a new teacher is an education or non-education major, there is a tremendous amount of learning required in order to refine their teaching skills. Most mentors felt they could
teach their mentees the necessary content and pedagogy, but they felt the new teachers must have an intrinsic calling to serve, help, and inspire students. Every mentor in the study agreed that teachers who have a strong understanding of the content they are teaching, have less difficulty during their first years of teaching. One participant summed it up as “being knowledgeable in your content equates to confidence; it’s hard to teach yourself and then teach others.” The mentors in this study indicated they spent the bulk of their first year helping their mentees master the content. Having a presence and “with-it-ness” was also stressed as necessary in order for new teachers to master their classroom environment.

**Effective Mentor Competencies**

When the participants were asked about mentor competencies, they cited intuitive & articulate, self-motivated, willingness to learn, and analytical as necessary proficiencies. The mentors noted that a large part of their work was devoted to providing feedback and insight to their mentees. Therefore, they believed that mentors needed to develop an understanding of diverse teaching perspectives and foster the ability to craft messages for effective communication. Since mentors were working independently with their assigned teachers, they must also be self-starters and motivated to complete the tasks their mentees ask of them. Some of the participants described mentors as generalists, as they assist teachers in a variety of content areas and at a variety of levels. This wide array of audiences forced the mentors to regularly seek out information outside their “content area comfort zone”. Finally, the participants felt that mentors needed to accurately identify the actions that were creating a positive or negative impact in the mentee’s classroom and develop strategies to improve their areas of weakness. One participant described this process as sneaky mentoring, “they make the decisions, but I’m constantly pushing them along the way.”

**Mentor Successes**

When asked about their successes as mentor, the participants cited “aha moments”, influencing the evolution of skills, improving teacher openness, and the development of empowerment/initiative with their mentees. The mentors enjoyed when their mentees experienced “aha moments”. When these situations occurred, the mentors knew the teachers fully grasped the situation at hand and were more apt to adjust their practices for the better. Any mentee milestone development was satisfying for the mentors; especially for the mentors who were assigned the same teacher for multiple years. Several mentors expressed that when mentees began exhibiting reflexive behaviors, they had achieved a great breakthrough in the mentor/mentee relationship. The mentors attributed this development to building trust with their mentees. One participant described her success as a mentor was due to the development of “strong personal relationships with [her] teachers. They can text me and ask me anything they need, anytime.” The mentors enjoyed seeing teachers become empowered and taking initiative without their assistance. Initiative was described as a willingness to try new things, seeking out assistance on a topic or areas not previously discussed in a meeting, raising their personal expectations, and challenging their situations. The participants felt these were important signs to indicate the teacher was becoming more self-reliant.

**Mentor Challenges**

There were four challenges that were frequently expressed by the mentors, they included responsibility for mentee accountability, internalizing mentee struggles, maintaining diplomacy & tactfulness, and feelings of isolation. The mentors viewed their work with the mentees as a constant pursuit of excellence. They measured their own success based on their mentees’ successes. They felt directly responsible for their mentees growth and development. Many stated that when a mentee struggled, they internalized it as their own struggle as well. One participant
described this experience as "the ones who struggle the most are the ones who put up a blockade. They are so lost they can’t find their way, even with help." Some mentors found that as the school year progressed, their relationships with mentees would often morph from an informal relationship to more of a goal-oriented partnership. This sometimes led to difficult and sensitive conversations. Mentors repeatedly stated they needed to exercise diplomacy and tactfulness in order for change to occur and their message to be well received by the mentee. In addition to the challenges, the mentors found working in a variety of schools left them feeling isolated. Every participant agreed that their monthly mentor meetings were a necessary outlet for them to collaborate and socialize with peers. Of all the challenges, isolation was stated most frequently by the mentors.

**Interpersonal Aspects of Mentoring**

When discussing the psychosocial aspects of the mentoring program, mentors believed that establishing integrity, facilitating productive reflections and discussions, and encouraging ownership of action were critical to the mentor/mentee relationship. The mentors expressed that their relationships needed to be built on trust and honesty. All the mentors cited the importance of building an interpersonal relationship first with their mentees. One mentor described this as “a fine balance. You have to get to know them first as a person, and then as a professional. You need to make them feel that you are there to support them - always.” Confidentiality was also noted as an important component to the mentor/mentee relationship. They believed the mentees had to feel they could be open and honest about their thoughts and practices without repercussions. Support and protection were seen as key priorities. These types of discussions often led to a blending of personal and professional relationships. Although the mentors found themselves becoming close with many of their mentees, they all agreed that it was important to have a professional balance. The mentors saw themselves as facilitators. Mentees would not be receptive if they were told what to do; instead, areas of growth needed to be a mutual discussion.

**Mentee Professional Responsibilities**

When asked about professional responsibilities for new teachers, every mentor agreed that establishing classroom policy and procedures immediately was critical. Thereafter, a tailored approach would need to be taken to address each teacher’s unique needs. The mentors agreed that the first few weeks of school should be dedicated to navigating administrative tasks, establishing procedures, and helping the teachers set up their room. Once the teacher’s day-to-day flow was established, the mentor and mentee could then goal set to address additional areas for training and skill development. The mentors used a variety of methods to determine what to prioritize; these included self-reflection tools, observations, and formal required trainings. Each development plan was tailored specifically for the mentee. One mentor described the process as “different for every teacher, you have to pinpoint specific areas. It just can’t be generalized.” The mentors agreed that both the education majors and non-education majors struggled equally when they first entered the classroom. Several mentors in the study indicated that revisions needed to be made to pre-service education programs to ensure that new teachers were better prepared for the demands of the classroom.

**Impact of Serving as a Mentor**

The participants in this study indicated that their position as a mentor assisted them in becoming more introspective, collaborative, and renewed their appreciation of various curriculum content areas. Critical reflection was a skill that many mentors taught their mentees. Thus, they became more skilled in the process and believed that if/when they returned to the classroom they would be more introspective teachers. Reflecting on successes and failures with their mentees enhanced
their skills and practices in teaching. One mentor stated “I now know what I was doing wrong as a teacher.” The desire to become more collaborative was also expressed among the participants. The mentors felt that through collaboration, they could make systematic changes in the district. They believed the current climate in the district was focused on competitiveness; and instead, it should be focused on creating an environment that celebrated successes and provided a venue to share effective teaching strategies. Serving as mentor generalists, they were able to gain experience with different content areas. Some mentors described themselves as having an “identity crisis” and were considering teaching different subjects when they returned to the classroom.

Summary
The mentors in the study shared a wealth of insight during the two focus group sessions. Having worked with dozens of new teachers over several years, they confidently identified resiliency, confidence, internal motivation, and commitment to the profession as the key qualities for mentee success. Having spent time in the role of a mentor, they believed effective mentors needed to be skilled communicators, life-long learners, analytical, and intrinsically motivated. The mentors attributed their career achievements to the performance of their mentees. When their mentees were developing their teaching skills, improving their self-reflection abilities, and becoming more self-reliant; the mentors felt they were successful in their role. Some challenges the participants experienced as mentors included associating their mentees success with their own, internalizing conflicts, difficulty maintaining diplomacy and tactfulness, and feelings of isolation and loneliness. When developing their relationships with mentees, the mentors focused on ensuring accountability, establishing trust and reliability, and promoting effective self-reflection. When determining which professional responsibilities to tackle first with their mentees, the mentors focused on classroom management, rules and procedures, and administrative tasks. Once those were established, they developed a tailored plan with the mentee to address other areas of growth. When reflecting on the overall experience of serving as a mentor, the participants found that the experience made them more introspective, collaborative, and renewed their appreciation for the profession.

Implications
The findings from this research are applicable to both the education and research communities. The insights from mentors in this study can be used to further develop in-service teacher preparation programs, improve district-sponsored professional development, create informal mentoring programs, and better leverage the experience of veteran teachers in the classroom.

The participants in this study indicated the mentees they were assigned had skill deficiencies. The group felt that more could be done to improve pre-service education so that the new teachers would have less challenges to overcome when they initially enter the classroom. Like intern teachers, mentors have a unique perspective on the needs of incoming teachers. Districts and local higher education institutions could leverage the experience and insight of these mentors to further improve district trainings, college courses, and internship programs to better prepare pre-service and induction teachers for the field.

Many districts do not have the funding or the staffing to organize a formal mentor program. The benefits of mentoring for both mentees and mentors is documented in the literature and can be seen in practice around the world. While formal mentoring programs provide an organized, systematic way to promote teacher development, informal programs can also be beneficial to new
and veteran teachers. For districts that are unable to organize formal programs, they could leverage the expertise of expert teachers by pairing them up with new teachers at their individual school sites. These partnerships would encourage professional growth and development for both individuals and potentially improve the learning environment for students as well.

Mentor/mentee relationships provide structure for new teachers entering the field of education. Often, initial trainings and education do not adequately prepare teachers for the diverse classroom and school site challenges they encounter. New teacher mentoring programs provide critical relationships where the mentees have a trustworthy and adept colleague to learn from, confide in, and share successes with. Whether the mentoring relationship is formal or informal in nature, research has demonstrated that having a mentee early in one’s teaching career reduces difficulties during the induction period, improves job satisfaction, and increases the likelihood of retention in the field.

References

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Part 3: Educational Technology
Examining Teachers’ Readiness for Using Technology in ECE in Turkey

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Abstract

Nowadays, technology has become an indispensable part of our lives as well as education, and majority countries are striving to catch up recent changes in technology and integrate it with education. “In Turkey, like many other countries in the world, the implementation of educational technology is the central focus right now” (Kurt, 2010, p. 68). The potential and promise of technology to promote enhanced learning has growing support in the research literature. Holden and Rada (2011) have noted that actively using technology as an educational tool in classrooms helps to make learning more effective. The results of their study also showed that teachers’ attitudes have a major role in the effectiveness of technology use in schools. Confident teachers who are early adopters of technology into instruction can positively affect students’ academic achievements. Thus, the purpose of this study was to examine teachers’ readiness to use technology in early childhood classrooms in Turkey. This study is significant to determine the level of teachers’ readiness to use technology in early childhood classrooms and their attitudes towards using technology as educational tools in the classrooms in Turkey. For the purposes of the study one kindergarten teacher who is working in Turkey currently was selected as a participant, and was conducted in interviews via Skype. She is living in a small city that is located in the middle of Turkey. She is teaching at a public kindergarten classroom, and her students are 6-years old. In addition, she has 5-years teaching experiences. The results showed that although Ministry of Education in Turkey has been creating project to improve technology integration in early childhood classrooms, and providing classrooms with technological devices, teachers are not ready to use technology as educational tool because of different reasons such as preparing at university levels, age and personal attitudes towards technology.

Keywords: technology, early childhood education, teachers’ readiness

Introduction

There is a new period that began in Turkey with Catching the Era in Education in 2000 Project. “In this characteristic period underpinning the preparation for the new century, information technologies were used in order to actualize transformation in the field of education. For this reason, work in this period was directed toward generalizing the use of information technologies, primarily in primary education toward integrating them into the system (MEB, 2002; MEB, 2004 via Yilmaz 2011).

The Ministry of National Education (MONE, 2001) in Turkey initiated many changes in technology in education. For instance, each school is equipped with computer laboratories and the Ministry provided internet connections in schools. In addition, the Ministry of Education instituted a program to provide each student with a tablet to enhance their education in Turkey. For now, there are some pilot areas for this distribution.

On the other hand, there are a variety of uses for technology in education, and numerous studies have been conducted on its usefulness. The results of studies showed that teachers’ attitudes have a major role in the effectiveness of technology in schools. Using technology as educational tool in
schools can positively affect students’ academic achievements if teachers are able to use technology as educational tool in the classrooms. Holden and Rada (2011) stated that actively using technology as educational tool in the classrooms helps to make learning more effective, and using technology is also related to teacher’s confident.

As a researcher, I think this topic is very significant because technology is the most important key point that is growing in education day by day. There are both advantages and disadvantages to use technology as educational tool in the classrooms which have been discussing by researchers and specialists for years. On the other hand, Turkey is trying to catch up European standards in education, thus, Ministry of Education has changed and improved many things in educational system in the past ten years. However, Fatih Project was the most significant attempt to develop using technology as educational tool in the classrooms for both students and teachers. From my perspective, even if providing teachers and students with technological devices is important, preparing them to use it actively and effectively is more significant. Thus, I would like to focus on teachers’ readiness to use technology as an educational tool in early childhood classrooms in Turkey.

**Purpose of the Study**

The purpose of this study was to examine teachers’ readiness to use technology in early childhood classrooms in Turkey. This study sought to answer the following questions:

- Are in-service kindergarten teachers ready to use technology in early childhood classrooms in Turkey?
- What are teachers’ attitudes towards using technology as educational tools in early childhood classrooms?

This study is significant to determine the level of teachers’ readiness to use technology in early childhood classrooms and their attitudes towards using technology as educational tools in the classrooms in Turkey.

**Review of Literature**

**Early Childhood Education in Turkey**

Since 15th century, from Ottoman Empire, young children received an education. There were some schools called “sibyan okullari” which means “kids schools” when Fatih Sultan Mehmet was sovereign. When Turkish Republic was established there were 80 kindergartens in Turkey. In 1927, the first college for preschool teachers was established in Ankara, Turkey. Now, most of universities in Turkey serve teachers candidates to get education in early childhood, and all of the elementary schools have to have kindergarten in Turkey. In addition, four years ago, going to kindergarten became mandatory for each child 6-years old by Ministry of Education.

Ten years ago, parents were not paying importance early childhood education because they were thinking teachers as caregivers of their children to meet their children’s basic needs in the kindergartens, and they were sending their children if they were working full-time as they thought that kindergartens were only spending time and getting day-care for their children. However, when some of scientists proved that children who got early childhood education are more successful in their future academic lives than others who did not get, parents realized the importance of early childhood education, and become more conscious. Dongel and Sogutlu (2009) provided this statement with a quote “Studies elsewhere, confirmed in Turkey, show that the pre-school
attendance has an impact later in life on important factors such as literacy, health, intelligence, subsequent education obtainment and employment and even income levels (OECD, 2008)” (p.162). Nowadays, most of parents provide their children by getting education during early ages.

**Technology in Early Childhood Education**

The structure of the present Turkish education system consists of preschool education (6-7 years), elementary education (7-10 years), secondary education (10-14 years), and higher education (14-18 years). In preschool education, there are some technological arrangement as well as in other levels because as Kalburan, Yurt and Omeroglu (2010) state, the children in the younger ages are eager to learn and use technology. Thus countries have started to give more importance on technology in Early Childhood Education. According to Akkoyunlu (2002), “In Turkey, the use of educational technology in schools has been taken very seriously by the Ministry of National Education since the 1930s” (p.165).

Kurt (2010) said that “in Turkey, like many other countries in the world, the implementation of educational technology is the central focus right now” (p.68), and while Turkey is developing new approach in education specialists based on UNESCO standards. Akbulut, Odabasi and Kuzu (2011) claim UNESCO’s ICT integration includes:

- Content and Pedagogy (Teaching-Learning Methods and ICT in the Curriculum)
- Collaboration and Networking (Professional Developments and Learning Communities)
- Technical Issues (Infrastructure, Ease of Use, Access and Technical Assistance)
- Social Issues (Healthy, Ethics, Policies, and Special Needs)

**Teachers’ Attitudes and Readiness on Technology**

Technology and education system cannot be separated (Gok and Erdogan, 2012). Technology has a significant role to improve education, thus educators need to integrate technology and education (Akkoyunlu, 2002). All teachers, educators, researchers, in fact individuals should be able to access, use and create new and updated information. In addition, informational technology is changing dramatically because of development of internet (Isman and Eskicumali, 2001).

According to Kurt (2010), focusing on educational technology is one of the biggest current problems in teacher education, and teachers are not able to catch up new technology in their teaching, thus they use technology in negative ways. He also claims that technology is significant so both teachers and students must learn about technology and its impacts on education. On the other hand, Yilmaz (2011) stated that Turkish Education System has an increase in the use of the technologies by teachers, as in other countries, but the level of integration of technology in classroom activities is not adequate. Kurt (2013) classified teachers’ use of technology into two groups: educational and non-educational including:

1- Administrative Use
2- Teaching Technology: Students learn about the knowledge related to technology, especially computers
3- Non-educational Use
4- Instructional Prepetition
5- Teacher-Directed Instructional Delivery
6- Student Homework Preparation
7- Instructional Assessment
Although Yilmaz (2011) stated that there is an increase in using technology by teachers in the classrooms, Kurt (2013) claimed that teachers did not reach expected level. When the ways of technology listed above are revised, deficiency can be seen clearly. Unfortunately, teachers are not integrating technology in the classrooms actively. They just use it to access knowledge, prepare for classroom, and assess the assignments etc.

When recent researches are revised we can clearly see that technology is developing in Turkey’s Educational System. However, when we consider the state of technology in Turkey and teachers’ readiness, the results indicate that even teachers use technology for educational purposes such as preparing for classroom activities or assessment, they do not integrate technology as much as they are supposed.

According to studies, there are three reasons why teachers are not ready or eager to use technology in their classrooms. First of all, they were not given information about how technology is used in education at the universities, nowadays; preservice teachers are taking a class about technology in education. Moreover, teachers think that using technology is wasting time because most of teachers are not aware of how they can reach information by using it. Finally, unfortunately, most of schools are not provided with technological tools in Turkey. However, Ministry of National Education has started to provide students and schools with technological devices. At this time, the most significant fact to develop the state of technology in Educational System to provide pre-service and in-service teachers with classes or seminars about how they can integrate technology and education.

Summak, Baglibel, and Samancioglu (2010) measured the technology readiness of the primary school teachers in Turkey, and the results of this study showed that teachers’ technology readiness level is not high, while Gok and Erdogan (2012) show that teachers are able to use technology especially using internet for educational purpose. However, there are two different methods about using technology for education: for educational purpose (inactive), for education (active). The problem in Turkey is that teachers have started to use integrate technology for educational purpose, but they do not engaged it with curriculum.

Akbulut, Odabasi and Kuzu (2011) said that teachers need to develop new strategies to integrate technology in the classrooms because they claim that majority teachers were not prepared for educational technology at the universities, thus most of them are not able to include technology in the classroom activities. Kurt (2013) supports this idea by stating that from the teachers’ responses, it appears that teachers do not feel that they are ready to use technology.

**Children’s Attitudes About Using Technology**

For children, using technology in education plays a very crucial role, because technology makes learning easier and more enjoyable when teachers combine teaching and technology. Teachers can provide students with many opportunities by benefiting from technological advantages because most teachers do not prefer to give different option to student for preventing wasting time, however, technology gives a chance teachers to offer various options in a limited time.

NAEYC states that the integration of technology for learning is one of the many elements that support the cognitive and social abilities of children; however, it has emphasized that computers should be replaced with valuable learning centers such as block, art, sand and water games, books dramatic game or discovery spaces in classrooms, from this perspectives early childhood teachers
should benefit from the use of computers in education programs. Teachers could follow the developing world by applying technology in their classroom.

In addition, all children’s including different level (gifted or disabilities), culture, language etc. cannot be met at the same time. In this respect, technology creates an opportunity for teachers and students in different levels to have different options. This means that all children could have equity education with technology.

On the other hand, when we consider and compare United States and Turkey we can see the difference clearly. Unfortunately, even though in both countries, most children and people are aware of how they can use technology actively and properly in their education and social life, in Turkey, even adults are not able to use it. I think that it is related to culture. As Browniee and Berthelsen (2006) stated: “all students, including early childhood students, come to any learning situation with beliefs, abilities, knowledge motivations and personality traits that are part of the component of the model called ‘personal presage factors’” (p.22). I believe that most of parents and teachers, especially graduated before 2000 from universities and currently working, were not taught how to use technology as educational tool. Both teachers and parents are not able to teach for role model for young children. This is a very significant limitation for using technology both in the classrooms and in social lives.

Methods

Research Design

According to Denzin and Lincoln (2005), to bring an in-depth understanding of human behavior, attitudes and reasons the most useful method is the qualitative research method which is used for many different academic disciplines, especially in the social sciences. The qualitative method is described as the “inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting” (Creswell, 1998, p. 15).

In other words, qualitative study is the researcher’s ability to use words to explore and explain a social problem. Even though Ministry of Education has the number of teachers who have technological devices in their classrooms this study is looking for their usage of technology and attitudes to use technology in their classrooms. Thus, as Mayan (2009) stated that “qualitative researchers want to know the story behind numbers” (p.10), this study, the qualitative method is appropriate for exploring teachers’ readiness about using technology as educational tool in early childhood classrooms in Turkey.

Furthermore, Mertler (2012) claims that if the researcher’s approach shows that the research topic is broad, holistic and interpretive, the related body of literature is familiar with qualitative studies, and the research needs to involve in-depth study, the researcher should apply qualitative research. For this study, the sources chosen for the literature review were mostly related to qualitative research, thus qualitative method was chosen for this study due to the broad nature of the topic and desire for an in-depth study.

For this study, interviewing was chosen as a data collection method because as Lichtman (2013) stated that interviewing is the primary way that qualitative researchers gather data and it gives
chance them to have conversation and learn in-depth information about what s/he is searching about. In addition, Ponterotto (2005) stated that “postpositivizing may include the use of semi-structured interviews that are literature driven, detailed, and standard from participant to participant; the selection of the complete sample before the study rather than the incorporation of theoretical sampling; the establishment of theme categories before the study and the attempt to code interview data into these categories; or the calculation of the number of participants who are represented in each theme” (p.127).

In this study, interview was “online interviewing” via Skype as the participant lives in Turkey. This type of interviews also gave chance to the researcher to engage in a dialogue or conversation with a participant as well as other interview types. Although it was online there was not a disadvantage about getting information from participants. The interview was semi-structured and had two types of questions: “opinion questions” about what she thinks about using technology as educational tool in early childhood classrooms, and “experience questions” that helped her to share her experiences about using technology in classrooms and during her own education.

**Sample**
For the purposes of the study one kindergarten teacher was selected as participant from a city in the middle of Turkey. She is teaching at a public kindergarten classroom, and her students are six years old. In addition, she has five years teaching experiences.

DePaulo (2000) stated that a key point when conducting qualitative research is that the sample must only be big enough to assure that collected data mentions most or all of the perceptions that might be important. Lichtman (2013) stated that “Most qualitative research studies use a small number of individuals and cover material in-depth. It is quite common to see studies with fewer than 10 respondents; sometimes only single person is studied” (p.193). Thus, only one participant was enough for this study. In addition, Morrow (2013) said that “within every research project, there will be "outliers," people whose answers are either false or are well beyond the statistical mean, or average” (paragraph. 3). To avoid this fact, the participant was informed that this study needs only her contribution, and there were not correct or wrong answers.

**Procedure**
Interview began with an explanation of the purpose of this study and its importance by an interpreter under the heel of researcher. Then, potential participant was asked whether they would like to participate in this study, and her permission was obtained. Interviews began with five demographic research questions and continued with detailed questions. Participants had unlimited time to answer questions and could choose to opt out of answering questions. Interview concluded with extra information and examples about the topic provided by the teacher and appreciation for participation expressed by researcher. The interviews lasted 40 minutes. She ended it she want and/or had unlimited time to answer the questions.

The interview was done via Skype, and although it was conducted peer to peer there could be problems as Scmieder (2011) claimed that every one cannot be comfortable talking on Skype. Thus, to prevent these kinds of problems the participant was informed that she was going to be interviewed via Skye before setting time. On the other hand, to prevent technological problems, extra devices such as tablet and cell phone are ready to use during interview, and participant was asked to have extra technological devices if it is possible.
The data was collected with a voice recorder. The questions allowed participant to explain their opinions, thoughts and experiences. After two weeks, for member checking list, data was transcribed and the participant was asked to verify what she said, and provide any additional comments via e-mail.

**Data Analysis**

Mertler (2012) indicates that “the analysis of qualitative data involves a process of inductive analysis” (p.157). Accordingly, to analyze the data, inductive analysis will be applied. An inductive analysis will be used for the analysis of this study to reduce the volume of information collected. This strategy will help me to organize the data into themes and to construct a framework in order to present the information.

This study has descriptive validity as data was collected from participant’s interview. Data was accurate, believable, and trustworthy. In addition, according to Mertler (2012), member checking defined as “sharing of interview transcripts, analytical thoughts and drafts with participants to make sure the study reflects the participants and their ideas accurately” (p. 74) was used for ensuring reliability.

For data analysis as the interview was completed, the researcher listened to the tape and transcribed the interview as Gibson and Brown (2009) said that “Transcription is not just undertaken in order to serve as a guide to data; it is also a way of analytically working through some problem or other in relation to data” (p.111). The first step was to reduce the large amounts of narrative data such as the information was given by teachers, explanations of the other factors affecting their usage of technology in classrooms, as well as for educational tool loss in the form of interview notes.

Then, data was collected and eliminated from narrative information, Second step was coding the data that was transcribed and translated to create a category that is used to describe a general feature of data; a category that pertains to a range of data examples (Gibson and Brown, 2009), and they claimed that it is very common for researchers to associate coding with interview methods. Thus, I started to find themes for my coding scheme. During this time, I asked myself these following questions as they recommend.

   1- What are main areas of interest and themes?
   2- What kind of picture am I developing through my categories and codes?
   3- How do I know if a code is relevant to my research questions?

To determine my codes, I reviewed literature that are related to using technology in early childhood education and teacher readiness to get some ideas about which codes I could use for my data. Then, I decided my codes as Teacher’s Academic Background (TAB) to look teacher’s academic background about how they were educated using technology as educational tool in early childhood classrooms, Teacher’s Using Technology (TUT) to explore how much she uses technology in her classroom currently, Teacher’s Technological Devices (TTD) to find out current technological devices that she is using for education, which were provided by both government and school district, Teacher’s Attitudes about Fatih Project (TAF) to explore her thoughts and attitudes about Fatih Project that is new project to provide each student from kindergarten to high schools with a tablet, and provide each classroom with technological devices such as smart-tables, laptops, and projectors.
Findings
1- Teacher’s Academic Background (TAB): The teacher said that teachers who graduated from university after 2000 were educated about using technology in early childhood classrooms, and she stated that she had chance to practice it during her internship at university.

2- Teacher’s Using Technology (TUT): She claimed that she is actively using technology in her classroom for preparing her daily-plan, during classroom activities, and after class for assessing children and their activities.

“I use my laptop and connect the projector. I usually use it for music games, dramas and other activities that include music. In addition, I use projector for my weekly plan to show parents each week. On the other hand, some documents we use have their own DVD’s, and we use it during the activities which are very helpful for students because the class is directly related to the games or activities the DVD’s have. When the technological tools in my classroom break down this affects my teaching process negatively”.

3- Teacher’s Technological Devices (TTD): She said that neither Ministry of Education nor School District had provided her classroom with technological devices. She said that she contacted her students’ parents and bought a projector for her classroom, and she said she is using her laptop for activities. Even though the classroom has a computer and TV, she stated that they were not working unfortunately. Whenever she asked for new technological devices, she got same answer: “no sufficient fund”.

4- Teacher’s Attitudes about Fatih Project (TAF): She claimed that she thinks positively about Fatih Project because every student needs to catch up technology. However, Ministry of Education was not able to finish providing technological devices on time, and some of teachers may need additional supports about using technology.

“. I believe that this project will be very helpful for educational development in Turkey. However, I believe that Ministry of education should give some seminar for teachers to teach them the way for using technological devices in the classrooms as this project includes many different technological tools such as tablet and smart tables which may not be used by some of in-service teachers before. For instance, I have not used smart table before. Thus, I may not be able to use it for a while if my class had it. I am not sure; there can be some disadvantages about using technological tools such as smart table and tablet in the classrooms but because I have not had any experience I cannot make any comment about it.”

Overall, she said that she is trying to use technology in her classroom and she was ready to improve her ability, but some of the teachers may need to get additional support for using technology as educational tool in early childhood classrooms.

Conclusion
The results showed that teachers are not ready to use technology as educational tool in the early childhood classrooms. Based on the results, there are several reasons why teachers are not ready.

For instance, pre-service teachers in Turkey do not take any course to prepare themselves and improve their skills to use technological devices as educational tool in the classrooms actively. In addition, most of teachers who are graduated from universities before 2000 are not eager to use technology as they wanted to abide by traditional methods while they are teaching. In addition, most of classrooms, especially in low socio-economic communities, are not provided with technological tools, thus, teachers are not able to use them. According to results, at this point, unfortunately, Ministry of Education does not provide classrooms with technological tools.
However, participant also claimed that some of teachers are trying to improve themselves by using their own technological tools and devices in their classrooms.

**Limitations and Implications**

As the study has only one participant we cannot generalize results for all teachers. In addition, as her classroom has not been provided with technological tools by Ministry of Education she could not give quite examples from her experiences as she has not engaged with some of technological devices such as smart board.

For implications, I would give a recommendation for Ministry of Education to provide teachers with seminars about using technology as educational tool in the classrooms. On the other hand, teachers should be eager to learn how to use technology in the classrooms and improve their skills.

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https://scholarcommons.usf.edu/anaheipublishing/vol3/iss2017/1

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Part 4: English as a Second Language (ESL)
The Relationship Between Think Aloud Method in Organization of Ideas in the First Language and Improvement of Essay Writing in the Second Language in Terms of Organization

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Abstract
The purpose of the present study was to examine the relationship between think aloud method in organization of ideas in the first language and improvement of essay writing in the second language in terms of organization. There was only one class available for the research. A group of 15 university students who were in the English preparatory school were participated in the study through one group pre-test post-test study. One type of essay; advantages and disadvantages essay, as a pre-test, was asked to write by students. For the treatment, Think Aloud Method (TAM) was explained to the students. In the post-test, the students were asked to rewrite one advantages and disadvantages essay about different subject on different day by using think aloud method. The study was grounded on Flower and Hayes’s Cognitive Process Theory of Writing (1981). The outcome of the study put forward that the use of TAM is relevant to the improvement of writing essay.

Keywords: think aloud method, writing skills, cognitive process theory of writing

Introduction

Statement of the Problem
The present study was designed to decide on the relationship between improvement of essay writing in L2 regarding to organization of ideas and thinking loud out the ideas in L1 during writing.

Justification
The role of Think aloud method on EFL learners’ written performance was also studied by Sahebkheir and Asl (2014) who pointed out that think aloud method in L2 may improve writing. They supported that the idea of thinking aloud and paying attention because thinking aloud and paying attention have a certain effect on learners’ cognitive processing system and noticing. If certain linguistic features in input are taken into consideration deeply, the process of noticing occurs (Sahebkheir and Asl, 2014). Also, it is proposed that noticing is the first stage of learning (Gass, 1988). On the other hand, the excessive use of L1 in the think aloud process showed that it decreased the writers’ L2 improvement (Wang and Wen, 2002). It was proposed that use of L2 in think aloud process to generate ideas for L2 writing made L2 writers more proficient and effective in their L2 writing (Wang and Wen, 2002). Hence, a teacher might use think aloud method in the first language to make students write more organized essays.

Significance
In a think aloud method, it was stated that a task was given to participants and they were asked to perform their task by verbalizing what they were thinking (2012, Tavakoli). In this process, it was considered that the participants were encouraged to verbalize their thoughts (2012, Tavakoli).
Also, it was pointed out that it was necessary to focus on the task while the participants were carrying out a task. (2012, Tavakoli). Moreover, it was stated that learners reached a solution to solve their writing problems if think aloud method was used in the writing process instead of imitating model essays (Sahebkheir and Asl, 2014). Writing was stated as a process-oriented work (Flower and Hayes, 1981). According to the research on L2 vs L1 students’ writing, one of the most distinctive characteristics of these written texts is different organizational preferences and approaches to argument-structuring (Grabe and Kaplan, 1996). Writing was also claimed as a considerably complex task and some attempts were proposed to provide a coherent framework (Grabe and Kaplan, 1996). It was pointed out that the outcome of the study could contribute to improvement of teachers’ approaches to teaching writing and learners’ written production in terms of organization (Sahebkheir and Asl, 2014).

When all things considered, it can be said that think aloud can be a part of writing process because it helps learners think and promotes writing in a coherent way as think aloud method provides brainstorming.

**Research Question**
Is there any relationship between think-aloud method in organization of ideas in the first language and improvement in learners’ essay writing in second language?

**Research Hypothesis**
H1: Think-aloud method in organization of ideas in L1 has effect on EFL learners’ essay writing in L2 in terms of their organization.

**Limitations and Delimitations**
It was assumed that attendance of participants to the class in a regular way would change during the research process. Also, the research process was too restricted in terms of participants’ diversity since there was only one class.

**Methods**

**Participants**
The participants who were Turkish in the present study were 15 EFL students in the English Language Prepatory School from Okan University in Istanbul, in Turkey. Their ages were 18-21. They all were in the same class. The students all studied in the public high schools before they entered university exam. The students were grouped according to proficiency exam which was given at the beginning of 2014-2015 academic year by Okan University’s English Language Prepartory School. According to the proficiency exam, the participants’ levels were determined as elementary. Before entering university exam, these students had already 9 years of with English as a foreign language with 6 hours of class per week. Now, they have courses such which involves listening, reading, speaking, use of English and Reading Writing course as separately. They have totally 22 hours of English which involves and reading and writing course. They have been taking writing course since September, 2015.

**Instrumentation**
To get data, the think aloud method was used to get about participants’ thinking. The participants were given a task which was about advantages and disadvantages essay writing. During the performance on the task, they were asked to verbalize what they were thinking about a topic. They
spoke out loud what they had in their mind and they tried to brainstorm in the first language. Then, they tried to write and organize their ideas by brainstorming in the second language, namely English. Paper and pencil tests are used to collect data about learners’ writing performance in L2. The essay evaluation rubric was adapted from the internet and it was used to get validity (See Appendix 1).

Procedure
Learners were taught how to write an organized essay at the beginning of the term. Their first experience in essay writing was to write an advantage & disadvantage essay. They have learned to write an organized essay in terms of content and development, organization and structure, mechanical conventions, critical thinking and presentation until pre-test. Learners had difficulty in organizing their ideas in L2 so that their example essays were in bad condition. The essays were not coherent and the sentences showed serious problems with progression of thoughts. The transitions were not clear in the essays. After two weeks long instruction of writing essay, learners were given a pre-test in advantages & disadvantages essay. The topic was about advantages and disadvantages of having a part time job. The treatment, think aloud method was given for two weeks. Learners started to write their example essays with the help of think aloud method. It provided learners to see their mistakes in organization. After the treatment, they paid attention to improve the sequence of ideas and supported their sentences according to the purpose of essay. After two weeks experience with think aloud method, learners were asked to write an essay on a different topic in the post-test.

Data Analysis
The data was analyzed by using Statistical Package for the Social Sciences (SPSS) after two weeks of treatment. The data collected from the class was processed to see the difference between pre-test and post-test in terms of think aloud method’s effect on organized advantages & disadvantages essay. In the table 1, the results of pre-test showed that 15 students completed their essays. The highest score students need to get was 20. The mean score was 10, 00 in this pre-test so it could be said that 10, 00 was the average score in the distribution. The mode score was 8, 00 that was repeated more often than any others. The highest score in the list was 14, and the smallest one was 17, so the range was 14 – 7 = 7. Sixty percent of the class took less than 10, 00. Both pre-test and the post-test was investigated in terms of their organization. In the post-test, essays were written after the treatment which was instruction of Think Aloud Method.

Table 1: Statistics

<table>
<thead>
<tr>
<th></th>
<th>Pre-test Scores of Students- Advantages &amp; Disadvantages - Part Time Jobs</th>
<th>Post-test Scores of Students- Advantages &amp; Disadvantages - Living With Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Valid</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>10,00000</td>
<td>13,1333</td>
</tr>
<tr>
<td>Median</td>
<td>9,0000</td>
<td>14,0000</td>
</tr>
<tr>
<td>Mode</td>
<td>8,00ª</td>
<td>8,00ª</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>2,39046</td>
<td>3,99762</td>
</tr>
<tr>
<td>Variance</td>
<td>5,714</td>
<td>15,981</td>
</tr>
<tr>
<td>Range</td>
<td>7,00</td>
<td>11,00</td>
</tr>
<tr>
<td>Minimum</td>
<td>7,00</td>
<td>8,00</td>
</tr>
<tr>
<td>Maximum</td>
<td>14,00</td>
<td>19,00</td>
</tr>
<tr>
<td>Percentiles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>7,0000</td>
<td>8,0000</td>
</tr>
<tr>
<td>10</td>
<td>7,0000</td>
<td>8,0000</td>
</tr>
<tr>
<td>15</td>
<td>7,4000</td>
<td>8,4000</td>
</tr>
<tr>
<td>20</td>
<td>8,0000</td>
<td>9,0000</td>
</tr>
</tbody>
</table>
According to the mean score is 13, 14 in this post-test so it could be said that this score was the average score in the distribution. The mode score was 8, 00 that was repeated more often than any others. The highest score in the list was 19, 00 and the smallest one was 8, 00 so the range was 19 – 8 = 8. After the treatment, the post-test scores increased. While the mean score is 10, 00 in pre-test, the mean score in post-test is 13, 14. It can be deduced that the treatment (think-aloud method) contributed to students’ success in writing more organized advantages & disadvantages essay.

Conclusion

Implications, Application and Suggestion for Further Research
Writing is considered one of the important skill to express ideas. To write an effective essay, learners need to pay attention to many criteria such as invention of ideas, organization of paragraphs, punctuation, spelling and grammar. It was observed that there has been a lot of similarities between one’s writing in L1 and writing in L2. The result of this study suggested that to some extent to think aloud method in L1 was beneficial to writing in L2. It can be stated that writing an essay necessitates brainstorming and brainstorming could be done by thinking out loud. The writing process was also relevant to Flower and Hayes’s Cognitive Process Theory of Writing (1981). Although there has not been fairly significant effect of think aloud method on L2 writing, it was observed that some of the learner got the benefit of thinking loud in L1. However, it should be noted that the excessive use of L1 by thinking out loud may have negative effect on writing in L2 and proficiency.

The findings of the study could be used as reference by EFL learners and teachers to improve their writing in regards of organization and sequence of ideas. The similar results were achieved through a study conducted by Sahebkheir and Asl (2014). Their study was based on The Role of Think Aloud Protocols on Developing Iranian EFL learners’ written performance and the study proposed that thinking aloud could be helpful for improving writing skill. The present study offered that there could be more improved researches about any other types of essays or writing with other groups of language learners from different ages in different settings.

Discussion
There has been an improvement in learners writing in L2. However, it could be stated that before the treatment, the teacher may have taught essay writing in L2 in very effective way. Therefore, the learners did not need to think aloud during post-test process.

References
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## Appendix 1

<table>
<thead>
<tr>
<th><strong>Standard Grade</strong></th>
<th><strong>Invention: Ideas/Support 5 pts</strong></th>
<th><strong>Arrangement: Organization of Essay and Within Paragraphs 5 pts</strong></th>
<th><strong>Style: Voice/Tone/Sentence Quality/Word Choice (Diction) 5 pts</strong></th>
<th><strong>Style: Grammar, Usage, Punctuation, Spelling, Format 5 pts</strong></th>
</tr>
</thead>
</table>
| **Far Exceeds Standards** | *Addresses assignment thoughtfully.*  
*Strong, consistent sense of purpose and audience.*  
*Clear thesis.*  
*All body paragraphs are fully developed with appropriate, specific details.*  
*If required, sources are used, cited, and integrated skillfully.* | *Introduction skillfully builds context and contains focused thesis.*  
*Order of all paragraphs is logical and appropriate for essay’s purpose.*  
*Each body paragraph skillfully supports essay’s purpose and is unified, coherent, with transitions and topic sentence.*  
*Closing paragraph skillfully brings essay to logical end.* | *Voice/tone are always distinctive, appropriate, engaging.*  
*Sentence quality is almost always high, appropriate, fluent, varied.*  
*Diction is consistently appropriate, fresh, clear.* | *Demonstrates strong understanding of sentence boundaries.*  
*Grammar, usage, punctuation help promote essay’s ideas.*  
*Demonstrates highly proficient use of Standard Written English.*  
*All format standards are skillfully used.* |
| **Exceeds Standards** | *Addresses assignment.*  
*Good sense of purpose and audience.*  
*Clear thesis.*  
*Most body paragraphs are developed with appropriate details.*  
*If required, sources are usually used and cited, and integrated.* | *Introduction builds context and contains focused thesis.*  
*Order of all paragraphs is logical and appropriate for essay’s purpose.*  
*Each body paragraph supports essay’s purpose and is mostly unified and coherent, with transitions and topic sentence.*  
*Closing paragraph brings essay to logical end.* | *Voice/tone are usually distinctive, appropriate, engaging.*  
*Sentence quality is usually high, appropriate, fluent, varied.*  
*Diction is usually appropriate, fresh, clear.* | *Demonstrates strong understanding of sentence boundaries.*  
*Grammar, usage, punctuation almost always help promote essay’s ideas.*  
*Demonstrates proficient use of Standard Written English.*  
*All format standards are skillfully used.* |
| **Meets Standards** | *Addresses assignment.*  
*General sense of purpose and audience.*  
*Adequate thesis.*  
*Most body paragraphs are developed with details.*  
*If required, sources are usually used and cited, but sometimes not integrated skillfully.* | *Introduction builds some context and contains focused thesis.*  
*Order of most paragraphs is logical and appropriate for essay’s purpose.*  
*Most body paragraphs support essay’s purpose and are usually unified, coherent, with some transitions and topic sentences.*  
*Closing paragraph brings essay to end.* | *Voice/tone are inconsistent.*  
*Sentence quality is adequate, not as fluent and varied.*  
*Diction is usually appropriate and clear.* | *Essay contains a few sentence boundary problems.*  
*Grammar, usage, and punctuation are adequate, with some errors.*  
*Demonstrates adequate use of Standard Written English.*  
*Most format standards are used.* |
| **Needs Some Revision to Meet Standards** | *Addresses assignment superficially or partially.*  
*Little sense of purpose and audience.*  
*Unclear thesis.*  
*Few body paragraphs are developed.*  
*If required, sources are sporadically used and cited, and not well integrated.* | *Introduction builds little context and contains flawed thesis.*  
*Order of some body paragraphs is not logical or appropriate for essay’s purpose.*  
*Some body paragraphs do not support essay’s purpose, and some lack unity, coherence, transitions, or topic sentences.*  
*Closing paragraph is ineffective or combined with a body paragraph.* | *Voice/tone need some development.*  
*Sentence quality is low, sometimes not fluent or varied, and idiomatic.*  
*Diction is sometimes inappropriate, unclear, and limited.* | *Essay contains more sentence boundary problems.*  
*Errors in grammar, usage, and punctuation begin to hinder communication.*  
*Shows limited experience with Standard Written English.*  
*Some format standards are not used.* |
| **Needs Much Revision to Meet Standards** | *Assignment not addressed.*  
*No sense of purpose and audience.*  
*No thesis.*  
*Few body paragraphs are developed.*  
*If required, sources are rarely used and cited, and not integrated, or are not used; or are used but not cited (plagiarism).* | *Introduction builds little or no context and contains no thesis.*  
*Order of paragraphs is not logical or appropriate for essay’s purpose.*  
*Most body paragraphs do not support essay’s purpose, and are not unified and coherent.*  
*Transitions and topic sentences are rarely used.*  
*Essay lacks closing paragraph.* | *Voice/tone need much development.*  
*Sentence quality is low, not fluent, not varied, unidiomatic.*  
*Diction is often inappropriate, unclear, and limited.* | *Shows little understanding of sentence boundaries.*  
*Numerous errors in grammar, usage, and punctuation hinder communication.*  
*Shows lack of experience with Standard Written English.*  
*Many format standards are not used.* |
Part 5: Higher Education and Educational Leadership
How to Develop the Fourth Year University Students’ Leadership With Critical Pedagogy: The Action Study Research in China

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Abstract
Under the background for development for the students, this paper explores how to develop the fourth year students' leadership in university in perspective of teacher in China. It narrates a teacher how to arrange a course named "research methods about education", how to use the action study research in this course, and how to ignite students’ leadership by this course. By presenting teacher’s practices about action study research, this paper will inspire the readers’ reflection of critical pedagogy and other common definitions, such as study, research and knowledge.

Keywords: the fourth year students' leadership; action study research; critical pedagogy; development education

Introduction
Critical thinking, critical speaking or critical writing is common in western countries, but there is never coined in Chinese. Since critical thinking was invented in early 1980s, China was in the beginning of Reform and Open.

The first beneficiaries of critical thinking were students in municipalities and Reform and Open areas. There was a tide to study abroad in these areas and the returners worked these areas as priority because of governmental employment opportunities with good condition.

These people who studies abroad and returned to China seeded the critical education to China in the 21st century. However, most of them worked in higher education not other levels education, so the internationalization of education started in Ivory Towers.

In 2002, Law of the People's Republic of China on the Promotion of Privately-run Schools was released, private education embraced internalization quickly with less governmental restraint to syllabus and textbooks, even to curriculums arrangements. Owing to privatization of education, critical education is more common than before in China.

However, critical education is never a public common sense in contemp orary China. In some conservative educational organizations or educational atmosphere, students must follow the teachers or what they said without any suspects is also the biggest barrier to critical education.

I am a university teacher in China. The research in this paper happened in a mid-size city with less internalization in China. Without political pri ority and privatization force, how could critical education happen in this area? So every teacher, just like me, is the mainstay to explore own critical pedagogy to implement critical education.

1 Beijing, Tianjing, Shanghai, later Chongqing was added in 1997.
2 Most of them are coastal cities.
This paper claims that it is necessary to retrospect the ancient Chinese philosophy about knowing and acting to realize the internal critical pedagogy and how to practice the internal critical pedagogy with action study research in China’s regional areas.

**Literature Review**

**Critical Pedagogy**

This paper suggests that the core of action study research is critical pedagogy. As we known, the modern founder of the critical pedagogy is Paulo Freire and then some people develop critical pedagogy such as Henry Giroux, Augusto Boal and so on. Here are some literatures about their critical pedagogy.

**Paulo Freire’s Pedagogy of the Oppressed**

Paulo Freire was the Brazilian educator who developed the illiterate poor in rural areas and known for his Pedagogy of the Oppressed that was the foundation of critical pedagogy. As for him, “a pedagogy which must be forged with, not for, the oppressed (whether individuals or peoples) in the incessant struggle to regain their humanity.

This pedagogy makes oppression and its causes objects of reflection by the oppressed, and from that reflection will come their necessary engagement in the struggle for their liberation. And in the struggle this pedagogy will be made and remade.” (Paulo Freire,2000,p48) So the pedagogy of the oppressed was made by oppressed themselves not taught by the oppressed.

In the *Pedagogy of the Oppressed*, Paulo Freire realized that “the teacher talks about reality as if it were motionless, static, compartmentalized, and predictable. Or else he expounds on a topic completely alien to the existential experience of the students. His task is to ‘fill’ the students with the contents of his narration—contents, which are detached from reality, disconnected from the totality that engendered them and could, give them significance. Words are emptied of their concreteness and become a hollow, alienated, and alienating verbosity. (Paulo Freire,2000,p71)

Paulo Freire called this kind of education as banking-education and the opposite education was problem-solving education that emphasized the importance of questions and dialogs. He suggested:

> The methodology of that investigation must likewise be dialogical, affording the opportunity both to discover generative themes and to stimulate people's awareness in regard to these themes. Consistent with the liberating purpose of dialogical education, the object of the investigation is not persons (as if they were anatomical fragments), but rather the thought-language with which men and women refer to reality, the levels at which they perceive that reality, and their view of the world, in which their generative themes are found. (Paulo Freire,2000,p96-97)

The dialogic education is the main way of critical pedagogy. In the dialogue between Ira Shor and Paulo Freire, the latter said “Dialogue seals the relationship between the cognitive subjects, the subjects who know, and who try to know.”(Ira Shor &Paulo Freire,1987, p13) . So the classroom is a political filed to Freire and the dialogue will empower everyone in this filed.

Paulo Freire’s critical pedagogy used the neo-Marxist theory and dichotomy dialectics to argue that “Authentic education is not carried on by "A" for "B" or by "A" about "B," but rather by "A"
with "B," mediated by the world—a world which impresses and challenges both parties, giving rise to views or opinions about it. (Paulo Freire, 2000, p93)

There were lots of critics to Paulo Freire’s critical pedagogy, such as too much dichotomies (Noddings, 2012), over-emphasis of conflicts between classes not individual perspective (Ira Shor & Paulo Freire, 1987) and ignorance perspectives of gender, age, ethics, nation, religions. However, the limit-situation (Paulo Freire, 1970) is the limitation of his theories, meantime breeds the development of critical pedagogy.

**Henry Giroux’s On Critical Pedagogy**

Henry Giroux was American and Canadian scholar and cultural critic known for his critical pedagogy in USA. He published his book *On Critical Pedagogy* in 2011 claimed critical pedagogy was the key defeated neo-liberalism.

Respect complexity of the relationship between pedagogical theories and the specificity of the sites in which they might be developed. (Henry A. Giroux, 1992, p3-4) In his book *Border Crossing: Cultural Workers and the Politics of Education*, Henry Giroux mentioned:

> Where I grew up learning was a collective activity. But when I got to school and tried to share learning with other students that was called cheating. The curriculum sent the clear message to me that learning was a highly individualistic, almost secretive, endeavor. My working-class experience didn’t count. Not only did it not count, it was disparaged. I was being reproduced according to a different logic. (Henry A. Giroux, 1992, p14)

As a form of cultural production, pedagogy is implicated in the construction and organization of knowledge, desire, values, and social practices. At stake here is developing a notion of pedagogy capable of contesting dominant forms of symbolic production. (Henry A. Giroux, 1992, p3)

Therefore, critical pedagogy is a social mechanism about knowledge and education.

In the Book Review of *On Critical Pedagogy* written by ANGELO LETIZIA said, Giroux calls for a multi-disciplinary approach to tackle the complex problems that neo-liberalism breeds. This approach always begins with education and critical pedagogy (Henry Giroux, 2011, p67). This language of hope and the students’ participation in the unfinished project democracy is what Giroux calls Critical Pedagogy. As Giroux asserts in the introduction, a democracy cannot survive without critical and engaged citizens, and he believes that education is the site for this critical training and critical pedagogy (Henry Giroux, 2011, p12).

In Henry Giroux’s eyes, education is not only economic context but also the social and culture context. Once students become critical and self-reflexive, they can begin to understand this interconnected relationship between economics, politics and culture. They can use this understanding to further enhance the unfinished project of democracy and make it better suited to the changing conditions of society (Henry Giroux, 2011, p54).

It is no doubt critical pedagogy is important to cultivate students, and there is a question that who implements the critical pedagogy? Only teachers? Some ancient Chinese philosophers didn’t think so.
Ancient Chinese Philosophies About Critical Pedagogy

In ancient Chinese philosophers, narrative dialogue is the most important way to invoke critical thinking. Take the Confucian Analects for an example, which is full of concrete, minute details about what Confucius did and what he said, he usually asked the fundamental and deceptively profound question. (Michael Puett & Christine Gross-Loh, 2016, p25)

Taking Confucian Analects for example, there was a dialogical scenario between Confucius and his students Yan Yuan and Zi Lu:

Yan Yuan and Zi Lu being by his side, the Confucius said to them, "Come, let each of you tell his wishes." Zi Lu said, "I should like, having chariots and horses, and light fur clothes, to share them with my friends, and though they should spoil them, I would not be displeased." Yan Yuan said, "I should like not to boast of my excellence, nor to make a display of my meritorious deeds." Zi Lu then said, "I should like, sir, to hear your wishes." The Confucius said, "They are, in regard to the aged, to give them rest; in regard to friends, to show them sincerity; in regard to the young, to treat them tenderly." (James Legge, 1893)

Actually, Confucius treated students as equal and welcomed different even contrast answers, and evaluated their answers according to the standard of Ren (virtues such as wisdom, honesty). It was the initial democracy of education in Ancient China.

There is also basic dichotomy dialectics in Confucius education. There was one time, Confucius’s disciples asked him whether he thought we are rewarded after we die for the good things we do for others. His response was simple “you do not yet understand life—how could you understand death?” (Michael Puett & Christine Gross-Loh, 2016, p52)

After Confucius, there was a Neo-Confucian philosopher named Wang Yangming who insisted the combination of mind and action. He believed that the self-reflection could wake the good parts of mind that would lead people’s action to common benefits. Weiming Tu suggested, Yang-ming’s understanding of self-cultivation can be summed up:

Man’s greatest task in life is to become a sage. How to become a sage, however, never begins with an external method but with an inner decision. For the inner decision to be a sustaining power for self-transformation, it must be supported by learning. Continuous learning necessarily leads to self-criticism, and deepened self-criticism itself is manifested in mutual exhortation among friends and disciples. And the community of the “like-minded” people is organized with the expressed purpose of realizing the selfhood of each of its members. (Weiming Tu, 1976, p146)

Comparing with Paulo Freire and Henry Giroux, ancient Chinese philosophers pay much attention to inner critical pedagogy, such as talking and thinking critically with selfhood, and I will choose Yang-ming’s knowing and acting (chih-hsing ho-i) in Weiming Tu’s book Neo-Confucian Thought in Action: Wang Yang-ming’s Youth (1472-1509) about as my research methodology.

Methods

Yang-Ming’s Knowing and Acting (Chih-Hsing Ho-i)
To ancient Chinese philosophers, how to be a sage is most important question to them and their practices for a sage natured their pedagogies. So did Wang Yang-ming. Wang Yang-ming was an ancient Chinese philosopher during Song dynasty he was famous as the most important Neo-Confucian thinker. His philosophy based on epistemology as below:
The controlling power of the body is the mind. The mind originates the idea, and the nature of the idea is knowledge. Wherever the idea is, we have a thing. For instance, when the idea rests on serving one’s parents, then serving one’s parents is a thing; when it is on serving one’s prince, then serving one’s prince is a thing; when it is occupied with being benevolent to the people and kind to creatures, then benevolence to the people and kindness to creatures are things; when it is occupied with seeing, hearing, speaking, moving, then each of these becomes a thing. I say there are no principles but those of the mind, and nothing exists apart from the mind. (Henke, Frederick Goodrich, 1916, p59)

Basically, there are three strands to explain Yang-Ming’s knowing and acting:

Strand 1: Everyone can be a sage through learning. This is the tradition of ancient Chinese education, even in contemporary China, the educated men and women are eager to be a sage. There is no need for students to imitate specific sage, and every specific sage should be a mirror for students to reflect the way of being sage, like Yang-Ming suggested:

At present students who are trying to learn to become sages are not able to learn to know that which the sage is able to know, and yet with unremitting energy they devote themselves to seeking that which the sage is unable to know, as though it were learning. Has the student not thereby lost the means by which he hopes to become a sage? All that I have said corresponds to the points regarding which you are in doubt, and to a small extent explains them; but it does not constitute an exhaustive discussion, and without this there is no clear understanding in the Empire. (Henke, Frederick Goodrich, 1916, p326)

Strand 2: Knowing and acting is a unity and can’t be separated, as Yang Ming argued that:

People today distinguish between knowing (chih) and acting (hsing) and pursue them separately, believing that one must know before one can act. They will discuss and learn the business of knowledge first, they say, and wait till they truly know before they put their knowledge into practice. Consequently, to the last day of life, they will never act and also never know. (Weiming Tu, 1976, p150)

Strand 3: Learning is the internal self-cultivation. As for Yang-Ming, learning is not the responsibility for others, but the duty of students who want to be a sage:

Study, inquiry, thinking, sifting, and practice are all ways of learning. No one really learns anything without carrying it into actions. Take the learning of Xiao (filial piety). One must relieve his parents of the burden of toil, serve and care for them, and personally put the principle of Xiao (filial piety) into action before one can be said to be learning filial piety. (Weiming Tu, 1976, p151)

With Yang-min’s knowing and acting as methodology, I started my action research and lasted it for three years.

Action Study Research (Action Research With Knowing and Acting)
This research is one action research with my knowing and acting, therefore, it isn’t the action research separating teachers’ study and students’ study and it’s the action research improving teachers’ study and students’ study. My research group and me call this method action study research.

Identifying Research Problem
After ten years I graduated from the university and became a teacher in the university, the situation staged like ten years before: students didn’t suspect of their textbook and asked teachers to help

3 In 2010, I met some companions in other universities around China to form an action study research group to discuss how to develop students’ leadership.
them to pass exams. So there was a question raise: have China’s higher education went ahead or backward during these ten years?

From 1999 to 2013, China witnessed the expansion of higher education and the gross enrollment rate of higher education reached from 10.5% to 34.5%. Heat debate about quantity and quality of higher education in China confused the society, until the appearance of University Ranking.

The first of university ranking in China is Wu Shulian’s China University Ranking and Evaluations in 1993. This ranking was criticized by some scholars because Wu Shulian’s professional identification in private sector. In 2002, China Academic Degrees and Graduate Education Development Center (CDGDC) started Ranking of Disciplines in 2002 and ended in 2009. And then, Shanghai Jiao Tong University’s Academic Ranking of World Universities (ARWU) was published in 2003,

My universities melt with the competitive ranking battle, and I didn’t feel we were in the process of development. Even worse, I found a rule for most undergraduates in department of education: in the first and second year, they studied knowledge diligently and in the third year they became to lost their way. Finally, they showed depressed and confused in the fourth year.

My course was arranged for fourth year students, so how to develop their leadership became the first challenge of my career life.

_sampling_

Sampling
The sample of this research is convenience sampling and snowball sampling. There are three rounds of sampling with 107 students totally:

The first round sample: 40 fourth year university students in the department of education in 2013; The second round sample: 40 fourth year university students in the department of education in 2014; The third round sample: 27 fourth year university students in the department of education in 2015.

In 2013 and 2014, I made a comparison research between the fourth year undergraduates and the first year graduates to test whether the fourth year students was more anxious about future, and the result was yes. In 2015, I used action study research in other courses and tried to find what was the best year to implement action study research.

Collecting and Organizing Data
For students, I collected their homework, reflective diaries, questionnaires, and voice records as data in 2013. In 2014, I added video record as data. In 2015, I added self-assessment. For me, I collected my power points, reflective diaries and photos from 2013-2015. These data are kept in my laptop and a portable hard disk in terms of different semester.

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4 Gross Enrolment Rate of Education by Level http://old.moe.gov.cn/
5 I still remembered one scenario: After privatization of universities’ buses, students can pay to take buses with a little higher fee. One day, some colleagues and me boarded one bus and found there was no vacancy. One colleague blamed those students who sat didn't give seat to respect teachers. Finally, no student gave seat to us.
I organized these data according to my specific demands. Because as a teacher in governmental university, there were lots of tasks irrelevant to research and teaching, and I felt it was difficult to focus on action study research. Therefore, the way I chose was to record everything happened in my course and then explaining them later.

**Explaining Data**
Reflective writing is the basic way for me to explain data. I opened a blog to share my reflective writing in 2014 and then transferred it to a group of students. This blog was forced to close because nobody updated it according to regulations of website. Then, I launched another blog to share my reflective findings and still continue.

According to my writing interests, I decided to start reflective writing in 2014 and share them in students’ social media irregularly. I made a rule for my blog that never opened anyone’s message to make sure a mutual trust relationship between students and me.

**Action Based on Data**
According to data and reflective diaries, I made five actions as followed:

**Structuring the Knowledge According to Modules**
I explored to structure the course for a long time. Firstly, I structured the course with 50-50 percentages, but failed with opposition from students who thought job was more important than curriculum study.

I couldn’t ignore that students were anxious their future because of non-stopping expansion of higher education and competitive labor market. I chose another way to structure my course according to knowledge about research methods.

I made seven modules of research methods and established connection among modules in order to lead students to learn step by step. These seven modules are: research methodology, raising question, literature review, design of research, development of research tool, research implementation, presentation of research finding.

In the process of structuring, I read some books about the philosophy about education, definitions of educational research methods, quality research methods, quantity research methods and action research methods. Reading became the main way of my action study research.

**Reflective Writing**
Reflective writing is writing diaries about people question their consciousness. In my course, I encouraged students and myself to reflect the knowledge about educational research methods, and explored the answers by basic research methods, such as literature search, simple observation and short-time interview.

Meantime, I also wrote reflective diaries about my knowledge and instruction. I shared dairies about knowledge with students and discuss instruction with my colleagues. Diaries helped me to prove my teaching with continuous reflection.

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6 I launched reading event in social media in 2015. This group of students joined this event autonomously, and I considered they as students with leadership.
Out-of-Classroom Study
I insisted that research should be carried on in direct touch with real context. It was fortunate that I found some headmasters in primary schools supported my native pedagogy and they suggested that it was reasonable to establish a bridge between university and schools.

Oral Presentation as Final Exam
Final exam is the oral presentation that students show their whole research process, results and findings. I invited other teachers in my department as examiners to test my students, and I tried to collect their feedback about this presentation and failed.

I still tried to invite stakeholders to be examiners in final exam in universities, such as future-employers, governmental officers, education and training providers, and students’ parents, in order to improve the quality of higher education and failed.
**Mutual-Subjective Dialogue**

Actually, in 2015 I tried to implement action study research other course. I remembered that a student went to a primary school with lots of stay-at-home children to do her survey. After research, she found one stay-at-home child wasn’t pessimistic as people thought so she claimed that less focuses on the negative evaluations of stay-at-home children in order to prevent the second psychological injury to them.

Independent research about stay-at-home children in 2015

There was a big surprise shown that some students started to reflect the knowledge of research methods in reflective diaries without teachers’ guidance. One student wrote in the reflective diary that:

> I was thinking about how to interview a student in classroom. I found lots of classmate watched this student, and I went out with her/him in the corner of school to finish my interview. But it was never mentioned in the textbook.

Through action study research, I argue that both students and teachers are beneficiaries of leadership. Action study research restores students’ curiosity and connects their experiences with knowledge from teachers and textbooks to build their self-leadership of study and research. Action study research strengths teachers’ confidence to change negative sides in traditional education and encourages them to explore creative ways of right education.

In a mid-size city in China, lost of university students were brought up as stay-at-home children, and I created a hand-drawing map to oral narrate stories about homeland with students in 2015.
Findings

Internal Critical Pedagogy
Under discussion with our action stud research group, we found that our students were lack of leadership and wanted to follow teachers without thoughtful considerations. Actually, when we reflected ourselves so did we. Then, I noticed that perspective choices would influence behaviors, so I decided to change my perspectives in order to transfer my action at first.

Changing Perspective
Changing perspective is the first step of Internal Critical Pedagogy. There were three kinds of perspective changes:

The first was from the observer to the participant. It was the key to implement action study research. If you considered you were observer, you would found a lots of mistakes from others and persuaded yourself don't make the same mistakes, however, you still learn from negative mimicking others not reflecting yourself. When I chose to be a participant of action study research, it meant I was the same to students to study and research through action, not bystanders asked students to do in terms of my requirements.

The second was from the leader to the companion. It is easy for students imitating teachers as leaders, but not easy for student trusting teachers as companions in the context of conservative education. I felt it was difficult for me that I wanted to show my right views anxiously in the classroom especially in the situation I thought the questions was so easy for me. I practiced myself to trust students and wait for students’ voices, and assured that “no patience, no gain” was true in education.

The third change without my expectation was from the imitator to the creator. In Chinese culture, it is very common to imitate the elder to adapt the atmosphere that will lead to a recycle of style, so the imitation usually is the safest way to get along with each other. It is good in stable situation but not in capricious world. When I started to reflect the educational culture, I learnt to choose some elements I needed and change some elements I thought weren’t suitable for outside world, and then I found there would be lots of ways to teach students, such as self-portrait, mapping, oral history, presentation and reflective writing.

Recording Facts
Record is a way to keep facts without judgment. I have main three ways to record:

Reflective Diary: I kept writing reflective diary about my teaching regularly and finding it was an effective way for me to think about how to act. I remembered when I felt the conflict atmosphere in my classroom, I wrote a reflective diary about study and job, than I can understand more about my fourth year students. Some time I would share my reflective diaries (removing some value judgments), magically, a few students would give me their reflective diaries. So reflective dairy is a deeper way to communicate with each other.

Photo Voices: I learnt photo voices in 2015 then made use of it in my course. I took photos in my classroom then uploaded them in my social media and personal blog. I found these photos could empower people to think about teaching and education, even someone I didn’t recognize before contacted with me to discuss family education and school education. Actually, every time I took
the final photo when we finished course and I could feel empower by my students even we experienced a conflicted atmosphere.

**Drawing:** In 2016, I used hand drawing in my course then I noticed a way of self-development called self-portrait in the academic paper:

> We supplied students with space and materials (such as papers, paints, glue, boards, cutting tools, magazines/photos, and sculpting material) to create their self-portraits, and they were told that they could use whatever approach and combination of two- or three-dimensional materials that would serve as the best vehicle for presenting their thoughts. (Michele M. Welkener, Marcia B. Baxter Magolda, 2014,p582)

However, most of my students study in school relying on more words materials than visual and audio materials, they could picture their thinking by hand with teachers’ encouragement.

**Inner Decision**
Making decisions mean making and practicing promises. Therefore, who can keep promises to practice would be an honest man in lots of Chinese stories.

The process of inner decision likes a way to reflect according to the individual moral level. For example, a student complained that university education was not helpful to find a job in the classroom and my inner decision was calming down and accepted his negative emotion. Why did I make such decision? Because I knew he was the fourth year student and he felt depressed about finding job. Then, I was patient to wait him to join classroom and gave him some information about jobs in private. Interesting, this student persuaded me not to work so hard and relax life and I realized that students had their stereotype about teachers (maybe female teachers). I told him my inner voice of being a teacher instead of criticizing him for not respecting teachers. Gradually, this student found a job and finished my course successfully.

Inner decision is a way of liquid thinking not solid, and the key of this way is keeping honest to oneself and the others. In Neo-Confucian philosopher Wang Yang Ming’s perspective:

> As a complete commitment and a continuous assurance, a man’s inner decision entails a direction of life. However, to make an inner decision is only the first step. Unless one is constantly involved in learning, one’s determination cannot be translated into an active principle of internal self-transformation. (Weiming Tu,1976, p145)

**Acting with Reflecting**
Acting and reflecting can happen anytime without sequence. Some people want to get full preparation before they make an action but no one knows what full preparation looks like, so they want to read more books, implement more experiments, meet more people and grasp more experiences. However, those are still passive study relying on others without reflection, because these kinds of people are possible to lose the best opportunity to try and stay in their conscious world.

Reflection is the conscious process connecting acting with reflecting. I believe the word is inconspicuous. Every phenomenon has various even contradict interpretations and the content of interpretations will affect people how to reflect and act. In 1966, Peter L. Berger and Thomas Luckmann claimed that:
The phenomenological analysis of everyday life, or rather of the subjective experience of everyday life, refrains from any causal or genetic hypotheses, as well as from assertions about the ontological status of the phenomena analyzed. It is important to remember this. Common sense contains innumerable pre- and quasi-scientific interpretations about everyday reality, which it takes for granted. (Peter L. Berger and Thomas Luckmann, 1966, p.34)

The question is how can these interpretations lead to good reflection and good action? Opening our reflection is one choice. There are various ways to open reflections to inspire true dialogues, such as sharing reflective diaries, discussing photo voices and exchange drawing pictures. True dialogues will empower each other inside the classroom and make action outside the classroom.

![Methodology of internal critical pedagogy](image)

**Figure 1.** Methodology of internal critical pedagogy

**Conclusions**

This paper illustrates a whole action study research in a middle size inland city in China in the perspective of teacher and makes three conclusions as followed:

- Action study research not only can develop fourth year students in university, but also other students, even teachers;
- Teachers can develop their own critical pedagogy through action study research with their local cultures;
- As for my critical pedagogy, Yang Ming’s acting with reflecting is the most important methodology.

To sum up, action study research is still in the process and needs more time to test, and we believe that teachers can develop students’ rights to learn by action study research in this uncertain and competitive world.

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Professional Development Through Mentoring: Both Sides of the Coin

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Abstract
In our modern world today, as everything changes very fast, students and their needs change accordingly and this requires teachers to update themselves consistently. With the intention of troubleshooting and at least avoiding the incurable effects of the problems that may occur in the future, most of the institutions take a step to bridge the gap between changing students’ profile, needs, abilities and teachers who tend to use safe, standard, but old world methods (Nguyen & Baldauf, 2010). The most common solution is professional development programs through mentoring. The purpose of the conducted study was to investigate the applied mentoring program’s process, difficulties and effectiveness in terms of the participant teachers and the mentor of the mentoring program. This study was carried out in a private university in Istanbul, Turkey. The participants of this study (8 female and 1 male) are English teachers who work at this university and the mentor also works at the same university as a teacher trainer. The participant teachers and the mentor had three weeks mentoring program which consisted of pre-observation, observation and post-observation sessions. The data of this study was collected through questionnaires including semi-structured and open-ended questions answered by the participant teachers and the mentor. To broaden the understanding of the findings in this study and analyze the answers of questionnaires obtained from both sides, qualitative methodology was employed. Results of the study showed that both the language teachers (mentees) and the mentor had both similar and also different experiences during the mentoring program. Therefore, this study shows the perspectives and opinions of the both sides.

Keywords: professional development, mentoring, mentor.

Literature Review
Teaching is an applied profession, and as teachers practice their profession in years, they become more experienced, proficient, and practical. However, not only the years teachers have spent in teaching profession, but also the problems they deal with, the methods they apply, techniques they use, the students’ profile and their changing needs, the parents they communicate with, the administrators they work with, the colleagues they cooperate with and many other responsibilities make teachers experienced, proficient and practical (Green, 2006). Teachers may tend to keep some standards to be able to survive in the classrooms and they may not want to apply new methods, use new tools during the activities or change their teaching strategies since they have many other responsibilities (Green, 2006). As everything changes very fast, students and their needs change accordingly and this requires teachers to update themselves consistently. In the report of the European Commission Communication Improving the Quality of Teacher Education (2007), it is pointed out that;

“Changes in education and in society place new demands on the teaching profession. [...] classrooms now contain a more heterogeneous mix of young people from different backgrounds and with different
levels of ability and disability. [...] These changes require teachers not only to acquire new knowledge and skills but also to develop them continuously (p. 4).”

As a result of this, most of the institutions take a step to bridge the gap between changing students’ profile, needs, abilities and teachers who tend to use safe, standard, but old world methods (Nguyen & Baldauf, 2010). This step is also taken to train teachers professionally to adapt instruction to the student abilities, their learning styles, personality and help teacher adopt new teaching strategies (Bar-Yam at al., 2002). The most common training is professional development programs through mentoring. Little and Nelson (1990) point out that;

“Teacher mentoring programs are now considered as an effective staff development approach for beginning teachers. By establishing teacher mentoring programs, the district serves two important purposes: novice teachers are given a strong start at the beginning of their careers, and experienced teachers serving as mentors receive recognition and incentives (p.14).”

Promoting and supporting new and novice teachers initially - which is the main focus of this paper- contributes to these teachers and their retention in the school system and also reinforcing the mentor role for teachers with more experience is advantageous in the career ladder for teachers and increases professionalism of education (Koki, 1997). This paper - more specifically shows the effectiveness, and difficulties of the applied mentoring program and the perspectives and opinions of the teachers and the mentor.

Teachers are always in a need to take the responsibility of learning since their main objective is teaching, but they need to pursue the new ways of teaching since the modern world learners’ profile requires richer, integrated, social and also metacognitive learning contexts (Alfaki, 2014). When there is a need to refresh and modernize the teaching skills, most of the teachers apply professional development programs. There are many types of professional developments such as workshops, peer-observation, action research, team teaching, peer coaching, and many more (Arnold, 2006). McKimm et al. (2007) state that “Mentoring is a protected relationship in which learning and experimentation occur through analysis, examination, re-examination, and reflection on practice to determine learning opportunities and gaps. (p. 52)”

The mentoring has many different programs such as; group mentoring, team mentoring, computer online mentoring, peer mentoring. Since mentoring provides several programs, and it has a variety of goals, such as professional or personal development, and also it is preferably applied step by step, it is seen as the most favoured approach for in-service teacher training by institutions, universities, and schools (McKimm et al., 2007).

Mentoring is to be given by a more skilled person and s/he needs to be a role model, teach and encourage a less skilled or less experienced teacher with the aim of improving the less experienced teacher’s professional development (LaVant et al., 1993). According to this perspective, mentors are planner, organizer, negotiator, inductor (the structural dimension), friend, host, counsellor (the supportive dimension), trainer, educator, assessor (the professional dimension) (Hussein, 2007). The studies mentioned below indicate the strengths and weaknesses of the applied mentoring programs which can trigger some institutions and schools to apply these kinds of professional development programs.
The study conducted in Malaysia by Lyne (2013), the researcher states the aim of the study as “It is aimed to measure the effect of a teacher mentoring program on teachers’ self-efficacy and achievement in the use of strategies to actively engage their students (p.14).”

One group of twenty-one teachers participated in this three-month program, and in the study pre- and post-test design was implemented. After examining the results, it is concluded that this three-month mentoring program increased the teachers’ self-efficacy and pedagogical achievement.

Another study by Mathur et al. (2012) was conducted in the USA to examine teachers’ perceptions of their classroom practices through one-year online mentoring program. In the study, there were 43 mentors out of 66, and 41 newly hired mentees out of 66. According to analysis of forced-choice items; most of the mentors and the mentees stated that they had daily contact via e-mail, phone calls or they had face-to-face meetings to be able to proceed the mentoring program successfully. After this mentorship program, both the mentors and the mentees completed a survey. As a result of the one-year mentoring experience, both the mentors and the mentees benefited the mentorship program in different practices. The mentors viewed themselves more confident in teaching, more capable in reflecting and listening, and more skillful in planning and implementing lessons. On the other hand, the mentees considered themselves more knowledgeable about classroom and the district. Briefly, this mentorship program was experienced positively by both mentors and mentees and it also increased their awareness in classroom practices.

The study by Arnold (2006), which is a little different from other the studies in this paper, was conducted in the Middle East to assess the quality of mentoring. This mentoring program was a kind of support for new local teachers (NLTs) who were going to work for the first time in one military EFL school. The number of the mentees (NLTs) was seven and they were the native speakers of Arabic. The number of the mentors was also seven, but only one of them was native speaker of Arabic, the rest of them was volunteer expatriates. The mentoring program was a four-week formal program and during this program, mentees had classroom visits by the mentors and the other teachers in the school, they (mentees) had classroom visits to observe the mentors’ teaching in the class, the mentees also had pre and post-lesson discussions with the mentors and they had workshops on the materials and methods used in the School. The data collected through questionnaires, interviews, and diary entries written by the author of the study. The results showed that although there were some good changes and improvements about the mentees’ professional development, there were many problems which decreased the mentoring program quality. According to questionnaire and interview results of mentors, they had many roles since there were management problems at School. They sometimes took on roles of managers, and sometimes discipline keepers of the mentees. On the other hand, the result of the mentee questionnaires and interviews indicated that the relationships with mentors were not strong enough. It is stated in the article that the most of the mentees could not discuss the lesson plans with the mentors appropriately, they could not get enough feedback from the mentors, that’s why they could not benefit the program satisfactorily. One another and really interesting result, which was in both mentees’ and mentors’ questionnaires, indicated that since the mentees were Muslim and the sixth of the mentors were Christian, the cultural barrier was a burden in this mentoring program.

There is another study carried out in Turkey by Yavuz (2011) and this study indicates a problematic context of mentoring as well. The participants of the study were six English Language Teaching Department (ELT) students who were in the final year (fourth year) at the university, and a mentor who was working at the practicum school where the six ELT students had their practicum
experience. The study conducted with the purpose of learning the participants’ ideas and experiences about the concept of “mentor” and “mentoring”. It was a qualitative study and the data were collected through semi-structured interviews, debriefing notes and journals. Since the study took place during the student teachers’ practicum – teaching experience – term, it lasted 14 weeks. According the data collected by the researcher who was working at the participants’ university as an academician, the student teachers and the mentor had some problems during the practicum term. The problems of the student teachers were mainly about getting insufficient mentoring support, not getting critical and detailed feedback from the mentor, and the difficulties in planning and applying these plans in the real teaching contexts. The student teachers had two different role models; one was the mentor at the school, the other was the teacher trainer at the university, and these two models did have quite different perceptions about teaching, and these differences caused confusions, problems while the student teachers were having their first teaching experiences. This also indicated that the lack of communication was obvious between the practicum school and the university. On the other hand, the mentor also had some problems such as; arranging appropriate time to give feedback to the student teachers or planning activities together during this practicum semester due to crowded classrooms, workload of the school, and this busy schedule caused unwillingness, being unhelpful to student teachers. According the researcher, the main problem in this context is applying such kind of mentoring programs randomly and without planning, and the solution as stated in the article is applying process-based mentoring program which consists of pre-observation, observation and post-observation. Since this study did not follow any kind of mentoring program format, done haphazardly, actually the results are not surprising, and unexpected.

In the article by Hussein (2007), which is also related to the problematic context above, it is stated that the mentoring is not a haphazard and poorly conceptualized process. The mentoring is to be planned according to the needs of teachers’ in the schools and the steps need to be taken in order to provide a noticeable difference after the mentoring. As a solution, the author proposed a reciprocal and process-based mentoring program, including four steps; pre-observation, class observation, post observation and follow-up session. This format aimed to promote reciprocal mentoring, which enables mentor and the mentee to plan together, think in a critical way and provide constructivist feedback, rather than traditional mentoring, which is restrictive, authoritative since it is checklist-based and behaviouristic.

In this paper, the mentoring program which was applied at a private university in Istanbul with the participants of 9 mentees (8 female and 1 male) and one mentor followed the same model that was followed by Hussein (2007) in his study. Since it is process-based mentoring program which is quite suitable for modern world’s requirements of professional development, it is favoured and applied by most of the institutions.

Research Questions
This study aims to find answers of the research questions below;
- How does this mentoring program perceived by the participants and the mentor?
- What kind of difficulties, problems and handicaps have been experienced by the participants and the mentor?
- What kind of benefits, earnings, and advantages have been experienced by the participants and the mentor?
- What are the differences between before the mentoring program and after the mentoring program, in terms of class management, teaching skills, self-efficacy?
Methods

Participants
Participants in this study are English teachers (8 female and 1 male) who work at a private university in Istanbul. The participant teachers started to work at prep school in this institution in 2015. They have 24 lessons every week and they have 2 classes. They teach grammar, vocabulary, reading, listening skills in one class and in the other class they teach writing and speaking skills. The participant teachers have weekly objectives to cover and integrate all 4 skills; therefore, these teachers are to apply all the skills every day to be able to reach the weekly objectives on time. Six of the participant teachers graduated from ELT departments, three of them graduated from English Literature departments; however, all of them have pedagogical certificates. One of the teachers is currently doing her PhD, 3 of them finished their master’s and 5 of them are doing their master’s. Also, 5 of the participant teachers have teaching certificates from the teacher training programs like Icelt and Celta. The participant teachers have 5 to 10 years’ experience of teaching English.

The final participant of this study is the mentor who has been working at the same university as a coordinator and teacher trainer since 2006. She graduated from American Culture and Literature department in 1997, and then completed her master on Educational Administration and Planning in 2009. Also, she is currently doing her PhD on English Language Teaching at one of the state universities in Istanbul. She has been doing this mentoring program at this institution since 2007.

Setting
This research was carried out at the preparatory program of a private university in Istanbul, Turkey. This program established in 2005 consists of about 2100 students most of whom are Turkish EFL students while the others come from Eastern countries. The goal of the program is to enable the students to learn English language and acquire necessary skills to pursue their studies in their respective departments with a view of “Learning English by living it”.

The number of the language teachers who are working in this preparatory program is 128 and 105 of them are full time teachers while 23 of them are part time teachers. The language teachers have 24 lessons - 15 of which are integrated skills lessons and the rest 9 lessons are writing-speaking skills with 2 classes. The medium of instruction is English and communicative approach and task based learning are strictly followed.

The Mentoring Program
Since this institution is growing excessively in terms of student capacity and number campuses in different countries in the world, new teachers are hired every year to meet needs accordingly. The average number of the instructors that hired every year is between 20 and 30. The new instructors have at least 3-year of high education experience. No matter how experienced they are, they still have to attend the mentoring program starting at the beginning of every academic year to realize the institution’s requirements, expectations and needs. The participants of this study attended this mentoring program at the beginning of the 2015-2016 academic year. This mentoring program lasted three weeks and the teachers had three sessions including pre-observation, class observation and post-observation with guidance of the mentor who is responsible for teacher training programs at the institution regularly.

At the very beginning of the mentoring program, the mentor led a brief meeting with the teachers to make the steps of program clear and decide on which skills were to be improved and then she
sent a detailed e-mail including everything about the program to the teachers. After the brief introduction, she started to meet with the teachers individually in the first week. This was pre-observation session. During this session, the mentor wanted the teachers to share their lesson plans and talk about the details, and then the teachers and the mentor made an appointment for the lesson to be observed. In the second week, the mentor visited the teachers on the day they had planned and the mentor observed the whole lesson by taking detailed notes. This was class observation session. Finally, after each teacher had been observed, in the third week the mentor started to meet with teachers individually to talk about the observed lesson and she gave feedback according to her notes, and also these notes were given to the teachers to analyze their lessons again. This was the post-observation session. The aim of each one of these sessions was to increase the self-awareness and teaching skills of the teachers.

**Data Collection**
After the mentoring program finished, the data was collected through semi-structured, open-ended questions (Appendix A and Appendix B) which were emailed to both mentees and mentor. Open-ended questions were designed to investigate the participants’ views on the effectiveness, benefits and the difficulties, problems of the mentoring program. The teachers were coded by numbers for anonymity (T1, T2, T3, T4, T5, T6, T7, T8, and T9) and they were sometimes referred as teachers, sometimes as mentees. The mentor coded as M. The questions in the questionnaires were asked and answered in English.

**Data Analysis**
The data from the questionnaires were analyzed qualitatively following the procedures advised by Miles and Huberman (1994). Data analysis was done through highlighting the similar and overlapping answers of the semi-structured and open-ended questions by the participants. There were 4 sections consisting of 15 questions in the mentees’ questionnaire and 5 sections consisting of 17 questions in the mentor’s questionnaire.

The answers of the mentees for each question were compared in terms of similarity and frequency of the keywords then these similarities were interpreted separately by the researcher. These interpretations were given under four sub-headings, and they were mentioned under the title of “teachers’ questionnaire results” in the findings part.

The answers of the mentor for each question were interpreted and some of them were compared with the answers of the mentees to show the similar and different perspectives of both sides about the mentoring program, and these were given under five sub-headings mentioned under the title of “mentor’s questionnaire results” in the findings part. Also, some of the participants’ and mentor’s answers were given as sample quotations to strengthen the interpretations.

**Findings and Results**
Findings of the teachers’ questionnaire and findings of the mentor’s questionnaire are given separately in this study.

**Teachers’ Questionnaire Results**
This part presents the data of the mentees’ ideas, perceptions about the steps of process-based mentoring program, and this part consists of four sub-headings.
Pre-Observation Session
Before this session, the teachers had decided about which skills and activities they would teach. Then, they prepared their lesson plans and brought these plans to the session to discuss the reasons why they had chosen these activities, and skills. After these discussions with the mentor, since most of the teachers had some hesitations about what to do and how to do in the class, the mentor’s suggestions and advices cleared their confusions. About this guidance, one of the mentees stated that;

“…We analyzed and discussed it [the lesson plan] stage by stage. I found that session useful because I had some hesitation about pre-teach vocabulary stage and production stage. After the session, I realized that I found the answers for those (T7).”

When the teachers were asked about their feelings during the pre-observation session, most of them pointed out that at the beginning they were nervous, excited, and stressed but when they start to discuss the rationales behind their lesson plans with the mentor, they had felt more comfortable, relaxed and positive. One of the mentees stated that; “I felt a bit disappointed, nervous and stressed at first because some things which I thought were meaningful [for the lesson] did not get the same interest from the mentor (T2).”

During the pre-observation session, most of the teachers did not have big problems or difficulties except changing their lesson plans partially or completely. As one of the mentees stated that; “I found out that I had to change a lot of things on my lesson plan which was a bit challenging (T2).”

It is understood from the answers that some of the teachers found changing their lesson plans challenging and frustrating.

According to mentees, the advantages and benefits of this session were having a different point of view about their lesson plans, seeing different opinions on specific activities and having enough courage to apply some activities in their classrooms. The results of the questionnaires showed that all of the teachers learned some important lessons in this session as one of the mentees stated;

“I was not sure about the timing of some stages and the details of the production stage. My mentor showed me how to set the time efficiently for each stage and how to arrange the production stage in the right way (T7).”

When the mentees were asked about their relationships with the mentor during this session, they stated that the mentor was friendly, willing, encouraging, relaxing, positive, and helpful. Two of the mentees stated that; “It was a friendly relationship based on mutual understanding (T5).” ‘She was like my colleague who wanted my lesson to be a good one (T9).”

As it was stated in the literature review part, these are the expected, appropriate mentor roles (Hussein, 2007). The mentees stated that they did not feel themselves uncomfortable while discussing, analyzing the lesson plans, which strengthens the conclusion that the mentor was successful in keeping the relationship between her and the teachers as expected level, and positive.

Class-Observation Session
After the pre-observation session, the teachers made some changes on their lesson plans with the suggestions of the mentor, and they agreed on the date and on the specific lesson hour to be observed. The mentor prepared an appointment list, and she started her classroom visits to observe
the teachers. During these class-observation sessions, the mentor took detailed notes to share them with the teachers in the post-observation session. Three of the mentees pointed out that being observed by someone while teaching was not natural, it was quite irritating.

They also highlighted that during the class-observation, they were uncomfortable. One of the mentees stated that; “Being observed by someone is not really natural and can affect the whole class atmosphere both positively and negatively depending on the stress level and the mentor’s attitude (T2).”

On the other hand, rest of the teachers stated that after a while they forgot that the mentor was in the classroom as she did not interfere with anything. Some of them also stressed that since they had had similar experiences in their previous workplaces, they were accustomed to being observed, and that’s why they did not feel themselves uncomfortable. About this point, one of the mentees stated that;

“It was like one of my usual lessons. My mentor was sitting at the back of the classroom and did not interfere with in either the students or the flow of the lesson. Therefore, I did not feel that I was being observed (T7).”

The teachers’ feelings during the class-observation session were quite similar. Most of them pointed out that at the beginning they were nervous, anxious and a little stressed but after a while they became more relaxed. The questionnaires indicate that being observed and teaching at the same time when there was a stranger – in this context the mentor, in the classroom were not easy at the beginning however the mentees got used to this different situation after a very short while as the mentor was sitting in the corner in silence. As one of the mentees stated that; “At the beginning of the observation session I was nervous but after the first minutes of the lesson I focused on my lesson and felt relaxed. (T7)”

During the class-observation session, nearly every teacher had different problems since each classroom had a unique atmosphere. However, half of the teachers pointed out that since there was a stranger in the classroom, the students were not comfortable as usual. The negative feelings of the students’ obviously affected both the teacher and the lesson flow. Some of the teachers had some difficulties during the activities due to lack of participation of the students and some of them had timing problems. Also to decrease the anxiety level in the classroom, T1 stated a suggestion; “The mentor was writing everything said and done in the classroom. I know that it may be necessary for the sake of observation but it made the students nervous. They felt a bit different than usual classes, therefore they did not behave naturally. Maybe video recording could have been better. (T1)”

Obvious from the answers, each teacher had a benefit during the class-observation session. One of them stated that he understood what worked in the classroom and what did not work. Some of them stated that they realized their weaknesses, some of them gained deeper understanding about their teaching, and some of them stated that this session was significant in terms of professional development. As one of the mentees pointed out that; “To be observed by a professional is valuable to track your professional development. We should have more observations like this! (T6)”

**Post-Observation Session**

After the mentor finished her class visits, she started to analyze all the notes that she had written down, then she started to meet every single teacher to talk about the observed lessons. She prepared one more appointment list and according to this list, the teachers visited her office. During the
post-observation sessions, the teachers got feedback, talked about the weak and the strong sides of the observed lessons and analyzed some points with the mentor.

At the end of the sessions, the teachers were asked what the post-observation meant for them. Most of the teachers pointed out that it was the feedback session. Through this session, the mentees and the mentor read the notes one by one and they discussed some of the points objectively and professionally and the a mentee stated that; “After I have read the comments about me, I saw myself through the eyes of a professional. It was the time to face with myself and my teaching. (T9)”

Since it was the hardest session according to the questionnaires, some of the mentees were anxious and some of them were quite relaxed but at the end of the program, most of the teachers were happy about the comments that the mentor made, and some of them did not agree with the mentor on some certain points. One of the mentees, at this point, stated that;

“I felt relieved about the things I had done smoothly during the lesson. However, I and the mentor had some different opinions about some points which upset me because I think teachers know and understand their students’ strong and weak sides more than the mentor and sometimes the things do not go the way they have been planned. Therefore, receiving negative criticism on these things is disappointing. (T2)”

As it was easily concluded from the answers that none of the mentees experienced a difficulty or a problem during the post-observation session. They stated that they tried to listen and understand some points which they could not realize during the class-observation time. Only one of them pointed out it was difficult to accept mentor’s ideas at first.

Even though there were some difficult times during the class-observation sessions, the mentor did not generalize these weak sides and she tried to give constructivist feedback. That’s why every teacher had considered this session as a kind of updating themselves and covering their weak sides to teach better. They stated that all of them got positive feedback about some part of their teachings. It was clearly concluded that they had a chance to see and evaluate some points differently and their self-awareness increased thanks to the post-observation session as one of the mentees stressed that; “A major benefit for me was that it raised my awareness about my teaching style. There was one comment about my instructions which I still remember every time I am trying to explain a new activity. (T5)”

The relationship during the post-observation was not different from the pre-observation session. The teachers gave the same answers. They pointed out that the mentor was quite friendly while she was giving feedback. Since the atmosphere was relaxing, the communication was quite effective. None of the teachers had a negative and disappointing relationship with the mentor. As T5 stated that; “Even though the mentor is in a superior position I felt that it was like two friends discussing a peer observation.”

Effects of the Mentoring Program on Teachers’ Skills, Class Management and Self-Efficacy

According to the answers in the questionnaires, this mentoring program did not make big changes on teachers’ class managements and teaching skills. Some of them stated that since the program was not very long and it was one-time thing, it did not create big differences. However, some of the teachers had become more careful and sensitive about some specific issues such as time management, giving instructions and being student-centered more than necessary. Also some of them indicated that after this mentoring program they felt themselves more confident and stronger
which meant that the program had positive effects on some of the teachers’ self-efficacy. At this point T2 pointed out that;

“I do not think my class management, teaching skills or self-efficacy have changed after the program. I believe these things are mainly related to teaching experience rather than mentoring programs. Basic teacher training might be useful but I think these one-time experiences do not affect the management skills negatively or positively.”

**Mentor’s Questionnaire Results**

This part presents the data of the mentor’s ideas, perceptions about the steps of process-based mentoring program, and this part consists of five sub-headings.

**The Purpose of the Mentoring Program**

When the main purpose of the program was asked to the mentor, she stated that;

“Each institution has its own missions, goals and objectives. The directors, the level coordinators, teacher trainers of this institution want to ensure that these objectives are achieved successfully. Also we want to increase the quality of teaching and learning. The needs of the students are a lot and increasing every year, and these needs have to be met by the teachers and the students should not see any differences between the experienced and newly hired teachers. Finally, it is important to eliminate the institutional differences. Since the newly hired teachers have experiences and institutional habits of their previous universities, they may have some adaptation problems and at this point, our mentoring program supports the newly hired teachers.”

The reason why the institution is following these stages in their mentoring program is that the institution believes the process-based professional development, not product-based professional development. They want to increase the quality of teaching and learning gradually and in a supportive way, not in an evaluative way. The mentor stated that;

“The only disadvantage of the mentoring program is that it is time consuming and it is applied step by step. I cannot think of any cons of this process except its being time consuming. For each teacher I spend minimum 5 hours, because it is not just that you go and observe the teacher.”

According to mentor there are many advantages of this program. It supports the teachers, shows them their strengths and weaknesses, increase their self-awareness and guide them throughout the professional and personal development path.

**Pre-Observation Session**

Before the class-observation started, the mentor met with the mentees to talk about their lesson plans, the skills and the activities that would be done, and they scheduled the date the mentor would visit their classes. However, when it was asked to the mentor what the pre-observation session meant to her and she pointed out that;

“It is not just talking about lesson plans or scheduling the appointment, it is also getting to know each other more, learning about expectations of the both sides, guiding, giving support and comforting the teachers and this session is also a good opportunity to establish a good report about the both parties.”

In the questionnaire, there is a question that asks the mentor’s roles, and the mentor stated that;

“I have a role of colleague from beginning till the end; however it depends on the teacher’s experience. If a teacher is an experienced one with certificates of Celta, Delta or Icelt, she is just a listener during that time, but if a teacher is an inexperienced one who has not got teaching background and that’s time I, as a mentor, provide more input and further support. Sometimes, I am more active and just provide more support and...
input. Sometimes I am just there to listen and answer any questions if there is any and just comfort them if there is any stress.”

As mentees, also the mentor experienced some difficulties during the pre-observation session. The mentor listed the difficulties as finding the best way of communicating ideas to some mentees with no training at all, balancing the pre-observation time since she sometimes needs to give more input but due to the limited time, it sometimes becomes a burden. Also sometimes defining the concepts differently by both parties and clarifying the reasons behind them are challenging.

On the other hand, as the mentees experienced many advantages during the pre-observation session, the mentor also had some advantages. She pointed out that the session’s biggest benefit was getting to know each other better. The other advantages were comforting the both sides, knowing the expectations and answering the all questions that might create confusion and hesitation about the lesson plans. The mentor added that the mentees benefited from that session and the following sessions more than she did. She stated that; “At the end of the process, teachers feel more confident so the advantages are more on the teachers rather than the trainer.”

After she explained the advantages of the pre-observation process, she defined the relationship between her and the mentees. According to her definition, at the beginning, the lesson to be observed just belonged to the mentee because he had prepared everything himself without getting help from her, but after discussing and analyzing it together, the lesson belonged to the mentee and her. This situation made the both parties feel closer, share the responsibility of the lesson and its outcomes. She also stated that sometimes she required help from the other experienced teacher at the institution, and this turned the individual responsibility into collaborative, and the mentees became more relaxed and confident at the end of the session.

Class-Observation Session
Before the class observation time, the mentor looked over the lesson plans one more time and she started to visit the classrooms. Since the mentor did not want to be seen during the lesson in order not to affect the teacher and students, she wanted to sit in the corner to be invisible, but still to see the whole class and the mentee. After finding the right place, she started to write all the details about the lesson, the teacher and the students which was called running commentary. She stated that her main purpose was to write about the behaviors because what observable was more important for her. As she stated, during the class-observation time, she also felt herself stressful because she wanted the teachers to perform the best as well. She also pointed out that although there was no perfect performance at all, the performance which was meeting the needs of the institution was really important, that’s why she tried to be a careful observant in the classroom.

The mentor had some criterias before starting her observation visits, but she indicated that she did not expect to see each and every cirtieria in the classes. Instead she expected to see maximum two or three things which were the priorities of the institution. One of these priorities was student centeredness. She added that what she expected to observe in a receptive skill class and productive skill class were different from each other and that’s why giving a specific example was not easy for the mentor. She also stated that some of the teachers wanted some personal goals to be observed such as reducing teacher talking time (TTT), and she tried to observe these things to give feedback to the these teachers in the post-observation session.

As the mentees experienced difficulties mentioned above during the class-observation session, the mentor experienced some problems as well. Some of those difficulties were that some mentees tried
to include the mentor to the activities, some students asked questions to the mentor while she was taking notes and also some of the students wanted to read the comments she wrote. She finally added that in some classes, the students did not behave normal, they participated less or they tried to show off which were challenging for both the mentor and the teacher from time to time.

On the other hand, there were many benefits that the mentor experienced during the class-observation time. The mentor considered this session as an opportunity to see the teachers’ performances in the real classroom setting. She stated that class-observation session was also a chance to see the transition of the teachers’ knowledge into practice. Besides, she pointed out that seeing the teachers’ reactions to the unexpected problems occurring in the class, their ways of finding solutions to these difficulties and seeing their flexibility in the class were valuable in terms of collecting information about the teachers, and their teaching styles which were necessary for the institution. However, she pointed out that only one class-observation could not give information about the teachers’ full profile.

**Post-Observation Session**

Before the post-observation session started, the mentor stated that she analyzed her notes to be able to give feedback objectively and she wrote some critical questions on the notes to ask during the post-observation session. Then the mentees whose lessons were observed came to the mentor’s office one by one to discuss the lessons in a detailed way. She stated that she started the post-observation session by asking critical questions such as; “How do you feel now? How do you think the lesson went?”, and then she gave the running commentary to the mentees, let them read it and they started to discuss the lesson stage by stage.

According to the mentor, during the post-observation session, her roles were not totally different from the pre-observation session. She stated that she was like a guide with the mentees whose lessons were good and sufficient, and she was like an input giver with the mentees who did not have enough experience or training background. However, she stated a difference between these two sessions. At this points, she stated that;

“In the pre-observation session, since I do not know the class atmosphere and the students, I have to trust the teachers. That’s why my guidance may be not strong enough. However, after the class-observation, since I had a chance to observe everything and everybody in the classroom, I am more confident while giving guidance.”

The difficulties that the mentor experienced during the post-observation part was to give constructivist feedback. She stated that she wanted to talk about the good sides of the lesson, but every lesson partially or totally had some problems and she had to talk about them. She pointed out that;

“That is the most difficult part because every teacher wants to get the feedback in a constructive way which puts a lot of pressure on me. While talking about the areas that the teachers need to improve, I spent too much effort.”

The mentor added that she had to use some strategies while giving feedback such as; using herself as an example, talking about her experiences when she had the same problems as a teacher.

In addition to the disadvantages, the mentor pointed out that she experienced many advantages. The mentor and the mentees clarified the misconceptions, found solutions to the problems that
were occurred in the lesson, increased the self-awareness about their strengths and weaknesses, agreed on the commitment to the professional development and at the end of the session both the mentor and the mentees felt themselves more confident about the expectations of the institution. Also, as the mentor said their relationship got stronger since they got closer during this process. She stated that; “There were sometimes confessions. After learning and talking about strengths and weaknesses, it was a confession time for both parties.”

_effects of the Mentoring Program_
As a final statement, she stated that; “If professional development is a journey, this program is just a beginning.” She stated that as an institution, they wanted to observe some positive changes which were the main purpose. She added that this program was just a start, the professional development was an ongoing process, and more work had to be done.

Conclusion and Suggestions
This study was conducted with the aim of exploring the effectiveness, difficulties, processes of the implemented mentoring program; not only in terms of the teachers who took place in this program, but also in terms of the mentor who carried out this mentoring program. The data which was collected from both the mentees and the mentor revealed that both sides had some difficulties, earnings during the process and some of these experiences were quite similar while some of them were different from each other. The mentoring program had three sessions and all of the reflections that were experienced during these sessions were interpreted. To start with, at the beginning of the pre-observation session the mentees were tense and anxious since they were afraid of being judged over the lesson plans by the mentor. However, since the mentor was successful in confronting the mentees, the atmosphere became positive and they easily discussed the stages of the lesson plans. These discussions provided a second perspective for the mentees and they wanted to improve their lesson plans, and activities which was the positive effect of this program on the mentees. It is easily concluded that pre-observation session is a necessary step while applying such kind of mentoring programs since it lowers the anxiety of the mentees and make the both parties closer and understand each other better. Second step was the class-observation session which was appointed on an exact date during the pre-observation time. The mentor visited the classrooms one by one and she kept a running commentary to be able show a solid proof in the post observation time. Results showed that most of the teachers were uncomfortable and anxious because of being observed, and it is easily concluded that not only the mentees but also the students were uncomfortable and tense during these sessions, and these tensions sometimes affected the lesson flow negatively. Also, the mentor accepted that the observation time was difficult for her as well. Since affecting the lesson flow is not a preferred result, some solutions may be found and applied by the institution and the mentor. The final stage of the mentoring program was the post-observation session which was also difficult for both parties. The mentees faced with their weaknesses and strengths and getting positive and negative feedback from the mentor affected their efficacy; some of them felt worried and sad, some of them felt more confident. It is understood that this mentoring program, in small scales or not, made some positive changes on the mentees’ perception of teaching and professional development, but accepting these changes was not very easy for the mentees, it took a little time. In brief, during this three-week mentoring program, although there were the times the mentees and the mentor had some difficulties, at the end of the process both parties benefited the program; the mentor could explain the institution’s expectations and requirements by increasing the mentees’ self-awareness, while the mentees could gain an insight about their weaknesses and strengths related to their teaching styles.
As indicated in the questionnaires, the mentoring program was one time and it was not long enough to create big changes. If the program is held more often and in a longer period, the changes can be more observable and permanent.

References

Appendix A

Questions Asked to the Mentees (Teachers)

Step 1: Pre-Observation Session
1) How would you describe the pre-observation session? What did it mean for you?
2) How did you feel yourself during the pre-observation session?
3) What were the difficulties, problems of the pre-observation session?
4) What were the benefits, advantages of the pre-observation session?
5) How would you describe the relationship between you and the mentor during the pre-observation session?

Step 2: Observation Session
6) How would you describe the observation session? What did it mean for you?
7) How did you feel yourself during the observation session?
8) What were the difficulties, problems of the observation session?
9) What were the benefits, advantages of the observation session?
Step 3: Post-Observation Session
10) How would you describe the post-observation session? What did it mean for you?
11) How did you feel yourself during the post-observation session?
12) What were the difficulties, problems of the post-observation session?
13) What were the benefits, advantages of the post-observation session?
14) How would you describe the relationship between you and the mentor during the post-observation session?

Step 4:
15) What are the differences between before the mentoring program and after the mentoring program, in terms of class management, teaching skills, self-efficacy?

Appendix B

Questions Asked to the Mentor (Teacher Trainer)

Step 1
1) What is the main purpose of this mentoring program?
2) Why do you follow pre-observation, observation, post-observation format in mentoring program? What are the pros and cons of this format?

Step 2: Pre-Observation Session
3) How would you describe the pre-observation session? What does it mean for you? How is it supposed to be?
4) What kind of roles do you have during the sessions? How do you feel yourself during these sessions?
5) What kind of difficulties, problems do you have during the pre-observation sessions? Can you give some examples?
6) What kind of benefits, advantages do you have during the pre-observation sessions? Can you give some examples?
7) How would you describe the relationship between you and the mentees at the beginning, during, and at the end of the pre-observation sessions?

Step 3: Observation Session
8) How would you describe the observation session? What does it mean for you? How is it supposed to be?
9) What are the key points you are mainly observing during the observation sessions?
10) What kind of difficulties, problems do you have during the observation sessions? Can you give some examples?
11) What kind of benefits, advantages do you have during the observation sessions? Can you give some examples?

Step 4: Post-Observation Session
12) How would you describe the post-observation session? What does it mean for you? How is it supposed to be?
13) What kind of roles do you have during the sessions? How do you feel yourself during these sessions?
14) What kind of difficulties, problems do you have during the post-observation sessions? Can you give some examples?
15) What kind of benefits, advantages do you have during the post-observation sessions? Can you give some examples?
16) How would you describe the relationship between you and the mentees at the beginning, during, and at the end of the post-observation sessions?

Step 5
17) Should this mentoring program make a change on the mentees’ class management skills, teaching skills, self-efficacy? Why? Why not?
Part 6: Inclusive Education
A Participatory Perspective on How Intercultural School Development Succeeds

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Abstract
The present study examines intercultural school development using a participatory-research approach. The investigation is based on group discussions with teachers and principals who are experts in their contexts and major stakeholders in the process of school development. All aspects mentioned in the group discussions were categorized using qualitative content analysis. The results showed that points important to the success of intercultural school development include opening the school to the outside community, adopting open-minded attitudes, addressing language barriers, and offering additional training and resources to teachers. The final part of this article discusses how these results can contribute to changes in schools.

Keywords: group discussion, participatory research, school development

Introduction
Many countries worldwide are dealing with a rapidly growing number of newly arrived people, especially children and youth. The largest number of migrants resides in the United States of America (US). Germany and the Russian Federation host the second and third largest numbers of migrants, respectively (United Nations, 2016). Migration has an enormous effect on the receiving society in general and on its schools and school systems in particular. On one hand, in the US and Europe, persons and parties who would like to reduce migration have become popular. Many politicians have issued public statements aimed at attracting supporters who consider themselves as the losers in the globalization process. In this political context, a core argument is that immigrants are responsible to a large extent for other people’s feelings of misery about life. On the other hand is a milieu in the US and Europe that sees growing diversity as enriching society. This milieu supposes immigration to be a right of needy people and not a privilege (Hamburger, 2009). These briefly sketched societal poles present the ideologically charged background against which the necessary adaptation of schools to the migration process is not an easy one.

If we change the scope from the societal to that of the individual schools confronted with large increases in newly arrived students, we can focus on many problems that cannot be solved only with positive attitudes toward migration. Many of the challenges faced by these schools are caused by the newly arrived pupils’ different educational and cultural backgrounds, but challenges also arise from the fact that, often, both the newly arrived pupils and their parents have limited language skills (Lahdenperä, Gustavsson, Lundgren, & Lundgren, 2016). For example, of the refugees who arrived in Germany in 2016, only 2% spoke German, while 48.3% spoke Arabic, and 18.1% spoke Albanian (Rich, 2016). In addition, their experience with how the society they have arrived in functions is markedly limited, making it difficult for pupils to relate the knowledge acquired at their new schools to knowledge and experiences acquired in their countries of origin. Furthermore, a number of these pupils have had little or inadequate schooling. Quite often, teachers experience these challenges as culture clash, whereas educational theories that address the migration context...
would argue that attributing these challenges to cultural differences is a reduction or a type of illegitimate cultural essentialism (Hall, 1996; Hamburger, 2009).

To adequately educate children from migrant backgrounds, schools and the school system must develop new educational and structural frameworks in a context that is the subject of sometimes heated debate. In contrast, in the research presented in this article, we argue in favour of using participatory research, sometimes called collaborative action research (Cohen, Manion, & Morrison, 2010), to develop frameworks for schools in a migration society. Research of this type has been called a “powerful tool for change and improvement on a local level” (Cohen et al., 2010). We think that school development must explore the local knowledge and perceptions of those who are the agents of change, in this case, teachers and principals. Furthermore, we favour the idea that participatory research disconnects the required school development from top-down ideological discourses and actions and turns the school-development process into a more democratic, bottom-up process. However, we will refer to academic theories of intercultural school development. We think it is necessary to take a theoretical look at a heated debate that circles around a semantic field including such terms as culture, cultural script, culture clash, intercultural school development, and appreciation of diversity.

Based on these considerations, which will be elaborated in the next section, we aimed to identify structures, measures, cooperation and attitudes necessary for successful intercultural school development. This investigation was based on group discussions with teachers and principals who are experts in their contexts and major stakeholders in the school development process. In the field of participatory research, we considered them as focus groups. All aspects mentioned in the group discussions were categorized using qualitative content analysis (Hsieh & Shannon, 2005; Mayring, 2000). This article also discusses how the findings can contribute to changes in schools according to teachers’ and principals’ opinion.

**Participatory Research and School Development**

Participatory research is a qualitative research method that combines two perspectives: that of the scientist and that of the practitioner. Both parties co-construct knowledge and strategies to meet challenges in professional contexts and in everyday life. To accomplish this, the literature usually mentions the following participatory-research criteria (cf. Bergold & Thomas, 2012; Cohen et al., 2010; Kemmis & McTaggart, 2005; Reason & Bradbury, 2008).

1. Both academic researchers and practitioners must be involved in the investigative process.
2. The problem to be addressed must be of key interest to local and additional stakeholders.
3. The stakeholders should be involved in as many of the research stages as possible; some say in all research stages.
4. Knowledge is generated by collective decision-making through deliberation.
5. The context of knowledge generation is a safe space. Nobody who is involved should be confronted with negative consequences due to statements or arguments made during the investigative process.
6. The discourse should be, according to Habermas’ (1973) famous concept, domination free. Pragmatically, a domination-free discourse should include a chairperson to organize it so that it does not become anarchic. However, there are utopists who deny the necessity of a chairperson.
7. The investigative process is marked by iterative cycles.
Multiple theories of school development argue that it cannot be decreed in terms of forcing it against teachers (Dalin, 1996). In addition, there is a broad consensus in both governance theories and New Public Management theories that a multitude of actors must be enabled to participate in change processes (Altrichter, 2010), which, ideally, should be organized to include at least practitioners and outside change agents (Johnson, 2012), of whom researchers are one type. School development theories that address inclusion particularly emphasize this type of argument, with many of them pointing out that educational processes in schools are initiated and supported by many actors and that there is a need for multi-professional collaboration among regular education teachers, special education teachers and social workers (Severiens, 2014). In addition, schools must cooperate with extracurricular institutions, including other educational institutions (other school types, kindergartens, and vocational training institutions); local cultural, religious, or public organizations or associations; youth welfare services; therapeutic and medical services; and the regional economy. In terms of participatory research, other stakeholders include interdisciplinary collaborators and extracurricular institutions. In summary, this means the following: two research contexts, “participatory research” and “school development theories,” support each other because they are interrelated. From our perspective, this is a desideratum in qualitative research in professional contexts.

When one looks at intercultural school development or school models for a migration society, it is evident that empirically based models and concepts supporting such development are lacking (see e.g., Lahdenperä et al., 2016). There exist only some basic conceptual considerations, which, if empirically based, usually do not meet the criteria of good research as proclaimed by the American Psychological Association (APA). Many of these basic considerations are linked to the internationally influential thoughts of Per Dalin (1996), who stressed the necessity intercultural school development processes, like those used to develop any school, to address all institutional levels, which include the following.

1. The personal level, which focuses on teacher competencies and training. Training should impart knowledge about migration, pressures from norms and hierarchies, unity, diversity, cultural and intercultural competencies, cultural scripts, and dealing with multilingualism in the institution etc. Teachers also need to become familiar with a new or changing system of values or beliefs.

2. The curricular and didactic level, which focuses on specifying pupil competencies, learning goals, and educational standards, which must comply with the values of tolerance and acceptance of diversity.

3. The structural and organizational level, which addresses structural changes necessary to open the school, making diverse multi-professional and interdisciplinary cooperation with outside stakeholders possible. From this perspective, a school can no longer be seen as an isolated isle.

4. The social level, which is about organizing interaction in a new manner that corresponds to the values of mutual recognition and tolerance.

These four levels provide a matrix for a development process and the following research questions.

**Research Questions**
The aforementioned considerations show that an intercultural school development process cannot be decreed in terms of forcing it against teachers. However, the concrete implementation of the school development process remains unresolved. Concrete measures effecting changes on the levels
mentioned are lacking. For the purposes of the present participatory research, we propose the following measures.

• To capture conditions and requirements necessary for an intercultural school development process by investigating the needs of those who must deal with these conditions and requirements in their daily work.

• Based on this investigation, to identify concrete measures for schools, teachers, and other groups involved in school life.

Thus, the main research question is as follows.

• What structures, activities, cooperation, and attitudes are necessary for an intercultural school development process?

Methods

Procedure
According to the principles of participatory research, the present study conducted investigative group discussions with teachers and principals, both important stakeholders in the process of intercultural school development. Half of the participants had leadership roles, and the other half did not. Unfortunately, for legal reasons, it was not possible to include students and parents. The group discussions were moderated by scientists with experience in the education field. To comply with the first principle of participatory research, various types of practitioners and researchers engaged in mutually stimulating conversations to identify collective patterns of orientation and possible interventions in the context intercultural school development (see Barbour, 2007; Morgan, 1997). The study deemed valid only those statements that conjointly determined a collective pattern of orientation, as this seems in accordance with the strong democratic ideals of participatory research.

Project Context and Sample
The project ‘School for Everyone at Ludwig-Maximilians University Munich, Germany, which is funded by the Asylum, Migration and Integration Fund (AMIF) of the European Union, is on intercultural school development. The project aims to implement sustainable structural improvements in schools and universities and standards for new concepts in the field of intercultural schools. These improvements closely link school systems and teacher education, for example, by creating courses at universities and establishing an online knowledge system for conducting intercultural development in schools.

The present study’s sample included 44 experts from various types of schools: 15 from primary schools, 16 from secondary schools, and 13 from high schools. Recruitment was initiated through an announcement made by the head of the project ‘School for Everyone and forwarded to the relevant school-system administration departments. Participation in the group discussions was voluntary. The study’s inclusion criteria were as follows.

• Experts must have been active in the teaching profession for at least six years (completion of the stabilization phase, Huberman, 1989).

• Experts had to have practical experience in intercultural work at school, for example, by participating in projects, working groups, parental work, or external cooperation etc.

During the selection process, care was taken to include participants from various regions to avoid regional agglomeration. Furthermore, the selection process took into account the participants’
additional roles (e.g., special counseling tasks held by teachers) to ensure that only those with higher-than-average occupational commitment were included.

For the group discussions, the participants were divided into seven discussion groups having five to eight participants each (see the considerations given to group size by Adler & Clark, 2008; Morgan, 1997). Participants were divided into groups that contained only one representative from each school involved, for the following reasons:

- To increase the diversity of experiences and perspectives (see Agar & MacDonald, 1995; Hollander, 2004).
- To enable participants to speak openly, knowing that no one else from their school was in their group.

**Data Collection, Analysis, and Validation**

Each group discussion was two hours long. The discussions started with no disclosure agreements, again in order to allow a safe space. The discussions were thematically structured around the following key questions.

- Which structures, measures, cooperation, and attitudes are required for an intercultural school developmental process?
- Which structures, measures, cooperation, and attitudes are especially important?

During the discussions, statements and opinions were initially written on moderation cards and made visible to all participants. Attempts were made to highlight opinions through mutual conversation and to reach consensus through collective mind-mapping. In each group, an experienced moderator currently active in teacher education was responsible for facilitating collective decision-making through deliberation. Thus, discussions were not entirely domination free because of the moderators’ activities, which were seen as facilitating focus on the topic. In each group, another experienced individual took protocol notes. Prior to the discussions, the moderators and recorders were trained.

Aspects mentioned in group discussions were categorized using qualitative content analysis (Hsieh & Shannon, 2005; Mayring, 2000), the goals of which are to reduce material to the fundamental content and to obtain through abstraction a straightforward corpus that retains an image of the raw material (McTavish & Pirro, 1990). Participants’ statements were categorized with the help of the MAXqda program (MAXqda, 2011). To analyze the material, first, a list was made that described each category, including examples, and the overlaps and distinctions among categories. Each category was named after the structures, measures, cooperation, and attitudes that it contained. The categories could be structured in higher-level areas; therefore, the results displayed followed the underlying order of the raw material (Coffey & Atkinson, 1996; Patton, 2002), preserving the discussions’ structure and foci. Then, to explain and illustrate the categories, they were linked with corresponding justifications and examples.

To verify the quality criteria, the inter-rater reliability (IRR) was calculated. All aspects specified by discussants (structures, measures, cooperation, and attitudes) were double coded. Calculation was performed using MAXqda. Consensus was reached when at least 90% of the relevant passages were identically coded. In the literature, a reliability coefficient of .70 overall is seen as satisfactory (Bos, 1989, p. 62). In all, 337 statements relevant for an intercultural school development process were coded. Only a few statements could not be integrated into the category system, such as when an aspect was too vague or too general for its meaning to be understood. An example of this was “concrete perspectives” [MRS_LE_5], whose exact content and significance for the school
development process could not be clarified. For all categories together, the initial IRR was .86, with 280 of 337 possible matches. In some categories, the IRR was less than .80. To improve these IRRs, the protocols of the group discussion were reconsidered and a communicative validation process performed (Kvale, 1995). This process focused on categories with an IRR < .80. By revising the categories, a higher degree of selectivity and a higher IRR were obtained: .89 with 300 of 337 possible matches (see Table 1).

Findings
Table 1 shows the category system for the structures, measures, cooperation, and attitudes that teachers and principals consider necessary for joint intercultural school development process.

Table 1: Category System of Joint Intercultural School Development

<table>
<thead>
<tr>
<th>Codings</th>
<th>total</th>
<th>corr</th>
<th>non</th>
<th>IRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening the School to the Outside/Networking</td>
<td>100</td>
<td>91</td>
<td>9</td>
<td>.91</td>
</tr>
<tr>
<td>Opening the School for Parents</td>
<td>42</td>
<td>35</td>
<td>7</td>
<td>.83</td>
</tr>
<tr>
<td>Networking with the District</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>Networking with Other Schools</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>Networking with External Support Institutions</td>
<td>41</td>
<td>39</td>
<td>2</td>
<td>.95</td>
</tr>
<tr>
<td>Teachers’ Attitudes</td>
<td>76</td>
<td>65</td>
<td>11</td>
<td>.86</td>
</tr>
<tr>
<td>Being Willing to Change</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>.80</td>
</tr>
<tr>
<td>Being Open Minded</td>
<td>22</td>
<td>18</td>
<td>4</td>
<td>.82</td>
</tr>
<tr>
<td>Being Self-Reflexive</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>Being Tolerant</td>
<td>12</td>
<td>10</td>
<td>2</td>
<td>.83</td>
</tr>
<tr>
<td>Being Empathic</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>.90</td>
</tr>
<tr>
<td>Being Stable</td>
<td>17</td>
<td>15</td>
<td>2</td>
<td>.88</td>
</tr>
<tr>
<td>Tasks of School and Teachers</td>
<td>82</td>
<td>73</td>
<td>9</td>
<td>.89</td>
</tr>
<tr>
<td>Creating Offers for Pupils</td>
<td>15</td>
<td>13</td>
<td>2</td>
<td>.87</td>
</tr>
<tr>
<td>Making Culture a Topic at School</td>
<td>17</td>
<td>14</td>
<td>3</td>
<td>.82</td>
</tr>
<tr>
<td>Cooperating with School Social Work</td>
<td>11</td>
<td>11</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>Strengthening Cooperation and Team Work</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>.82</td>
</tr>
<tr>
<td>Structuring Lessons</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>1.0</td>
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<tr>
<td>Education Pupils</td>
<td>9</td>
<td>8</td>
<td>1</td>
<td>.89</td>
</tr>
<tr>
<td>Practicing Supervision and Peer Counselling</td>
<td>7</td>
<td>6</td>
<td>1</td>
<td>.86</td>
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<tr>
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<td>71</td>
<td>8</td>
<td>.90</td>
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<tr>
<td>Breaking down Structural Barriers</td>
<td>33</td>
<td>30</td>
<td>4</td>
<td>.90</td>
</tr>
<tr>
<td>Training Teachers</td>
<td>25</td>
<td>22</td>
<td>3</td>
<td>.88</td>
</tr>
<tr>
<td>Counteracting Language Barriers</td>
<td>15</td>
<td>14</td>
<td>1</td>
<td>.93</td>
</tr>
<tr>
<td>Allocating Special Needs Teachers</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Legend: total: discussants’ statements in total; corr: statements which were consistently assigned to category by both encoders (‘correlating’); non: statements which were not consistently assigned to category by both encoders (‘non correlating’); IRR: inter-rater reliability.

Opening the School to the Outside/Networking
According to the teachers and principals, the most important factor of an intercultural school development process is Opening the School to the Outside (100 statements). The category Opening the School for Parents was the largest (42 statements). Integrating parents into school life is the central demand on schools. The fundamental starting point for interaction and cooperation between parents and the school is motivating parents who have migrant backgrounds to participate actively in school life, because “parents often remain distrustful of school. Especially parents with a migrant background have difficulties in identifying with institutional structures and procedures” [GY_AB_1]. Parents do not get involved because they doubt that they are an accepted part of school life. Successful parental work aims to overcome distrust and resistance as a way to develop
better relationships with pupils. “Pupils learn to be more self-reliant and successful when parents have a positive attitude toward school” [GY_AB_1].

Some discussants complained that they need to support parents by handing-over activities for which they are not responsible or not sufficiently qualified; a tendency “to pass on responsibility to others” was mentioned several times. In these cases, if difficulties occur, teachers are ultimately responsible. In addition, many parents seem reluctant to respond to inquiries from schools [GY_AB_1]. Therefore, schools need to implement “low-threshold offers for parents,” which provide incentives to take part in school life [GS_LE_7]. Examples of this included some innovative ideas, including language classes for parents at the school, multilingual parents’ evenings, and a “parents’ café” [GS_LE_7]. However, both teachers and principals reported a language barrier because many parents do not (yet) have necessary language skills. Translators are lacking. When pupils’ needs require teachers to contact parents, creative solutions are needed. For example, one discussant writes letters to parents in simple language so that pupils can translate them into the language spoken at home [MRS_LE_5].

Opening the school to the outside world also requires Networking with the District (7 statements). That means getting in touch with local authorities, associations, churches, and companies. In addition, Networking with Other Schools (10 statements) can be accomplished by “shared school classes” to facilitate the transition between differing school types. Another crucial element is Networking with External Support Institutions. “A good support system is necessary because as a teacher you cannot take care of everything. A teacher does not have to know all the external support institutions, but every school should have a coordinator for this” [MRS_LE_5]. The 41 statements in this category reflected the broad range of external partners with whom teachers cooperate. Youth welfare services, therapeutic and medical institutions, and doctors, psychotherapists, and occupational therapists were mentioned frequently. In addition, school counseling institutions and individual school assistants may work directly in schools [GS_AB_4].

**Teachers’ Attitudes**

Teachers and principals characterized the attitudes necessary for a joint intercultural school development process in six closely related categories. By far, the largest category was Being Open Minded (22 statements), defined more precisely as “openness toward heterogeneity” and “openness toward diversity.” “Cultural diversity represents an enrichment. This is driven by a certain idea: I recognize the ‘otherness,’ and I consider it as valuable” [GS_AB_4]. Schools need to provide a model of open-mindedness; only then will children and youth show this attitude later in life [GS_AB_4]. Open-mindedness is related to Being Willing to Change (10 statements), described in terms that include “daring,” “rethinking,” “courage to innovate,” and “leaving familiar terrain and setting foot in a new world.” “It takes courage to overcome the fear of new things, for example, talking to an unknown person who does not fit in one’s own scheme” [MRS_LE_5].

Open-mindedness and willingness to change presume Being Empathetic (10 statements). In the context of an intercultural school development process, empathy means not only taking on another person’s perspective, but also “appreciating pupils’ languages and cultural backgrounds” [MRS_LE_5]. Empathy “must be a two-way-street. Pupils as well as parents need to be introduced to empathetic behaviour” [MRS_LE_5]. This, in turn, presumes Being Tolerant (12 statements). “Tolerance means that teachers accept and bear with the otherness” [MRS_LE_6]. Tolerance requires Being Self-Reflective (5 statements), which is a self-critical rethinking of one’s own “traditional concepts” [GY_AB_1]. Of help in this context is Being Stable (17 statements), which
includes such aspects as stress resistance, the ability to recover, and the ability to distance oneself. “It is important to know how to distance. It won’t help anybody if we are in hospital due to burnout” [GS_AB_3].

**Tasks for Schools and Teachers**

Schools and teachers need to initiate certain offers for pupils, but discussants also requested offers for teachers to enable and support them to work successfully with pupils from migrant backgrounds. Creating Offers for Pupils (15 statements) refers to both language and counseling, including language-support classes or school-career guidance. Some discussants proposed training select teachers to coach pupils and parents on the school system and school careers. Initiating Common Activities and Events (5 statements), including excursions, study tours, and school festivals, promotes social cohesion among pupils. Other statements concerning tasks for schools and teaching staff can be categorised as Making Culture a Topic at School (17 statements). Most of these statements refer to developing appreciation for other cultures. Another urgently needed offer for pupils is Cooperating with School Social Work (11 statements). From the discussants’ point of view, school social work is an opportunity to improve the situation of children and youth, because it allows long-term support at the interface between school and family [GY_AB_1].

Another important task for teachers is Strengthening Cooperation and Team Work (11 statements). The teachers and principals defined cooperation as “mutual support in the areas of exchanging working materials, planning lessons, and teaching” [MRS_LE_6]. Cooperation also included the following aspect: “Team teaching is becoming increasingly important to respond to all challenges, especially those resulting from traumatized and aggressive children” [GS_AB_3]. Unexpectedly, the topics Structuring Lessons (12 statements) and Educating Pupils (9 statements) played more minor roles in group discussions. Only four statements stressed differentiation and individualization during lessons. Some statements reflected best practices and others worst practices (“Stereotyping happens quickly” [GY_LE_2]). The few statements regarding education were exclusively about “setting clear limits” [MRS_LE_6]. In addition, offers for teachers are essential because schools must compensate for the demands and burdens placed on teachers during the school development process. Of these offers, discussants considered the opportunity for Practicing Peer Counseling and Supervision the most important (7 statements).

**Structural Framework**

Some categories focused on barriers that must be overcome to enable the process of school development; other categories referred to urgently needed measures. The largest of these categories (33 statements), Breaking down Structural Barriers, summarized resources that were lacking and time and space barriers. Resources seen as lacking ranged from staff shortages and turnover to overcrowded classes, insufficient financial means, and a government reluctant to provide new textbooks and materials helpful to pupils from migrant backgrounds. Spatial restrictions included a lack of sport facilities, available rooms for differentiation and parental work, and school buildings in need of renovation (“Cage holding, pupils could not move, because there is no room. It is no wonder that aggressions break out” [GS_AB_3]). Time-related barriers inhibit responding to pupils’ needs; therefore, additional hours or flexible time allocation are needed to address the concerns of pupils and parents from migrant backgrounds [MRS_LE_6].

The category Training Teachers (25 statements) stressed the need to qualify school staff for changing working requirements. From the teachers’ and principals’ perspectives, training programs should
focus on intercultural knowledge “to be able to properly estimate the background behind unusual behaviour, for example, eating culture, behaviour between children and adults, and between men and women” [GS_AB_4]. There is also a need for training regarding instruction, including “language-sensitive instruction” [GY_LE_2]. Discussants reported that some pupils’ traumatic experiences in their countries of origin massively affected their daily school work. Therefore, training must address trauma and dealing with trauma. “A child said, ‘My mother was burnt in the war.’ There was nothing I could do” [GS_AB_3].

Counteracting Language Barriers (15 statements) is, in the discussants’ opinion, “the ultimate, everything else is based on it. […] Only after having resolved this problem can a school development process start at all” [MRS_LE_5]. Teachers should possess foreign language skills. Furthermore, searching for a translator is time- and labour-intensive, and interpretation and translation raise special problems. “Sometimes older siblings, aunts, cousins translate […] That works as long as it concerns organizational issues, but if it concerns conflicts, you need an independent person. […] Younger children as translators are overstrained because they are afraid to talk about problems in the presence of adults” [GS_LE_7]. The structural framework is completed by also Allocating Special Needs Teachers in regular schools (6 statements) to support pupils with special needs during lessons.

Conclusions
The present study’s participatory-research approach and its findings enabled identification of the conditions necessary for successful intercultural school development. Some of these conditions are briefly outlined below.

1. Intercultural school development requires opening to the outside community
Teachers and principals agreed that school development needs to be based on an opening to the outside that involves parents, external support systems, and the local environment. Extracurricular learning sites and support systems contribute to equal opportunities. This is particularly important for pupils with migrant backgrounds, as they are often disadvantaged (Dustman & Theodoropoulos, 2010). Reducing the gap between children from disadvantaged families or those with migrant backgrounds and children from the general population is possible only through networking with the surrounding community. Networking requires that a school be informed about local support and the local labour and training markets. Contacts in these fields must be constantly renewed. In addition, forms and routines of exchange with parents must be established, even if they are described as “hard-to-reach” (Jeynes, 2011; Kohl, Lengua, & McMahon, 2000). Parents are more engaged with the school if they believe that they are able to support their children’s educational success (Hoover-Dempsey et al., 2005). Therefore, schools need to attract parents by making their involvement “desired,” by creating offers such as language courses, and by being familiar with country-specific backgrounds (van den Bergh, Dennessen, Hornstra, von Voeten, & Holland, 2013).

2. A shift in attitudes, including being open-minded, empathetic, and self-reflective, is crucial
According to the teachers and principals, school professionals should be open to change, tolerant, appreciative, self-critical, and possessed of the courage to try new, innovative ideas. Such attitudes are important because they influence the perception and interpretation of events in educational practices (Pajares, 1992). But, teachers complain about a lack of resources, which adversely influences attitudes toward diversity and inclusion (Avramidis & Norwich, 2002). Nevertheless, attitudinal change remains a central element in school development. But changing values and attitudes generally is a mentally challenging process that often gives rise to conflict and resistance.
3. **Teachers’ cooperation and teamwork must be strengthened**

Teaching pupils with diverse educational needs and prerequisites can be managed only through cooperation. This cooperation might take many forms, including verbal exchange, joint work planning or work organization, and team teaching, all of which will positively affect pupils’ performance (Lomos, Hofman, & Bosker, 2011) and teachers’ efforts to jointly develop solutions and teaching ideas and to manage linguistic deficits (Bettencourt & Weldon, 2011).

4. **Intercultural school development needs additional resources and appropriately qualified teachers over the longer term**

Teachers and principals stressed that a broad range of resources is necessary, but, particularly, extra hours or a flexible time quota. Likewise, appropriate space is needed for counselling, differentiation, break times, and so on. The same applies to qualified staff. Discussants complained about work overloads due to lack of resources. Higher workloads cannot be a long-term solution, because increased effort without reward induces exhaustion, frustration, and an increased risk of illness (Siegrist, 1996; Stansfeld, Shipley, Head, & Fuhrer, 2012). Furthermore, more training is needed. Teachers repeatedly expressed a particular need for further training in “cultural knowledge” so they can show appreciation and establish common ground for interaction. In particular, the discussants emphasized the issue of dealing with traumatized pupils. Many refugee children have experienced direct exposure to war-time violence, displacement and loss of home, separation from caregivers, detention, and torture in their countries of origin, during flight, and in refugee camps. Many studies have documented a wide range of symptoms, including post-traumatic stress (Fazel & Stein, 2003; Lustig et al., 2004). It is necessary both to qualify teachers to deal with traumatized pupils and to provide additional supervision. But, training is not enough, because trauma demands therapeutic support, which requires finding ways to initiate cooperation between schools and psychotherapists.

5. **School development must address the language barrier**

Language barriers affect all levels of school development. Long waits to obtain interpreters result in valuable time lost in addressing pupils’ and parents’ needs, creating obvious disadvantages in schooling and social integration (Ryan, Sales, & Rodriguez, 2013). The problem is further exacerbated if siblings act as interpreters, as they then become involved in problems and conflicts that may overwhelm them. Resolving this problem requires that schools be provided with quick, easy access to adequate staff.

6. **Elements of a school development process must be jointly elaborated through participatory research**

Elements of a school development process need to be jointly elaborated through deliberation that includes all stakeholders. To implement the measures and strategies described above, both teachers and principals must be willing to put them into practice. It is notable that the measures, interventions, and structure frameworks developed by this study’s participants are in accordance with school-development theory. Bottom-up processes ensure realization of the measures elaborated (Dalin, 1996) and prevent initiatives from dying premature deaths because stakeholders could not identify with them. The present study also shows that involving teachers and principals in research processes works. The discussants stressed important structures, activities, cooperation, and attitudes that addressed all levels, including the personal, social, and organizational, of schools and school development.
References


Refugees: The New Global Issue Facing Teachers in Canada

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Abstract
This conceptually-based paper focuses on recognizing the growing needs of teachers in the Greater Vancouver area in British Columbia, to acquire the skills and knowledge necessary for teaching newly arrived refugees to Canada. From November 2015 to January 2017, 40,081 new Syrian refugees landed, with similar numbers to come in the next year. Teaching these students is very different from using an English Language Learner (ELL) approach; many refugees have experienced trauma in pre-migration, migration and post-migration, and others may have no literacy schooling in their first language or interrupted schooling. In pre-service teacher education programs and in professional development offered in schools, there is a lack of guidance on how to create safe and inclusive environments for the particular psychosocial and learning needs of these newcomers. This paper will draw on narratives of teachers in classrooms where several waves of refugees have settled, especially from Iraq, South Sudan, Somalia and now Syria, and outline some of the arts-based learning that provides these students with a means to develop literacy skills, self expression, a sense of belonging, a new identity and importantly, the possibility of reducing trauma as they transition to their new lives.

Introduction
I came into my class and found one of the refugee boys under the table, sobbing. The other students told me another boy had startled him. I found out later that his neighborhood in Iraq had been bombed and he’d see a man burned alive. (Teacher enrolled in the Masters program, 2016).

Today, in several school districts in British Columbia and across Canada, new refugees are being settled into communities, and their schools are being asked to provide resources to help these youth learn how to function academically, socially and culturally in our very different, yet tolerant and multicultural, society. However, many teachers find it professionally and personally overwhelming to deal with their special needs due to a noticeable lack of training in how to deliver basic instruction to these students (Kovinthan, 2016; Kanu, 2008; Stewart, 2012; Yau, 1995).

This is a growing concern because the number of refugees around the world continues to grow. The United Nations High Commission for Refugees determined that in 2015 there were 21.3 million refugees, about half of whom were children under the age of eighteen (UNHCR, Figures at a Glance, 20 June 2016). Displaced persons due to war, violence, oppression, and persecution are now estimated at 65.3 million, up 5.8 million from the previous year (UNHCR, Figures at a Glance, 20 June 2016). Whatever the numbers, one thing is certain: educators have a critical role to play in the way refugee youth experience schooling with the teacher being a primary source of guidance, empathy, safety and acceptance for the students and their families (MacNevin, 2012; Cummins, 2000).
In the fall 2016 Master of Education (MEd) cohort in which Susan taught, she noticed an acute shift in interest in the teachers’ discussions and inquiry projects compared to previous years. She discovered that resources about refugee education are lacking in both academic literature and specific teaching strategies, while simultaneously becoming more urgently needed. Often it is the more experienced teachers who have been in the schools for 10+ years who are most able to mark how things are changing, and rapidly. Sharing teaching stories about working with refugees often fills the gap as everyone in the school scrambles to adapt best practices to fit the needs of the newly arrived refugees.

The focus of this paper is to provide an overview to educators to better comprehend concepts related to teaching refugees. Many teachers first become aware of feelings of inadequacy when they realize they cannot implement known methods of teaching English Language Learners (ELLs) with refugees (Brown, Miller & Mitchell, 2006). Teachers ought to set aside a deficit perspective toward these students and consider the moral opportunity before them. This necessary professional growth will enable them to evolve with the rapidly changing educational landscape in schools. All names are pseudonyms.

**Literature Review**

From November 2015 to January 2017, Canada accepted 40,081 refugees from Syria alone (Zilio, 2016 Mar 8; #Welcome Refugees, 2017). In the previous year, 20,000 refugees of war, oppression and persecution came from Iraq, Eritrea, Iran, the Congo, Somalia, Syria and Afghanistan, (Facts and Figures 2015, 2016; Schwartz, 2015 Oct. 4). Canada is second to the USA who had received 150,875 requests, but took in 69,933, which was the largest acceptance rate and 60% of the global total in 2015 (UNHCR, 2015 Global Trends, 2016 June 20). Countries in the world with more extensive recent experience, such as Sweden, Germany and Australia, have provided much needed research findings on how refugees struggle to adjust to their new environments.

Refugees differ from “economic immigrants” in distinctive ways. Immigrants may also experience racism, cultural dissonance and adjustment difficulties, but the comparison ends there. In one study done in Sweden on the mental health of resettled Iraqi refugees, the most common issues were post-traumatic stress disorder (PTSD) at 12%, and higher in females, as well as depression and anxiety (Lindencrona et al, 2008; Beiser et al, 2011). Exposure to severe pre-immigration trauma such as torture explains a higher prevalence of mental disorder among refugees, but also resettlement stress contributes to its persistence and even increase. What this means for teachers in Canada is that they need to understand that once refugees arrive, the issues do not disappear; in fact, they could worsen. The families may struggle with social and economic factors in their new country, as well as threats, discrimination, loss of status and alienation. In their new schools, refugee students may lack the ability to focus, can be aggressive and have anger management difficulties. They may be leaders in social situations which may involve bullying. Troubled behavior, such as explosive tempers, fighting, challenging authority and immature behavior can indicate trauma (Kovinthan, 2016; Strekalova & Hoot, 2008).

A lack of basic education, including no literacy, even in the refugee’s first language, poses substantial challenges for many teachers. Preliterate students cannot be taught in the same manner as ELLs (Brown et al, 2006; Fantino & Colak, 2001). At the extreme, with some students, foundational capabilities such as pencil holding and book handling cannot be taken for granted (Dooley, 2009). Under optimal conditions, on average it takes 3-5 years to achieve conversational fluency and 4-7 years to acquire academic literacy in another language. For some disadvantaged
students, it may take much longer, sometimes as much as 10+ years (Brown, et al, 2006; Garcia, 2000).

Many Western countries’ identities have been forged by accepting refugees and offering a safe haven for the “huddled masses yearning to breathe free” (Lazarus, 1883, on Statue of Liberty). Since 9/11, however, measures for greater national safety have gained wider tolerance. Teachers in many nations have found themselves at the centre of an ethical dilemma. Australian educators, for example, have asked, “What is the relationship between a vibrant and socially just society and educational policy?” (Hattam & Every, 2010, p.409). For the public, are freedom and security viewed as mutually exclusive? In Europe and the United States, a new shift to the right in reaction to migration and terrorism has undoubtedly stimulated strong debate on both sides of the refugee issue in 2017, perhaps providing a necessary opportunity for revisiting questions of national identity and values that attempt to grasp the complexity of the situation and, ideally, respecting, enabling and protecting everyone. The elephant in the “school”, so to speak, is that educators cannot teach refugees without teaching all the students about attitudes toward refugees.

Some teachers remain unaware that racism, discrimination and exclusion can also originate from individual dispositions and attitudes (Kovinthan, 2016). The educators in the school will have to unite to advocate for the refugees and ensure they have access to an education that will “unlock their inherent potential” which in turn improves their chances of success in society (Tilleczek, 2008).

**Methods**

This study follows narrative inquiry as a research method and specifically draws on narratives and interviews. Bruner (1986) states that through narrative we make sense of our lives by interpreting our experiences and extracting new knowledge and understanding from them. Teacher narratives provide a framework for constructing professional knowledge and can be useful for exploring theories, values and beliefs ((Beattie, 2000; Connelly and Clandinin, 1990; Knowles, Cole & Presswood, 1994). It is through “caring relations” that genuine dialogue and empathy can take place so that individuals can know themselves better and begin to really see “others”, even though they may be different from themselves (Noddings, 1984). Through reflective practice, teachers come to understand they are bound up in moral, ethical and socially responsible endeavors.

Narrative has long been valued as a tool of learning in the arts due to its more holistic qualities where it holds the possibility of joining the cognitive to the affective. Furthermore, visual art, music, dance, drama, poetry and story appeal to the senses and may be capable of communicating ideas and feelings beyond mere verbal expression (Eisner,1991; Conle, 2000; Witherall and Noddings,1991). The next section presents the narratives of teachers who have worked with refugees for several years.

One secondary school teacher (SST) and one elementary school teacher (EST) provided their narratives in interviews in February and March 2017.

SST: This year we received 20 new students from Syria. The year before, it was mostly Somalians, Sudanese and Ethiopians. From the Welcome Center, sometimes they bring them into the school when no one is here, to give them an idea of the bells and to show them where things are. The fathers sometimes come with their kids but we never see the mothers.
EST: The majority of new arrivals are Syrian and pre-literate, while the Iraqis can read and write in Arabic. They all came here from camps where they may have had some interrupted schooling.

SST: Most of the new Syrian families had to sell everything and leave their rural areas where they were farming. In towns, the boys became street kids, hustling for money, trying to support their families by selling cigarettes, working in tea shops. They are really tough and had little parenting but are street smart. But the Iraqis, they have witnessed things.

EST: Some families are decimated. No men, single moms. I have a dad who is raising his son alone. He has no parenting skills. The boy is bright, but sad, with wild mood swings. Many parents stay distant from the school so we don’t know how they are coping or to what degree the whole family has PTSD. Mothers impose strict traditions and don’t leave the house. Some parents are just happy to be here in Canada where it is so quiet and safe, and the fathers feel their sons will be okay, and that other families in the neighborhood will look after the kids, keep them out of trouble. I thought, that’s not the way it is here.

SST: Teachers are afraid of their behavior. We try only to have 1-2 kids per class. In Physical Education, they are climbing on the bleachers, yelling. They are so vulgar, and have such short fuses that none of the other local kids like them. They constantly fight between themselves, flip over tables in the classroom. But they are also great actors. Sometimes it’s just a show.

EST: Progress depends on the individual. In my class, I have two sisters, around 11 years old, who were sponsored by their older brother who came earlier. One is lively, engaged in school and the life of the party. The other is still pre-literate and withdrawn. She could have a learning disability, but I think there is some kind of trauma there. She doesn’t talk.

SST: The police come to the school to talk to the kids, but even better is a former Hells Angels guy who talks tough to them about drugs and gangs. He takes them on field trips and to football games. I’ve seen some of my former students three years after graduation who are in the paper, arrested for drug trafficking. They were really nice boys in school.

Some of the high school boys are 18 and 19 and want to work. They don’t see the point in going to school. Local businesses have offered jobs to help the Syrian refugees, like working in greenhouses to take advantage of their farming knowledge. Their parents need money, and many boys have started working 4-9 p.m. after school. They want to work.

The emphasis, all the more, is on the difference an understanding and prepared teacher can make in the lives of these students. The next section will offer a strong starting point that may effectively address the perceived disadvantage of pre-literacy and trauma in freshly arrived refugee youth.

A Pathway Through the Arts

Given the complexity in refugee students’ lives, educators should focus on the two most immediate obstacles: acquiring English language skills and creating an environment to reduce trauma. The arts are a universal language, and because they join the affective to the cognitive, they offer starting points to basic literacy as well as to expression of emotion in manageable and personal forms.

Engaging in the arts seem more like play and, and while researchers have long known the value of play in allowing children a space to work out emotional and intellectual conflicts in their lives, now it is seen as having the power to heal (St. Thomas & Johnson, 2007). Through play, children
can enter their inner selves and access voices of imagination to explore other versions of stories or events and create new outcomes with new meanings. This is vital to mental health and healing. This is achieved through discovering the deeper meanings in tragedies.

St. Thomas and Johnson state, “Imagination and stories are key forces in opening pathways toward integrating and organizing the complex realities of trauma” (2007, p.22). Students can share their stories through non-verbal means like dance, drama, visual art as well; art can be considered the “literacy of the heart” (Eisner, 1991, 2002).

Van der Kolk (2014), former director of the Boston Center on PTSD research, discovered talking about trauma may not lead to recovery. “Fundamentally, words cannot integrate the disorganized sensations and action patterns that form the core imprint of the trauma in the brain…. They become stuck… Trauma stays in the non-verbal, non conscious sub cortical regions of the brain.”

Engaging with art, and specifically stories, join the left (creative) and right (rational) sides of the brain to allow a person to derive coherent and logical meaning. All learning has an aesthetic quality, and in re-presenting stories artfully, children recreate reality in a manner that pleases them (St. Thomas & Johnson, 2007).

St. Thomas and Johnson (2007) provide steps for teachers:

The primary need is to establish trust and safety. Once trust is in place, children need to be supported to be able to be spontaneous {both as themselves and in arts}…and move toward disclosure… Support looks like honesty, acceptance, safety and openness. Trust must be earned. The relationship is built on the on-going belief that healing is instinctive and the path to wellness is not outer-directed but inner-generated (p 22).

Conflict is necessary for development to occur… The more creative expression and verbal content become visible, the more the process allows for past, present and future to be visited and openly interwoven… and integrated… When children can “let go”, {they are} better able to be in the moment and less blocked by primary or secondary defenses, such as denial or avoidance (p. 23).

Change is observable… {the child has} a positive look at the future… But it is not even development, much like Snakes and Ladders… {But} there is the potential for transformation (p.24).

In South Sudan research, music in particular seemed to reduce the tension in students with PTSD, and teachers were encouraged to choose songs with preferably with neutral content or happier lyrics and danceable beats that made participation in movement natural. Also in South Sudan, humanitarian organizations asked students to draw objects that related to different stages of their treatment, for example, draw-myself, draw-my-life, draw-my-lovely-day (Uguak, 2010). This corresponds to what teachers (participating in this paper) do in their schools that enables them to discuss the artwork with students and begin their literacy by writing vocabulary words of objects in the margins of the pictures. Early on, music, visual arts and dance offer non-verbal means of participation; as students acquire more language skills for reading, writing and speaking, then teachers may integrate other concepts and vocabulary into stories, such as cross-cultural fables, fairy tales and myths as another way into a wider variety of literacy activities.

Lorna (author) shares her arts-based approach after a struggle with a student:

My student was full of rage. She disrupted class discussions often with angry accusations using words like insensitive, superficial, mundane, unimaginative, and useless. Aleeha was a teenager when she fled the war torn home country she loved. Her discord in the class prevented a natural rhythm of group collaboration. Aleeha isolated herself from her peers and confrontational attacks on instructors threatened the quality of her educational experience.
I spoke to Aleeha privately about noticing the natural give and take in rhythms of class discussion. Concentrating on her words ‘useless’ and ‘unimaginative’, I invited Aleeha to choose a platform for a class project that could perhaps provide aesthetic contexts for understanding the opposite meanings using words like ‘purpose’ and ‘imagination’ for visceral as well intellectual determination of what in thought she was reaching toward, resiliency. Aleeha chose an arts venue, and a large montage of artifacts, actual and sculpted representations of her life history. She proudly shared in collaborative, dynamic discussions with her peers accompanied by poetry and prose about her past trauma interpreted through ‘purpose’ and ‘imagination’ for social justice issues.

For further steps to determined resiliency and as part of my responsibility as educator of multi-literacies and serious reflective practitioner, I invited Aleeha to reinterpret her poetic prose around her cultural history montage and impacts of classroom discussions and co-author with me an ethnographic narrative about being in a country at war and fleeing war.

The following are a selection of other art projects.

Online stories and videos have been created by Immigration Services Society of British Columbia (ISSofBC) as part of their Refugee Mythbusters Campaign, and posted to inform educators and the public about refugees. In one, Hedley and Khalid (n.d.) ask elementary school refugees to paint pictures of home and discuss things they remember. An anthology in paint and words are beautifully presented on the district website for parents and others to view.

In her video, Schur (Galino, narrated by Schur, 2014) discusses the challenges that can be met by the Expressive Arts program that go into the schools, and therapists share their experiences along with the children’s artwork and words. Short dramatic scenes enacted by the children are shown as well.

In a summer project in Georgia, USA, led by educator Emert (2013), digital storytelling was used in a literacy program with 70 high school boys who had come from Tanzania, Ghana, Somalia, Ethiopia, Eritrea and other countries. As a beginning point, Lyon’s poem, “Where I’m From” is read and the boys used critical and creative thinking to manipulate texts and technologies to explore their own origins and experiences. This arts-based pedagogy expected rigorous self-assessment, full participation and constant clarification to elicit meaning in the finished products. Taken together, the project played a significant role in advancing the boys’ literacy, academic achievement and sense of empowerment.

In many cultures, quilts, jewelry making and decorative arts appeal to students who may be able to keep and wear their work. In “Stories of the Cloth”, Garlock (2016) recounts how female survivors of violence from Chile appeared to be stitching stories of events into beautiful representations on textiles, but in reality they were trying to stitch back the fabric of their lives, support each other and heal traumas in quiet and dignified ways. As with many of the arts activities mentioned above, the therapeutic talk that occurs during the projects is the goal and the artwork is the physical representation of a stage of increasing mental health, integration and letting go.

In all classes, teachers do need to prepare well for each lesson, taking care to foresee any triggers that may cause students to be re-traumatized. This may be something as simple as previewing or pre-reading film or text as seen through the lens of these youth. When students choose to reveal
personal experiences and find it therapeutic, the teacher can play an important role in healing and acceptance, even helping them toward forgiveness (Medley, 2012).

**Discussion**
On first exposure to narratives of educators who work with new refugees, it is not uncommon to experience cultural inadequacy. Small cultural “stops” occur during the day for teachers, for example, seeing a child crying under a table and the other students explaining that another student startled him, or there was a sudden loud noise, an airplane, and the teacher later finding out that the child had witnessed violence and death. Some things are too terrible to imagine, and yet refugee children have lived far worse realities.

MacDonald (2015) reports on the troubled relationship between refugees and their English literacy learning and the messages they broadcast around the value of education. English is marketed as the language of economic power and advancement, a myth for many, yet it also has the potential for speaking and writing about injustices to a world audience. Educators must remember the importance of allowing refugees to speak back, to respect their experiences with the powerful they see all around them, and resist the stories that simplify or idealize resettlement and the opportunities that flow from literacy. Equally important to the forces that work on refugees are the impact the refugees will have on the people who teach them. Transformation occurs in both directions.

**Conclusions**
To help their students overcome steep hurdles, teachers must not take a deficit attitude, but rather see their background experiences as an asset for learning. Classrooms should be a place where students feel safe, accepted, and included, and have their cultural knowledge play a role in building their educational competency and future lives (Kirova, 2010).

Teachers must take pains to ensure the school and their classrooms are welcoming to students and their parents, and anticipate the barriers they face due to traumatic experiences. (MacNevin, 2012). Beyond adapting ELL strategies, teachers can differentiate teaching with culture in mind.

The authors find it troublesome that school narratives about refugees are centered mainly on dealing with boys. Due to safety concerns, it is not surprising that attending to explosive conditions and physical violence should dominate, especially when the police are involved. But much more consideration needs to be given to refugee girls and their special needs.

In the literature, researchers emphasize the paucity of teacher preparation and professional development around best practices for refugee students. The authors of this paper fully agree and recommend instruction begin in teacher education programs at universities. In addition, more school counselors and psychologists who specialize in trauma ought to be on site or generally available to care for these students’ mental health and well-being.

Tasked this year with the job of welcoming thousands of new arrivals scheduled to come from Syria alone, Canadian provinces and school districts will need to re-think their strategies for supporting refugees, and make space in their calendars for time and funding for advancing teacher knowledge for the betterment of our most vulnerable students.


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Developing the Effectiveness of Inclusive Teacher Education for Special Educational Needs and Inclusive Practice

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Abstract
This paper reports on the findings of a research study which sought to identify the conditions, processes and activities underpinning effective inclusive teacher education. The study took forward what was currently known (or hypothesised) and from this built a pedagogic model (in the form of inclusive action research) that was applied in a partnership school during the practicum period among 22 participants (preservice teachers, experienced teachers and teaching assistants) to support the professional development of all involved. The findings support the claim that socially situated, research oriented, reflexive, collaborative approaches to developing inclusive practice are important elements in an effectual programme. They also cast light on the conceptual and practical challenges involved in being inclusive and on the impact of external cultures on the professional identities and actions of practitioners. This paper takes the position that de-intellectualised, competence based ‘on the job training’ models of teacher education will not be effective in preparing teachers for the deep challenges involved in becoming and being a more inclusive practitioner.

Keywords: inclusion, teacher education, special needs, disability

The Current Context for Inclusive Teacher Education
That inclusive education is a priority for development has been confirmed in official European and Global forums (OECD, 2010; Council of the European Union, 2010; Council of the European Union, 2009; European Parliament, 2008; Commission of the European Communities, 2007). Initial Teacher Education (ITE) (also known as preservice education) and Continuing Professional Development (CPD) is often regarded as the decisive factor in developing a more inclusive education system (Forlin, 2010; Florian and Rouse, 2009; Ainscow et al., 2006; Golder et al., 2005). There is recognition that ‘the challenges faced by the teaching profession are increasing as educational environments become more complex and heterogeneous’ (European Parliament, 2008, p.2). However, there is also widespread evidence that teacher education is falling short in securing sufficient confidence, skill and preparedness for diverse learners. For example, the outcomes of the first Teaching and Learning International Survey (TALIS) by the OECD (2009) revealed that surveyed teachers across 23 countries did not feel well prepared to respond to the challenge of diverse learners. The vast majority reported that they had significant development needs in teaching learners with special educational needs and disabilities (SEND), with a third identifying this as an urgent development need. The OECD survey of teacher development for inclusion (OECD, 2010) found that though 96% of student teachers and 65% of teachers reported that diversity issues (including SEND) were covered in their ITE programmes in some form, 47% of student teachers and 66% of teachers judged that current teacher education was offering little in the form of effective preparation. Such loss of transfer from input to feelings of preparedness is perplexing and suggests that contemporary models of teacher education may be ineffectual, even when giving attention to diversity issues. Hence, it is important to identify those principles and practices that underpin effective approaches.
Reforming Partnership for Effective Inclusive Teacher Education

Across the literature, it is widely proposed that the role of ITE is to prepare critical activists who can deconstruct exclusive practices as they enter their careers (Forlin, 2010; Rouse, 2010; Slee, 2010; Moran, 2009; McIntyre, 2009; Florian, 2007; Pearson, 2007). It is important to understand how challenging a project this is for beginning teachers. As an illustration of this, Cook (2007) demonstrates the powerful influence of mentors’ beliefs and practices on student teachers and Stoddard et al. (2006) found that on entering a placement or a first post, beginning teachers were likely to adopt the instructional behaviours of their mentors or use behaviours that arose from their own memories of schooling. The relative impact of the alternatives offered by university was poor in relation to the influence of dominant (and arguably, traditional) practices in schools. Breaking the circle of traditionality (Korthagen et al., 2006) is widely regarded to be necessary if inclusion is to be forwarded but it is recognised that this is difficult to achieve through traditional, fragmented, theory into practice models of teacher education. In England, McIntyre (2009) seems exceptional in offering a potential solution to this problem with specific reference to inclusion and partnership. McIntyre is distinctive in reframing partnership as a form of collaborative research and development. Schools and universities might develop inclusive practices through drawing on equal but different forms of expertise. Inclusive teacher education then is also a question of continuing professional development (CPD). McIntyre (2009) notes that progress in inclusive ITE will be thwarted if there is not synchronous development in school given that it might involve the deconstruction of tradition and of the status quo.

Effective Models of Inclusive Teacher Education

The study described in this paper sought to take the model proposed by McIntyre (2009) forward and synthesise it with what is currently known (or hypothesised) about the principles and practices that might underpin effective inclusive teacher education in the wider international literature. The aim was to draw on this to build, apply and critique a pedagogic framework that could be operated within the context of a school placement so as to identify those aspects that were effectual. The informing principles and practices are summarised in Table 1.

Methods

Founded on McIntyre (2009) and broader evidence and hypotheses emerging from the literature (see Table 1), the study involved 22 participants (preservice teachers, teachers and teaching assistants, a research facilitator/university tutor) and used inclusive action research (O’Hanlon, 2003) as a means of structuring the collaborative activities of the participating group over a period of 22 months. This approach adopts the principles common to other critical-theoretical action research but centres its activity on promulgating inclusive practice through adopting democratic, just and equal forms of professional collaboration. Hence, it emulated the structured, systematic and collegiate model proposed by the literature whilst being situated within the social justice paradigm. It took place in one of the largest primary schools in England, well regarded locally for its commitment to inclusive education. This school had worked in partnership with the university in its teacher education programmes for ten years, hosting several student teachers every year for placement experiences. Given concerns about the limited transferability of action research (Waterman et al., 2001; Jarvis, 1991) additional methods were employed. These included a fieldwork journal (for the collection of incidental data outside the specific project actions), reflective conversations with the participants during and after the project and reflective summaries written by participants. These supported identification of the wider conditions, processes and activities that were relevant to the participants’ professional development in inclusive practice.
Table 1: Principles and practices for effective inclusive teacher education

<table>
<thead>
<tr>
<th>Principles/Practices</th>
<th>Sources</th>
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<tbody>
<tr>
<td>Working and learning within a collaborative and collegiate professional community</td>
<td>Argyropoulos and Nikolaraizi, 2009; Florian and Rouse, 2009; McIntyre, 2009; Ainscow, 2007; Black-Hawkins et al., 2007; Ainscow et al., 2006</td>
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<tr>
<td>Adoption of a research orientation (engagement with and in research)</td>
<td>Beauchamp et al., 2013; Mincu, 2013; Argyropoulos and Nikolaraizi, 2009; Florian and Rouse, 2009; McIntyre, 2009; Ainscow, 2007; Black-Hawkins et al., 2007; Ainscow et al., 2006</td>
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<tr>
<td>Networking ITE into CPD and fostering synchronous research informed clinical practice</td>
<td>McIntyre, 2009</td>
</tr>
<tr>
<td>Focussing on instructional techniques and outcomes for learners in an authentic context</td>
<td>Rodriguez, 2012; EADSNE, 2012; EADSNE, 2010; Gudjonsdottir et al., 2007; Kershner, 2007; Stoddard, 2006; Jobling et al., 2004</td>
</tr>
<tr>
<td>Carefully chosen and structured field experiences that scaffold development of mastery and self-efficacy</td>
<td>Darling-Hammond and Lieberman, 2012a; Chong, 2007; Lancaster and Bain, 2007; Molina, 2006; Sharma et al., 2006; Hopper and Stogre</td>
</tr>
<tr>
<td>Critical theoretical approaches; opportunities for reflexive work and deconstruction of dominant discourses (e.g. expertism*)</td>
<td>Forlin, 2010; Florian, 2009; Florian and Rouse, 2009; Pearson, 2009; Lambe and Bones, 2006; Stanovitch and Jordan, 2002</td>
</tr>
<tr>
<td>Adopting a practice into theory approach and resisting a theory into practice model</td>
<td>Commission of the European Communities, 2008; Darling-Hammond and Richardson, 2009; Korthagen et al., 2006</td>
</tr>
</tbody>
</table>

*See section 5

Findings

Evidence arising from the study supports the claim that the principles and practices presented in Table 1 do underpin effective inclusive teacher education. Participants involved in the study (preservice teachers, teachers and teaching assistants) reported gains in self-efficacy, skill and understanding. These reports were corroborated by wider data (for example in that illustrating inclusive outcomes for children). More distinctively, the study offered strong support for the model of inclusive teacher education proposed by McIntyre (2009). In addition, light was cast on three important phenomena, all of which need to be understood when designing effective inclusive teacher education. Firstly, the discourses of expertism were confirmed to have a significant impact on the self-efficacy of preservice and experienced teachers. Arguably, ‘expertism’ constructs Special Education as technical and specialist and relates the concept of ‘need’ to personal pathologies requiring prescription pedagogies outside the skills base of mainstream teachers. Frequent in the literature is the claim that such discourses strengthen divisive constructions of education. (Florian, 2010; Forlin, 2010; Rouse, 2010; Slee, 2010; Silverman, 2007). Arising from the study was evidence that when expertism was in abeyance, preservice teachers and experienced teachers were more likely to identify within themselves, the skills and knowledge needed for effective inclusive practice and hence to engage with it. The project provided regular opportunities for participants to deconstruct these discourses. This supports the view that a research-orientation with reflexive work can be a powerful means of scaffolding feelings of mastery and accomplishment through abating expertism.

Secondly, inclusive practice has a dilemmatic and contradictory character. For example, though the participants operated a strong anti-labelling position and a dislike of deficit discourses, they found this difficult to sustain (in any pure way) when the concept ‘SEND’ was at work. Where the concept ‘inclusion’ would trigger diversity discourses (which celebrate diversity and uniqueness), ‘SEND’ would trigger disparity discourses (where diversity is associated with pathologisation, differential treatment and different expectations). This presents challenges to teacher education given that ‘SEND’ is historically positioned as a disparity discourse. In England, disparity
discourse is also embedded in official policy for ITE which assumes that competence depends on knowledge of specific types of disability and distinct approaches applicable to groups or categories of learners with the wider label of SEND (Teaching Agency, 2012; Ofsted, 2009). There was evidence that participants were challenged by external cultures that were at odds with their principles and which required of them practices that they believed were not inclusive (such as the need to use ‘labels’ to gain resources and support for a child). They were continually engaged in mediating these external cultures to safeguard their professional integrity and defend positive outcomes for learners. For preservice teachers, taking a strong and principled stance (for example in deliberately adopting capacity discourses) seemed to be important as a means of navigating this unsettled and contradictory political landscape. Thirdly, teaching assistants can make an important contribution to the professional development of student teachers in terms of their wellbeing and in terms of their learning. They should not be overlooked in this sense nor marginalised from the research and enquiry community of a partnership.

Conclusion
This paper takes the position that inclusive teacher education must adopt a complex, multi-modal, collective, critical-theoretical, socially situated, research-oriented and partnership-oriented pedagogic model if it is to advance. It has provided an account of the principles and practices that underpin effective pedagogic frameworks. If reforms to ITE result in a culture of ‘on the job’ training that denotes research informed critical enquiry and reflexive work (as current policy seems to promote in England), practitioners may be neglected as they struggle to understand and resolve the dilemmas that arise in securing inclusive education for all. The result of this may be professional disengagement from the battle for a fairer system and a sustaining failure to serve the rights of those learners most vulnerable to exclusion.

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Part 7: International Education
Abstract
For over a century the United Sates has had economic and political interest in Central America. In order to protect these interests, U.S. officials have developed a series of policies; including educational programs aimed at transforming the minds and actions of individuals. The educational component of U.S. foreign policy is part of a comprehensive strategy aimed at achieving foreign policy objectives. The U.S. has created educational programs aimed at restraining the presence of fascism and communism in Latin America. Currently, U.S. programs in the region are designed to curtail to drug trafficking and immigration. This paper analyzes these educational programs, explaining their failures and providing possibilities for their redefinition. Furthermore, the U.S. government has recently proposed eliminating these programs. This paper argues how this decision will weaken the region and reduce the positive impact their redefinition may have on immigration and drug trafficking as China fills the void left by the United States.

Keywords: drug trafficking, immigration, foreign policy

Introduction
U.S. foreign policy in Central America has had, and continues to have, a significant influence in the economic, political, cultural, social and educational systems of the region. Mecham (1961,1965), Gelman, (1979), Paterson & Rabe (1992), Cardoso & Helwege (1995) assert that the United States government identified economic and political interests in Latin America in the early Nineteenth Century. U.S. direct influence in the region increases when its interests are threatened: fascism in the 1930's and 1940's, communism in the 1950's, and Soviet expansionism in 1960's, and in the first two decades of the 21st century, drug trafficking and illegal immigration. Education is part of U.S. foreign policy as a response to these crises. Despite good intentions, these educational interventions have not yield the results expected for the region.

This paper demonstrates how the U.S. Government defined education primarily as a mechanism to instill in students the values and attitudes required for economic development. If students learn these concepts, U.S. officials argue, they would be deterred from embracing communism or migrating the U.S., fulfilling, thus, U.S. policy goals in the region. This paper also examines the reasons for the failure of these Programs and argues for their redefinition and continuation.

This work analyzes two sets of documents: the first set examines the content of two series of Social Studies elementary school textbooks: One created by the U.S. Government, for all Central American schools, implemented in Central America between 1962 and 1979, as part of the U.S. response to the soviet expansionism in Cuba; the other set consists of the textbooks created by Honduran authors produced and used during the same period and later substituted by U.S. sponsored textbooks.
The second set of documents analyzes the content, objectives and the purpose of present-day interventions in Central America. This set includes documents regarding the Alliance for Prosperity, a program designed under President Obama aimed at dealing with Central Americans migrating to the U.S. and curtailing drug trafficking.

Foucault (1977) argues that developing a position of power requires the “correlative constitution of a field of knowledge” (p. 27). Furthermore, McGovern (1999) argues “that textbooks carry values, ideas, and assumptions, and embody certain ideas about reality and exert power by directing people’s attention toward particular elements of reality” (p. 4). The textbooks created by the U.S. introduced concepts, ideas, values and knowledge based on modernization theory as defined by Walt W. Rostow in his book: *Stages of Economic Growth. A Non-Communist Manifesto*. The textbooks systematically introduced these concepts, knowledge and new ways of thinking, redefining Central Americans life’s purpose as economic wealth that would be attained by working in factories, imitating American industrialization, and becoming a consuming society. Several themes emerge in the textbooks directly connected to the tenets of Modernization Theory: 1) Education as a mechanism to create a new type of individual, 2) The purpose of education and life as economic gain, and, 3) Redefining family, community and the role of political life.

On the other hand, textbooks created by Honduran authors present concepts and ideas associated with local cultural values and norms, focusing on familial relationships, respect, protection of the environment, and a critical view of work conditions. Honduran books present economic and political concepts to a much lesser extent and with a different goal when compared to textbooks created by the U.S. government. Specifically, Honduran textbooks focus on 1) family unity, 2) school as places to develop relationships, 3) patriotism, and 4) community building.

Present day interventions are primarily focused on economic development as a deterrent for immigration and drug trafficking. Analysis of these documents demonstrates that, as in the past, narrowly defining the purpose of education does not produce the expected results. Most problematic, however, is how U.S. foreign policy is moving to defund these programs. Although the impact of these programs has been inconsistent, their elimination would weaken the region and diminish the positive influence U.S. political soft power and education can have in the region’s progress. The void left by the U.S. would, in the long run, will be taken by China. According to Niu (2015) China’s relationship with Latin America and the Caribbean (LAC) experienced a process of impressive expansion in the first 15 years of the 21 Century. China has been the largest trade partner for some of LAC’s major economies such as Brazil, since 2009. Furthermore, Ghitis (2015) explains:

Beijing has made a move into the region with intensity and determination, a process that serves to highlight, among other things, Washington’s perennial tendency to become distracted from its own hemisphere. Beijing, on the other hand, could not be more attentive. China has become a source of massive alternative financing, particularly for countries that have defaulted on their loans to Western creditors and have been shut out of traditional credit markets.

**The Educational Response to Crises**

Educational interventions in the region began in the late Nineteenth Century. Espinoza (1976) argues that educational and cultural interests in the region began in the 19th century when, on May 10, 1888, the U.S. Congress authorized the President to invite Latin American delegates to attend a conference (p. 24). The conference began with a six week-tour of the country, which was
followed by a six-month meeting. The foundations for student and professor exchanges, the production of textbooks, and other educational structures were discussed at this meeting.

By 1936, the United States identified the crisis that threatened the region: Fascism. Gellman (1979) stated that the fear that the Nazi ideology would expand in Latin America promoted the creation of new mechanisms of education towards the region. In the early 1950's, a new threat to the region was defined: Communism. The educational response of U.S. foreign policy included, amongst other, the distribution of books and textbooks. The educational component of U.S. foreign policy also included the exchanges of students, professors, and specialists between the United States and Latin American republics, the signing of treaties, pacts, and the attending to international meetings, the creation of organizations and legislature that would facilitate the implementation of education policies in the region. These organizations included: the Division of Cultural Relations of the State Department, the Office of the Coordinator of Inter-American Affairs (OCIAA), The Fulbright Act, The Smith-Mundt Act, the United States Information Agency (USIA), the Alliance for Progress, and the International education Act of 1966. These institutions, programs, and laws were responsible for carrying out the educational solution to the problem facing Latin America.

By the 1960's The United States government had defined Soviet Expansionism as a threat to the region. This threat became more urgent as Fidel Castro took over the Cuban government in 1959. President Kennedy’s Alliance for Progress was created to comprehensively address Soviet expansionism in Latin America. The textbooks detailed in this paper were created under this Program. A 1961 report by the U.S. Advisory Commission on Educational Exchange details the guidelines for the region’s educational programs for the next decade:

...2) Programs in education, science, culture, information, and the educational component of technical assistance are basically interrelated aspects of foreign relations, and must therefore, be subject to integrated policy guidelines. 3) Many of US foreign policy objectives would be furthered through educational and cultural cooperation, and they could be achieved with the cooperation of the United Nations.

The idea of implementing educational programs to solve crises in the region continues to this day. The latest crises, however, comes in the form of unaccompanied children crossing the southern border and the drug trafficking coming from the region. Edwards (2016) states that from October 2015 through January 2016, U.S. border patrols apprehended 20,455 unaccompanied children from Central America in nine crossings in the U.S. southwest, a 102 percent increase over the same period a year earlier. Another 24,616 Central American migrants were apprehended in the same time period, representing a 171 percent increase. In November 2014, the White House announced the creation of the Alliance for Prosperity to address this crisis. On March 2 and 3, 2015 Vice-President Biden held a meeting with the presidents of Honduras, El Salvador and Guatemala in order “to discuss steps to stimulate economic growth, reduce inequality, promote educational opportunities, target criminal networks responsible for human trafficking, and help create governance and institutions that are transparent and accountable.”

On January 14, 2016 the White House released a statement detailing the Alliance for Prosperity: “The U.S. Strategy for Engagement in Central America is intended to address many of underlying conditions driving migration.” The release also states: For Fiscal Year 2016, the Administration plans to provide up to $750 million to implement its strategy in support of the Northern Triangle’s Alliance for Prosperity Plan, and other regional priorities. This funding will be available only if the region commits to: Inform its citizens of the dangers of the journey to the southwest border of
the United States, combat human smuggling and trafficking, improve border security, and facilitate
the safe return, repatriation, and reintegration of undocumented migrants. The educational
response to this crisis comes in the form of educational programs aimed at increasing opportunities
for young men and women. After two years of implementation, young people are still fleeing
Central America. Policies to address drug trafficking consist mainly of military and strategic aid.

**The Documents**

Modernization theorists believed that in order to transform a traditional society into a more
developed one, "man" himself had to be transformed. They argued that creating a "modern man"
was a necessary condition for the economic transformation of a traditional society; man was not
born modem. Inkeles and Smith (1974) listed a series of elements that make "men modern;" one
of them was "Work Commitment" (p. 289). They believed that in some third world countries it
was difficult to develop a stable industrial labor force: “men often come to work in industry only
when pressed by economic circumstances, and as soon as they had accumulated some cash return
to their villages or to other traditional pursuits.” The first step was to transform “men” was
redefining labor. The U.S. sponsored Social Studies textbooks and Honduran textbooks present
striking differences around concepts of labor and work. For instance, the objective of first grade
the U.S. sponsored teacher's manual, stated:

To get the children to learn and value human labor as one element of production and progress,
as a dignifying factor in life, and as a source of social benefits when it is well distributed and
well done. To strive for the children to understand that in the same way that we benefit from
general labor and common wealth, we are, at the same time, obligated to be contributing,
active members.

Honduran writers presented divergent concepts about work and labor. The fourth grade textbook
stated: “Another unfavorable factor for the people of our country is the low salary that company
owners pay workers for eight hours of work and sometimes even more. The workers have to take
a salary that is insufficient to live.” Honduran textbooks explain the challenges faced by workers,
the causes of poverty and the need for authorities to solve these problems. The concept of work
was not presented as part of a formula for economic prosperity, but as a basic need of people. Most
importantly, Honduran textbooks did not present people’s work habits as needing to be changed.

Modernization theorists also believed the new "man" had to have a different understanding of
family. Inkeles and Smith (1974) define family in economic terms:

> “Socially, men must transform the old culture in ways which make it compatible with modem activities
> and institutions. The face-to-face relations and warm powerful family ties of a traditional society must
give way to more impersonal systems of evaluation in which men are judged by the way they perform
specialized functions in society” (p. 26).

U.S. sponsored textbooks emphasized this concept. For instance, the second grade teacher's
manual's objectives was to “develop in children an understanding of the family, its relationships,
each member's jobs, and the role that each plays within the family.” The second grade textbook
also emphasized this concept in the unit "Vacation at the Beach," the textbook explained that
Emilio's father was not able to go on vacation with the rest of the family because he had to work.
This last statement points to the introduction of this new concept: work over family, contradicting
Honduran values and culture.
According to modernization theorists, community was central to political and economic development. In their proposal for an effective foreign policy, Millikan and Rostow (1957) affirmed that: Perhaps the most critical requirement for the growth of political maturity is that people develop confidence, both as a nation and as individuals, in small communities, that they can make progress with their problems through their own efforts (p. 31). In stark contrast, Honduran textbooks defined community in non-economic terms. The third grade textbook defines community as a "group of people, more or less numerous, that live closely related." The same textbook defined family as the center of communities and the importance of a national identity: “As a result of the ties that bring members of a nation together, there exist amongst them a feeling of unity and brotherhood called national consciousness or nationalist feeling.”

Additionally, Inkeles and Smith (1974) argued that knowledge of politics is an indispensable condition for the modernization (p. 29). However, U.S. sponsored textbooks focused on equating democracy to capitalism and depicting the Soviet Union in vastly negative terms. The fifth grade textbook explained Russia’s government: “This regime is known for restrictions on the freedom of the individual, such as freedom of expression, work, voting, thought, amongst others.” The textbook focuses on the virtues American democracy and its history. However, at the time these books were being used, Honduras lived under a military dictatorship.

Announced in November 2014, the Alliance for Prosperity Plan (APP) is a five-year joint regional plan created and implemented by the United States in Guatemala, Honduras and El Salvador. This program encompasses an educational component which goal is linked to curtailing immigration and drug trafficking by eliminating its causes: economic reasons. According to Massey et al (2016) “the APP seeks to control migration by regulating or influencing labor markets. Garcia (2016) In an article from the Council on Hemispheric Affairs (COHA), stated: “if the Alliance for Prosperity Plan is implemented as structured, it could end up harming, rather than aiding, Central Americans in the long-term.” Another COHA report (2016) stated, “The APP is just a continuation of the several failed strategies towards security already seen throughout Central America.” These actions reveal a poor understanding of, and response to, the complex underlying social phenomena that result in the emigration flows from Central America

Conclusions
Education is an integral part of the well-being of a nation and a key component for development and progress. However, after a century of U.S. educational, political economic, and military policies in Central America, the region continues to lag behind in democratic, economic, social and educational advancement. The promises of U.S. foreign policy goals were not fulfilled. Several countries in the region have turned to “XXI Century Socialism” that limits individual freedoms; other nations are under a de facto dictatorship, poverty is rampant, and thousands of Central Americans continue to journey north into the United States.

The central tenet of Modernization theory is that nations can develop by following a set of economic and political stages. U.S. sponsored textbooks, regardless of topic; would link every concept back to these stages: The Traditional Society, the Pre-condition’s for Take Off, the Take Off, the Drive to Maturity, and the Age of High-Mass Consumption. Education is defined as a way to transform the student, who by simply learning how to work, invest, and produce, will change society, and serve to promote U.S. goals. This premise of not taking into consideration the local understanding and knowledge is the main flaw of educational programs. This notion of creating
educational interventions with limited purposes and closely linked to foreign policy goals has been a trademark of U.S. foreign policy in the region.

The foundations and goals of these educational programs were designed with a narrow definition of the purpose of instruction: work, reject communism or, do not migrate to the U.S. Dewey (1966); Freire (1971); Macedo (2000); Duckworth (1999, 2006) argue that students construct knowledge from their own cultural perspective, and education must revolve supporting the student to understand and act upon this reality. Therefore, a better way to educate is to create experiences where students explore, make sense of the world, analyze reality through the study of the sciences, with the goal of providing the skills to improve life conditions.

Furthermore, the theoretical and cultural foundations and content of these textbooks were imported and unfamiliar to students and teachers, making it impossible to bridge their understanding of the world, with the new ideas and concepts presented by U.S. textbooks. Also, these textbooks assume that local cultural norms prevent society from developing economically. In short, students and the country are defined as deficient and requiring becoming another version of themselves, rather than using their understandings as an asset to develop critical thinking skills aimed at solving local problems.

The purpose and value of educating Honduran people changed authorship and ownership, contributing to the U.S. program’s inability to incite the progress it promised, as the textbooks did not address comprehensively Honduran cultural and socio-economic reality such as the idea of educating and defining humans solely in economic terms. Furthermore, these textbooks intended to substitute cultural understanding of family, community, and politics, undervaluing students’ reality. A more productive model would engage students in analyzing their own families, and engaging in studies of poverty, human rights, immigration, and drug trafficking. These topic are missing from the curricula.

Current educational and economic programs face similar challenges. Despite the Alliance for Prosperity focus on economic improvement, conditions in Central America have worsened. The reasons for this decline are not discussed in textbooks, making it impossible for students to outline problems and find solutions. A more efficient model should empower, politically and financially, the lowest strata of society, leveraging national government’s commitment to these goals.

The region desperately needs to improve outcomes in education, equality, economics, and democracy. The U.S. plays a significant role in this task. U.S. as aid to Honduras is conditioned provided that local governments commit to improving human right’s violations. However, China’s policy will not pursue such policies. A 2016 report from the Council on Hemispheric Affairs states: “From the Chinese perspective, the government has viewed the China-Latin America relationship as one based on economic benefits rather than an attempt to project political influence.” This focus on economics will damage the fragile democratic processes and deteriorate living conditions for the people, pushing them to migrate to the U.S. Honduras currently lives under a de facto dictatorship and high level local official have been connected to drug trafficking. Hence, economic and educational support to the region must be conditioned provided local governments increase democratic practices that follow the rule of law, criminals connected to the government are prosecuted, and crimes are investigated.
U.S. influence and soft political power in the region, paired with meaningful education, could leverage dramatic change in governance, human rights, poverty, and immigration. Educational and economic programs should aim to directly tackle the complexity of the issues by developing curricula that allow students to develop analytical and higher order thinking skills. Moreover, curricula must engage students in critically analyzing national and international democratic process and practices, actively participating in a democracy beyond voting, but also in organizing and working with authorities to propose and support initiatives aimed at the common good.

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Postsecondary Education Global Rankings

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Abstract
This paper contributes to the emerging debate of controversial and contentious ranking of the world postsecondary institutions. According to Walshe (2007), university rankings on a global scale became common in the 1990’s. There are currently over forty national rankings that exist around the world (Gordan, 2009). Rankers of postsecondary institutions include newspapers or magazines, accreditation organizations, government agencies, and higher education ministries (Wildavsky, 2010). Although ranking systems are source of contention among stakeholders (Wildavsky), both positive and negative attributes of ranking systems are identified. Hazelkorn (2007) asserts ranking systems serve a useful role as a consumer information tool and highlight key aspects of academic achievement. Detractors indicate that ranking systems focus heavily on research and reputation related measures and not enough on student learning outcomes (Wildavsky). Since 2003 Shanghai Jiao Tong University’s Institute of Higher Education has annually published the *Academic Ranking of World Universities* (Academic Ranking of World Universities, 2017). Some consider this global ranking system as the most influential (Wildavsky, 2007). This paper will focus on the history of global rankings, identify pros and cons of global ranking systems, identify a ranking system that is perceived to be the most influential, and examine the methodology used to determine global rankings. Methodology for the selection of universities, ranking criteria and weight, indicators, and data sources used in the *Academic Ranking of World Universities* will be explained.

Keywords: international education, higher education, global initiatives, global rankings

Introduction
Ranking of postsecondary institutions is often considered controversial and contentious. Wildavsky (2010) was the editor of the *U.S. News & World Report* college guide in the mid-2000’s, and reports that numerous complaints were often received in regard to the published ranking of postsecondary institutions in the United States.

Many complained about one or more of the methodologies used to determine rankings, while others simply believed that journalists and other outsiders should not be ranking postsecondary institutions at all (Wildavsky). Hongcai (2009) asserts that despite debate in regard to the scientific merit of academic ranking of world universities, the ranking systems provide an avenue for consumers to learn more about specific universities, compare institutions, and provide an opportunity for universities to identify peer institutions. University ranking systems are a tool used in meeting the needs of current and prospective students and parents in selecting a postsecondary educational institution. Consumers want to know about available choices and look for the most ideal educational environment. University students, professors, and administrators are interested in knowing the performance of their universities to gain a better understanding in regard to how they could improve (Hongcai 2009).
Regardless of the often contentious dialogue pertaining to ranking systems, it is clear that many individuals, organizations, and government agencies do reference the rankings, and that decision making may be influenced by the ranking systems in a number of ways. This paper is organized into four additional sections following this introduction. The second section provides a brief background about the history of university rankings on global scale. The third section includes a comparison between the Academic Ranking of World Universities (ARWU) and the Times Higher Education World University Rankings (THEWUR) since they are often perceived as the most influential in the world (Wildavsky). The fourth section focuses on the methodology used to determine global rankings and includes perceived pros and cons of the global ranking systems. Finally, section five summarizes the self-criticism, and limitations of the ranking systems.

History of Higher Education Rankings
Ranking of postsecondary education institutions has existed in some form for several decades. In the United States, James Cattell published American Men of Science to showcase the most distinguished men and the institutions they attended dating back to 1910 (Myers, & Robe 2009). In 1983, the U.S News and World Report began publishing rankings of postsecondary institutions in the United States. The rankings began as a single journalistic project, but due to the significant interest the publication of rankings received, the publisher continued annual rankings of postsecondary institutions in the United States. The initial focus was simply on which universities had the most accomplished graduates. The key points were the theory of educational quality and the performance of graduates in graduate school (Wildavsky, 2010).

According to Wildavsky (2010) by the early 1960’s, the primary criterion used for rankings was an institution’s reputation among its peers rather than the accomplishments of its graduates. Allan Cartter published his critically acclaimed reputation-based college rankings known as Assessment of Quality in Graduate Education (Wildavsky, 2010). By the late twentieth century, as the number of students attending college increased, the interest in how to make a sound college choice also increased. In addition, an increasingly competitive admissions’ climate led to more interest in university ranking systems (Hongcai, 2009). Prior to the late twentieth century, consumers could only rely on perceived reputation, recruitment brochures, and limited information about the programs offered at postsecondary institutions. Postsecondary institutions began to enhance their recruitment campaigns by adding more colorful pictures to their school profiles, but such tactics did not necessarily serve as a reliable indicator to students and parents in regard to the overall quality of an institution (Wildavsky, 2010). A far more credible effort was launched by the New York Times in 1981 through the publication of The New York Times Selective Guide to Colleges, later referred to as The Selective Guide to Colleges. Edward Fiske compiled the guide with the help of student reporters at campuses across the nation. In 1983, another journalistic project was focused on identifying the best colleges in the United States, which was exclusively based on reputation. The first comprehensive U.S. News & World Report Guidebook was published in 1987. The guidebook was prepared after consultation with external experts and led to dividing the ranking publication into two components. The first component was a reputational survey that included college presidents, provosts, and dean of admissions in an attempt to bring a broader base of expertise to the task. The second component was the quantitative assessment of institutions’ operational data including factors such as average SAT or ACT scores, student’s retention data, research budget, average faculty salaries, and percentage of faculty with terminal degrees (Wildavsky, 2010).

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Following the initial publication of ranking systems in the United States, other countries developed ranking systems due to the popularity of the published rankings in the United States. According to Walshe (2007), university rankings on a global scale became common in the 1990’s. In Europe they were referred to as “league tables,” a term commonly used for sports rankings. There are currently over forty national rankings that exist around the world (Gordan, 2009). Rankers of postsecondary institutions include newspapers and magazines, accreditation organizations, government agencies, and higher education ministries (Wildavsky, 2010). There were several factors included in these global rankings which were used by the *U.S. News & World Report* in their ranking system. For example, institutions were ranked from highest to lowest based on a combination of quantitative and qualitative measures including data about their research and teaching outcomes, and surveys pertaining to students, peers, and outside analysts (Wildavsky, 2010).

Increased interest in enriching the reputation of higher education in Asia helped ignite the growing popularity of university rankings there. In 1997, *Asiaweek* magazine issued the first ranking of universities specific to Asian nations. In 2002, the Swiss Center for Science and Technology Studies published a global postsecondary institution ranking system known as the *Champions League*. This publication was based solely on research journal publications by faculty members at institutions (Wildavsky, 2010).

The first international university ranking of postsecondary institutions was published by the Center for World-Class Universities (CWCU) at Shanghai Jiao Tong University in 2003. Some view this ranking system as the most influential international ranking in the world (Jons & Hoyler, 2013). Shanghai Jiao Tong University administrators were concerned about the university’s decline from its previous high ranking in various publications compared to other institutions, particularly in the area of research. Therefore, the first director of strategic planning at the Shanghai Jiao Tong University compiled a report comparing his university’s performance in China to top postsecondary institutions around the world (Wildavsky, 2010). Various sources cite the *Academic Ranking of World Universities* as the most widely used annual ranking of the world’s research universities (About Academic World Rankings, 2017). Liu (2007) indicates that when the *Academic Ranking of World Universities* was first published on-line in 2003 that the site attracted four million visitors with an average of 2,000 visitors per day.

In 2004, a second global effort was launched by a British publication known as the *Times Higher Education Supplement* (Wildavsky, 2010). The London-based weekly magazine compiled an international ranking that has since been published annually. *Times Higher Education World University Rankings* (THEWUR) quickly began vying with their Chinese rival for influence on the world education scene. Views from students, universities, and policy makers are mixed in regard to the superiority of the two ranking systems. However, it is broadly accepted that the THEWUR far surpassed the Shanghai ranking (ARWU) in terms of generating controversy. A primary reason for this is that peer survey weighting was established at twenty-five percent (25%) which many consider a disproportionate influence on the magazine’s college rankings (Wildavsky, 2010).

In 2004, a new effort was made to zero in on specialized aspects of the higher education enterprise which are ignored by conventional rankings. The *Webometrics Ranking of World Universities* was launched in Spain to measure universities’ Web-based activities, particularly the volume, visibility, and the impact of the web pages published by universities (Wildavsky, 2010). Developed
by Spain’s largest public research body, these rankings focused on web-based publication of scientific output, including refereed papers, conference contributions, theses, and reports, as well as courseware, digital libraries, databases, personal Web pages and more. Webometrics updates its rankings every six months. The goal of this ranking system is to promote electronic publication by the world universities and to adopt new technologies. It does not offer any solid criteria for students to use this ranking system to choose their future university (Wildavsky, 2010).

**Overview of Academic Ranking of World Universities (ARWU) and the Times Higher Education World University Rankings (THEWUR)**

The Academic Ranking of World Universities (ARWU) is considered to be the most influential ranking system in the world due to consistency, transparency, and use (Wildavsky, 2010). The director of strategic planning of Shanghai Jiao Tong University and his research team pride themselves on having developed a transparent methodology and having results readily available on their website (Wildavsky, 2010). The Academic Ranking of World Universities (ARWU) is widely viewed as being consistent and transparent. Its methodology is clearly stated on their website and has been applied consistently from year to year. This ranking system relies on publically accessible indicators of success in order to avoid costly and time consuming survey research and to maintain transparency. The rationale behind the ARWU is to determine how universities have had an impact on the economic development, research performance, and overall assessment of educational quality at postsecondary institutions around the world. Thus, the research performance of these universities can be standardized to make it comparable globally and provides a good indication of the relative standing of different institutions (Wildavsky, 2010).

Although the initial purpose was to find the global standing of Chinese universities, ARWU has gained significant attention from students, universities, government agencies, and public media from all over the world (ARWU Website, 2017). ARWU has annually ranked more than 1200 universities and the top 500 ranking institutions are published. One of the factors for the significant influence of ARWU is the methodology which is deemed scientifically sound, stable, and transparent. The ARWU is widely cited, considered a good source for identifying national strengths and weaknesses, and has become a source for facilitating reform and setting new initiatives (ARWU Website, 2017). Many institutions around the globe use the ARWU to analyze the comparative advantages of institutions in terms of intellectual talent and creativity. The ARWU research team continuously attempts to improve their methodology in response to those critical of the publication (Wildavsky, 2010). The team illustrates through action an open mind in considering suggestions to continuously improve their methodology.

The Times Higher Education World University Rankings (THEWUR) emphasizes its aspiration to create a more holistic assessment of universities as compared to the ARWU. Some critics view the THEWUR methodology to be problematic on a variety of grounds (Wildavsky, 2010). Critics cite the highly volatile index of the THEWUR as compared to the relatively stable ARWU counterpart. The sudden change in data collected and methodology utilized within the THEWUR is illustrated by what occurred in 2007 when Stanford University dropped in rankings from number 6 to number 19, the National University of Mexico plunged from 74 to 192, and the National University of Singapore declined from 19 to 33 (Wildavsky, 2010). The changes in methodology were a result of reacting to criticism from detractors. The changes made in terms of data collection and methodology by THEWUR prevented reviewers from assessing their own universities, changed its citation database and began using statistical normalization to control for outlier scores. In addition, some reporting errors have been cited in the THEWUR.
In 2016-2017, 980 universities worldwide were included in the THEWUR list (THEWUR Website 2017). However, the primary focus is on the 200 top-ranked universities. Universities around the globe reference THEWUR data as a benchmarking tool to assist them in assessing their strategic goals. (THEWUR Website 2017).

**Methods**

*Global University Rankings*

The ranking of universities worldwide has evolved into an annual affair that consumers and others eagerly anticipate. Those interested in rankings include university presidents, vice-chancellors, administrators, students, and parents from all over the globe (Soh, 2015). These interested parties desire to know how postsecondary institutions compare with one another on annual basis. Furthermore, worldwide ranking systems assist interested parties in determining the perceived contributing factors in what makes great universities.

According to ARWU Website (2017), ARWU utilizes four (4) criteria and six (6) indicators of academic or research performance. The six (6) indicators of academic success include:

1. Alumni winning Nobel Prizes and Field Medals.
2. Staff winning Nobel Prizes and Field Medals.
3. Highly cited researchers in 21 subject categories.
5. Papers indexed in major citation indices.
6. Per capita performance of an institution.

The sixth indicator, per capita performance of an institution, is derived from the first five indicators. A score of 100 is assigned to an institution based on these indicators; other institutions are ranked as a percentage of the top score. The weighted score is used for each indicator to reach an overall score for an institution. ARWU’s methodology indicates that one-hundred (100%) percent weight is attributed to academic indicators. None of the criteria or indicators are devoted to managerial indicators (ARWU Website). Table 1 illustrates the criteria, indicators, and assigned weights used in the ARWU.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicators</th>
<th>Code</th>
<th>Academic Weight</th>
<th>Managerial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Education</td>
<td>Alumni winning Nobel Prizes and Field Medals</td>
<td>Alumni</td>
<td>10%</td>
<td>≠</td>
</tr>
<tr>
<td></td>
<td>Staff winning Nobel Prizes and Field Medals</td>
<td>Award</td>
<td>20%</td>
<td>≠</td>
</tr>
<tr>
<td>Quality of Faculty</td>
<td>Highly cited researchers in 21 subject categories</td>
<td>HiCi</td>
<td>20%</td>
<td>≠</td>
</tr>
<tr>
<td></td>
<td>Papers published in Nature and Science</td>
<td>N&amp;S</td>
<td>20%</td>
<td>≠</td>
</tr>
<tr>
<td>Research Output</td>
<td>Science Citation index and Social Science Citation Index</td>
<td>PUB</td>
<td>20%</td>
<td>≠</td>
</tr>
<tr>
<td>Per Capita Performance</td>
<td>Per capita performance of all the above indicators</td>
<td>PCP</td>
<td>10%</td>
<td>≠</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

*Source: The Academic Ranking of World Universities (ARWU) Website (2017)*
Managerial criteria and global peer review are the primary indicators that distinguish the *THEWUR* from other rankers. An online survey known as the Academic Reputation Survey (ARS) is distributed to academics around the globe (Marquez, Torres, & Bondar, 2011). The ARS is administered once a year with the most recent administration being January to March 2016. This survey attracted 10,323 responses during this short period of time. The 2016 survey data are combined with the responses collected from 2015 surveys; resulting in over 20,000 responses for this indicator. The survey attempts to evaluate the prestige of institution in regard to teaching (*THEWUR* Website).

*THEWUR* performance criteria are grouped into the following five major categories:

1. Teaching (the learning environment, the core business of any academic institution).
2. Research (volume, income, and reputation).
3. Citations (research influence).
4. International outlook (staff, students, and research).
5. Industry income (knowledge transfer).

Table 2 illustrates the criteria, indicators and assigned weights used in the *THEWUR*.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicator</th>
<th>Academic Weight</th>
<th>Managerial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching (learning environment)</td>
<td>Reputation survey – 15%</td>
<td>30%</td>
<td>≠</td>
</tr>
<tr>
<td></td>
<td>Staff-student ratio – 4.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Doctorate-bachelor’s ratio – 2.25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Doctorates awarded to academic staff ratio- 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Institutional income -2.25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>Reputation survey- 18%</td>
<td>30%</td>
<td>≠</td>
</tr>
<tr>
<td></td>
<td>Research income- 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research productivity- 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citations</td>
<td>Research influence</td>
<td>30%</td>
<td>≠</td>
</tr>
<tr>
<td>International outlook</td>
<td>International to domestic ratio-2.5%</td>
<td>≠</td>
<td>7.5%</td>
</tr>
<tr>
<td></td>
<td>International to domestic staff ratio-2.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>International collaboration-2.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry income</td>
<td>Knowledge transfer</td>
<td>≠</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>90</td>
<td>10</td>
</tr>
</tbody>
</table>


Three of the five *THEWUR* criteria (teaching, research and citations) are considered academic in nature and are assigned a total weight of 90 percent. The remaining two criteria (internationalization and community relations) are considered non-academic, or managerial criteria, which are assigned a total weight of 10 percent (*THEWUR* Website).

**Pros and Cons of Global Ranking System**

In the era of globalization, rankings are a powerful force in higher education. Accountability and benchmarking have achieved iconic status (Altbach, 2012). Every year, people across the global eagerly await new rankings. Release of published rankings creates a great media buzz since institutions often fluctuate in their ranking and consumers desire to learn where various institutions rank. Across the globe, students and their parents use rankings to decide what different postsecondary institutions have to offer in terms of value, education, prestige, and prices of their degrees (Altbach, 2012). There are millions of students’ enrolled outside their home countries who...
seek the best universities. Many postsecondary institutions across the globe utilize rankings to benchmark their performance against other institutions and to assess their perceived successful or weak performance. Despite attention and utilization of ranking systems around the world, they are not immune from criticism and methodological issues. Individuals and policy makers who rely on such ranking systems would be wise to keep both pros and cons of the ranking systems they reference in mind since important decisions are often made as a result of published rankings (Altbach, 2012).

**Advantages of Ranking Systems**
A comprehensive review of the literature indicates perceived advantages of global ranking systems as summarized below:

- University rankings are often referenced by students, parents, government agencies, the media, and postsecondary institutions. The rankings provide direct information about postsecondary institutions and garner attention from stakeholders. Perspective students can easily use rankings as a reference point for determining prestige and can choose the most ideal educational environment for them (Hongcai, 2009).
- Rankings are viewed as the equivalent of the Good Housekeeping Seal of Approval, and students are easily able to gain insight as to which institutions may offer more value for their money. Rankings also inform government agencies in regard to the effectiveness of their policies and whether or not their monetary contributions in support of postsecondary education is being utilized effectively and as intended (Wildavsky, 2010).
- Rankings provide a measure to a nation that wants to gauge their progress in both quantity and quality of its institutions (Wildavsky, 2010). Government agencies and higher education systems use these comparisons to check their system’s performance against other states or countries. Many policy makers determine their policies and allocate resources based on the rankings (Altbach, 2012).
- Rankings can act as a great leveler which allows individual institutions or programs to compare success or failure against competitors (Wildavsky, 2010).
- Rankings are an easily accessible way to measure performance of one institution against another. Use of ranking systems as a benchmark to analyze success or weakness is common among universities within a specific country. Global rankings have enabled postsecondary institutions to make comparisons worldwide (Altbach, 2012).

**Disadvantages of the Ranking System**
A comprehensive review of the literature indicates the perceived disadvantages of global ranking systems as summarized below:

- Teaching is the main function of most postsecondary institutions and is largely ignored by all of the rankings due to the lack of comparable measures of quality within and across countries. Even though THEWUR has assigned indicators to measure the quality of teaching, they do not provide effective tools to measure the impact on learning. Hence, these measures are not prominent enough to be relevant for the global rankings (Altbach, 2012).
- Some illegal practices such as cold hard cash have been paid to incentivize administrators to influence an institution’s standing. For example, in Australia several vice chancellors received salary bonuses to predicate on their success in order to boost their institution higher in the rankings (Wildavsky, 2010).
- Some American universities have been listed as a system rather than a single institution which has unfairly moved them up in the rankings (Altbach, 2012).
• Some ranking systems are known to change their methodology which may result in substantial up or down swings in ranking. The change in criteria makes it harder to engage in a reliable comparison or accurately measure performance over time with other institutions (Altbach, 2012).

• All of the rankings privilege research in some capacity and illustrate bias toward hard sciences which typically produce the most articles, citations, and research funding. The ARWU is considered to be the most precise in measuring different variables, but the humanities disciplines are still largely ignored. Postsecondary institutions with strong focus on hard sciences rank higher than other institutions that may be just as strong if not stronger in other disciplines (Altbach, 2012).

• Rankings illustrate an apparent bias toward English-speaking countries and give major western European nations significant advantages. Many of these countries allocate significant resources to attract top scholars and students from all over the world. In addition, most journals and databases are in English, thus postsecondary institutions that have English as a first language have an advantage (Altbach, 2012).

Self-Criticism and Limitations of the Ranking Systems
From Beijing to Boston, university chancellors, presidents, government agencies, parents, and students analyze one or more of the ranking systems to make decisions (Altbach, 2012). These users are fully aware of the strengths and limitations of each ranking system. However, many users take at face value the ranking of specific institutions which may be a mistake. Ranking systems have their limitations and they measure only a small aspect of higher education value. Parents and students should make decisions based on best fit between their own interests and the institution, not just the perceived prestige of an institution (Altbach, 2012).

Global university rankings have been in existence for about three decades and have been under constant criticism. There is a lack of empirical evidence that ranking providers have taken serious steps to address much of the criticism (Soh, 2015). Researchers have engaged in studies to compare ranking systems and have overwhelmingly found them static and self-perpetuating. Rankers need to address methodological and statistical concerns to rectify their flaws. In addition, rankers need to consider various criticisms to render a better service to their clientele by regularly reviewing and modifying their operations to improve and refine their rankings of the world universities (Soh, 2015).

Conclusions
In conclusion, it is clear that postsecondary global rankings are referenced by many stakeholders for various purposes. Postsecondary ranking systems do provide a relatively simple means for stakeholders to compare postsecondary institutions, but stakeholders need to thoughtfully consider methodology, criteria, and indicators used to evaluate success so that an accurate understanding of what a given ranking actually represents is understood. Overall, various research related criteria and measures heavily influence the ranking of postsecondary institutions. Postsecondary institutions that do not value research as a primary part of their mission will not fare well in most global rankings. Stakeholders need to keep in mind that value takes many forms and that value is not necessarily exclusive to published postsecondary global rankings.

References


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Part 8: Pre K-12
Abstract
This qualitative study explored the ways in which lesbian and gay educators, in the Midwest part of the country, negotiate their sexual identities in their school settings. Ten gay and lesbian public and Catholic school educators from rural, suburban, and urban schools were interviewed. The purpose of this study was to determine how gay and lesbian teachers negotiate their identities and how those negotiated identities affect their relationships in their school communities. Four gay and lesbian teachers and two gay administrators from public schools were interviewed about their experiences in their school settings. Additionally, a focus group of five Catholic school educators, from two different schools, was conducted. Each of these educators negotiated their sexual identities differently within their school communities; however, descriptors such as age, experience level, and school setting did not affect their identity negotiation. Most of these educators were unable to negotiate their sexual identity with their teacher identity due to fear of intimidation and discrimination, or being fired. The only exceptions being when they cautiously negotiated their sexual identities with a few of their colleagues. This raises questions about school policy and school culture for the inclusion of gay and lesbian individuals in schools.

Keywords: gay and lesbian educators, school policy, inclusive school culture, relationships within school communities

Introduction
Over the past 10 years, lesbian, gay, bisexual and transgender (LGBT) issues have been openly discussed during election campaigns; the Don’t Ask, Don’t Tell policy has been eliminated, same-sex marriages have been legalized, and many television programs now feature at least one gay man or lesbian character. Additionally, the federal government, as well as many public and private companies, have policies that prevent discriminating against LGBT individuals. Nevertheless, discrimination against homosexuals may be the last form of bigotry that is considered acceptable. “Current federal, state, and local laws, and voluntary corporate policies, are insufficient to address the pervasive discrimination against gay and lesbian individuals” (Pizer, Sears, Mallory, & Hunter, 2012, p. 715). While discrimination against other marginalized groups in school settings is now illegal, discrimination against sexual minorities is a common practice (Bishop, et al., 2010).

Homophobia in Public Schools
Despite the vast changes to our social landscape over the past few decades, the K-12 educational institutions still remain patriarchal, heteronormative systems. There are exceptions for many differences including gender, race, ethnicity, and religion in school policy, yet the lesbians and gay men are not part of that protected class. Wright (2010) argues that despite progress, “schools continue to struggle with how to improve experiences for LGBT students. Yet school leaders struggle even more with acknowledging and improving the experiences of LGBT educators” (p. 50). Sexual orientation discrimination is still permitted in many school districts across the United States. As some researchers have noted, “teachers who are of the sexual minority (gay, lesbian,
or bisexual) must remain closeted or risk losing their jobs” (Bishop, Caraway, & Stader, 2010, p. 84).

**Homophobia in Parochial Schools**

While public school educators are submerged into an institutionalized heteronormative setting, Catholic school gay and lesbian teachers experience deepened levels of discrimination from the religious ideology in their homophobic school settings. Most lesbian, gay, and bisexual teachers chose to work at Catholic schools because of their religious beliefs, but they also saw conflicts between their religion and their lifestyles (Maher & Server, 2007). These teachers experienced oppression and feared coming out to students, despite the belief that it might benefit their teaching. They also held the belief that they would not be supported by their administrators (Maher, 2003). Unfortunately, many religions not only decry the gay lifestyle, but have specific policies and practices which condemn homosexuality.

**Literature Review**

**Identity Negotiation**

Teaching is negativity associated both with “public debates about the recognitions of LGB lifestyles with school curriculums and the perceived reactions of parents and other to their children having a lesbian, gay, or bisexual teacher” (Beyond tolerance, 2009, p. 20). In their report, the Equity and Human Rights Commission found that only 51% of lesbians, 52% of gay men felt comfortable about being open about their sexual orientation, without fear of discrimination, in their educational environments (Beyond tolerance, 2009).

Jackson (2006) conducted a study to identify the contextual factors that promote or prohibit the construction of identities as gay teachers. She interviewed nine K-12 gay and lesbian teachers four times each and conducted a focus group. She found that contextual factors contribute to and inhibit the amalgamation of gay and lesbian identities with teacher identities, and what she refers to as “gay teacher identity development process” (Jackson, 2006, p.27). Many factors interacted with each other to influence classroom practice. “Coming out served to bring two major aspects of participants’ identities together, being gay and being a teacher, aspects they previously viewed as irreconcilable” (Jackson, 2006, p. 31). acceptance of homosexuals. “All of these factors interact to impel or impede growth as gay or lesbian teachers” (Jackson, 2006, p. 40).

Unless males, regardless of the heterosexuality or homosexuality status, “can pass as masculinist leaders, the gendered expression, they may have difficulty in being hired” (Lugg, 2003, p. 118). In 2009, DeLeon and Brunner studied the experiences of LGBT school administrators. They found that “when participants had early fears of being outside the accepted norm and fear for their personal safety on a daily basis, several LGBT administrators spoke of turning to assimilation and silence” (p. 164). They learned to negotiate their identities through silence in the environment of heteronormativity and privilege (DeLeon & Brunner, 2009).

In 2001, Maher found that words like “denial” and “repression” were used when interviewing gay and lesbian students and staff in Catholic high schools (p. 108). Mr. Alberts, a gay male counselor in a Catholic high school, agreed with the use of words like denial and repression to describe his experience (Maher, 2001). According to Mr. Alberts, “It’s like taking a part of your being and closing it off in scar tissue and setting it aside. You can never feel whole. You feel like there’s a hole in your feelings, thoughts, and being, your spirituality is never addressed” (Maher, 2001, p. 108).
Nearly all of the educators Maher (2001) interviewed agreed that homosexuality was rarely or never presented in the curricula at their schools, making gay men and lesbians invisible in society.

“Father Coleman would demand that a teacher in a Catholic school keep secret the fact that he or she is homosexual” (Gumbleton, 2001, p. 19). These educators are encouraged to accept and love themselves for who they are, and be confident that God loves them (Gumbleton, 2001). However, forbidding gay and lesbian educators from teaching authentically, unreservedly insinuates that there is something wrong with them (Gumbleton, 2001).

**Relationship Formation and Maintenance**

In 2008 Mayo analyzed two set of complex relationships in school. One relationship was between gay teachers and their students, while the other was the relationship between those same gay teachers and their colleagues. He found that the “gay teachers in this study addressed gay students’ needs and demonstrated support in a variety of ways, despite working in school settings that often held a hostile perception of the GLBT community” (Mayo, 2008, p. 1).

Davis (2005) a seventh and eighth grade language arts and social studies teacher in California stated that he was prepared to respond to questions about his sexual orientation. He had not thought about how he would respond when one of his students asked about his marriage status. He thought about what he had been told to say as a standard response: “That’s a personal question and personal questions are inappropriate” (p. 25), fearing what repercussions might occur.

In Mayo’s (2007) study of seven gay men who taught in public and private schools. Their ages ranged from 26 to 54 and they taught in grades 6-12. Only one participant was openly gay to colleagues and students at school. Others had chosen to come out to only some of their colleagues. “Overall, the informants perceive guarded, cordial relationships with their colleagues, where professionalism and teamwork, combined with privacy and discretion, have become the norm at school” (Mayo, 2008, p. 7).

Another study examined eleven heterosexual adults who had an openly gay teacher two decades earlier. Rofes (2000) found that adolescents with openly gay teacher did not experience extreme concerns about the situation. One finding suggested that an openly gay teacher is more of an issue for adults and parents, than it is for children; and that “having a gay teacher was not a defining part their school experience” (p. 410).

Macgillivray (2008) conducted a study to show how some of his former high school students reacted to and were affected by having an openly gay teacher. Eight former students: “five heterosexuals, one gay male, one lesbian, and one subject who identified as bisexual” (Macgillivray, 2008, p. 76). There were three main themes for the LGB students: “being comfortable with oneself, always know they were LGB, and being pleased that other students began to change their views about gay people” (Macgillivray, 2008, p. 78). He found that having an openly gay teacher did not cause his straight students to question their own sexual orientation. This was consistent with Rofes’ (2000) findings.

**Methods**

This IRB-approved qualitative study involved interviewing six public school and five Catholic school educators, who were gay men and lesbians, from a Midwestern area of the United States,
considered part of the Bible belt, in 2010. The participant’s ages ranged from 27-62 and their years of experience ranged from 4-37 years in education.

The focus of this research was to explore the experiences of public and Catholic school teachers and administrators who identify themselves as gay men or lesbian. This section provides a description of the methodology for this qualitative research using interviews and a focus group. The findings from this qualitative research reveal an insight and understanding about how gay and lesbian teachers and administrators negotiate their identities in their school environments, and how it affects their relationships in their school communities.

The first stage of the research, the individual interviews, was completed over a four-week period. All interviews and the focus group were scheduled off school grounds, at a time and place that was convenient for each participant. I recorded the individual interviews, as well as focus groups and transcribed the tape recordings. Each subject was then sent the transcription to review and approve prior to it being analyzed for my research. None of the subjects requested that their transcript be changed, even when it included thoughts of lust and desire or condemning their administrators or colleagues.

Six individual educators, four teachers and two administrators in public schools, were interviewed. Once those interviews were complete, and the themes and specific categories had been identified, they were used to develop the focus group discussion prompts. The comments from those discussions were compared to the individual interview responses in an attempt to identify patterns and themes among all gay and lesbian educators. All participants were asked to tell their stories about their relationships and experiences as either an open or closeted gay or lesbian K-12 educator. A narrative analysis includes in-depth interview transcripts, life history narratives, historical memoirs, and creative nonfiction (Patton, 2002). “Narrative studies are also influenced by phenomenology’s emphasis on understanding lived experiences and perceptions of those experiences” (Patton, 2002, p. 115).

**Participant Selection**

The participants for this study were contacted through private social functions, homosexual rights marches, personal acquaintances, and civic organization contacts. Participants were personal acquaintances who were contacted asking them to participate in a research project investigating ways they negotiate their sexual identities in their school settings, and how it affects the relationships they form in their schools. Specifically identified were individuals from elementary and high schools, as well as rural, suburban, and urban schools. Also considered were those who are practicing teachers, administrators, and coaches to have a variety of perspectives represented in the study. Another characterizing feature recognized was the years of experience and age, as well as the number of Catholic and public school educators. The final determining factor was the gender of the educators, as both men and women needed to be represented in the study to see if the experiences of lesbians was different from those of gay men in the educational settings.

Four teachers and two administrators, who self identify as gay and lesbian educators, with whom I was socially acquainted, informally agreed to be interviewed about their experiences in their school communities. In addition to the six interviews, a focus group was conducted to gather data for this research study.
Originally, one teacher in the metropolitan Catholic school system, contacted his gay and lesbian colleagues within the school systems and asked them to participate. I asked him to identify no fewer than four and no more than six individuals who self-identify as gay, lesbian, bisexual, or transgender teachers who would agree to be part of the focus group discussion. If they agreed, they were given my contact information and asked to contact me directly. The Catholic school teacher participated as we had discussed gathering four of his gay and lesbian colleagues for the focus group.

The interviews and focus group provided the data for this research study. The participants’ responses were recorded and transcribed. “Each transcription was written just as the individuals had spoken, including any slang, dialects, or pauses offered by the subject” (Berg, 2007, p. 162). The questionnaire responses were subjected to content analysis to identify emergent patterns and themes in the responses. “Qualitative data need to be reduced and transformed in order to make them more readily accessible, understandable, and to draw out various themes and patterns” (Berg, 2007, p. 47).

Findings
This section introduces the findings from the urban, rural, and suburban, public and Catholic school educator interviews and focus group discussions used to collect the data for this study.

Participant Interviews and Focus Group Descriptions
As mentioned previously, individual interview participants for this study included two administrators and four teachers, and the Catholic school focus group included three teachers and two counselors. For the reporting of their stories, pseudonyms have been given to each subject, along with a few general characteristics of each subject. Pseudonyms have been also given to the educator’s partners or colleagues if they were mentioned by name during the interview or focus group discussion.

These are participants from public schools that were interviewed. Robert is 55 years-old and was a rural gay public school elementary administrator until 18 months ago, when he was fired after the superintendent learned he was a gay man. He was a teacher for five years at the elementary level, and then became an elementary school principal for 23 ½ years. Susan is a 32-year-old lesbian high school math teacher in a rural school district. She has spent all 10 years of her teaching career in the same position. Richard is a 56-year-old gay junior high and high school teacher in an area that has changed from rural to suburban during his 31 years of teaching in the same school district. Adam is 44 years old and was a gay elementary school principal last year and this year works in district office as the transportation director. Adam spent 11 years teaching at the elementary level, and eight years as an elementary school principal prior to becoming the districts transportation director. George who is 45 is a gay first grade teacher in an urban school environment for a large school district. He has been teaching for nine years, and has been in the same position all nine years of his teaching career. Teaching was a second career for George, after spending 15 years in the printing business. Edward is a 27-year-old gay special education teacher in a suburban high school. He has been teaching for four years, all in his current position. All of these educators represented six different school districts.

The Catholic high school focus group included Rose, a 61-year-old lesbian teacher; Dennis, a 51-year-old gay counselor and boys’ soccer coach; Scott is a 39-year-old, White gay religion teacher; David, a 62-year-old gay teacher; and Michael is 31 and a gay counselor and football coach. All
of the participants were Caucasian, with the exception of Michael, who is African-American. Race, however did not affect the findings in any way.

The two themes that emerged from the individual interviews: identity negotiation, how open they can be and the challenges they face if they are out; relationships, who are the subjects open with and whether that affects their relationship. Those two themes were then used to guide the Catholic school focus group discussion.

Identity Negotiation
All participants in the research expressed varying levels of identity disclosure in their school environments citing fear as a major reason.

Richard, a 56-year-old, gay school teacher did not have the opportunity to hide his identity. He claimed that “During the late ‘80s, I was very active in the gay community. I even appeared on the gay television program *Out Front.*” It was during this time that some of the students in the school saw the program and began talking about him being on the program but were not associating it with his homosexuality. “I ran a very successful theater program. I stopped running the theatre program in ‘93.” Richard went on to explain that it was the same year that he attended the Gay Rights March in Washington, D. C., which also happened to be the year his 8th graders took their class trip to Washington. As he was carrying the “Ohio Banner,” on the outer edge of the marching group parading down the street, his 8th graders walked down the sidewalk on their tour of the city. That Monday when he returned to school, the principal and superintendent met him at the door, claiming he had been seen at the gay rights march and a lot of parents were upset. “I was told that if I had been asked if I was gay, I had to lie about it, and that was probably one of the most frustrating things I’ve ever had to do.”

Susan, a 32-year-old lesbian teacher, has been told by her administrator to hide her sexual identity as much as possible. “My colleagues know about my partner, but my students generally don’t. I believe that those students who need to know, who need a role model, realize.” She is, however, not able to be public about it in general. She is not able to speak about it because there have been parents who called and wanted their children removed from her class when they found out she was a lesbian. “My administration prefers my discretion.”

One distinction between Richard and Susan is the level of support each received from his and her administration. While Richard received no support when parents called and complained, Susan’s principal, while asking her to be discrete about her homosexuality, did support her when parents chose to make an issue about her being a lesbian and mother. Only two of the teachers interviewed for this study claimed to have support from their administrators regarding the issues related to their homosexuality. Most heterosexual school administrators do not believe that their sexual orientation influences their administrative practice (Capper, 1999), however many gay and lesbian teachers might disagree.

Adam, a 44-year-old administrator, however told a much different story about the negotiation of homosexual identity. “I can say that I don’t believe anything has been a direct result of my sexual orientation. Who’s to know. I will tell you that I’ve always lived my life openly and never tried to hide anything.” He stated that he never dated women and never claimed to have a girlfriend or allude to anything that would cause anyone to believe that he did. “Certainly there will always be people who have their views, but I can say that people with whom I’ve confided about sexual
orientation have been very supportive.” Adam was however removed in the middle of the year as an elementary school principal, when the district superintendent learned that Adam was a gay man.

Robert, a 55-year-old administrator, had a very different experience in negotiating his sexual identity. He commented that he lived in constant fear being a gay administrator. “Living in constant fear and trying to fit in. I know there were probably some homosexual students that I could have helped, but I knew I couldn’t. I knew I couldn’t be who I really was or it would be professional suicide.” He stated the self-hatred, self-loathing, and keeping his sexual identity quiet caused him to function in a state of constant fear. He also lost his job when his superintendent learned about his sexual orientation.

The Catholic school educators negotiated their identities more cautiously than the public school educators. When asked about how they cope with their homosexual identities within the conservative establishment of a Catholic school environment, there responses were somewhat varied. Rose struggles with her identity more than others. She comments, “I am not out, as a lesbian teacher here. I'm professional in how I deal with all of my colleagues. In the classroom, for instance kids will call me Mrs. (Smith), and I don’t stop them or correct them.”

Michael, an African-American Catholic school counselor and football coach, described how he felt being a gay educator. “There’s just so much more restriction. I see that it’s a bigger issue than the color issue. It affects me on a daily basis.” He claims that while everyone else has a sense of freedom, he feels like he has to put up a wall that’s constantly around him and he’s filtering everything that comes out of my mouth.

When these subjects were asked how they would describe what it has been like for them to be a gay or lesbian educator. They were asked how their personal fear affected them in being open as they established and maintained relationships with others in their school communities.

Robert described it as living two different lives, elaborating about how he feels, “Very schizophrenic – I’ve had to lead a split life, personal vs. professional. It affects my own sense of accomplishment. It’s so exhausting.” There were times when he felt like he was being forced back into the closet again. “It’s so uncomfortable on a daily basis.” He states that “if straight teachers have affairs it’s no big deal, but him dating another man is catastrophic. I’m constantly filled with fear.”

Robert was the only educator participating in this study that expressed his oppression as a factor in his career. Adam, however, claimed that his sexual orientation does not make him feel differently in a school setting noting, “I suppose it’s like being a straight educator. My sexual orientation doesn’t define me in a way that I feel any different than anyone else.”

George and Edward both felt that there were not an excessive number of challenges and burdens attached to being gay teachers. Edward’s challenge seemed more a frustration than a challenge, commenting, “A challenge is that I’m not able to fully connect with some of the students. There are some students that are gay, and I have to draw a line of professionalism about how to confide in them.”

Richard had most likely experienced the most threatening challenges and burdens for being an openly gay teacher stating, “It’s been a constant struggle with the principal. I’ve had death threats,
harassing phone calls, a brick thrown through the window of my home (with a note – ‘die fags’), my car tires have been deflated.” Relating to the issue of anxiety and isolation, Rose emphatically commented, “There is anxiety and isolation as a lesbian educator. My partner and I have gone through numerous emotional days. She’s tired of me saying I feel bound by not being out, because she is out at her workplace.”

Scott, a Catholic school religion teacher, expressed extreme anxiety and fear at the idea of being an openly gay teacher. “I am in an environment where there is some very overt homophobia, in a very major way.” After he came out, there was another teacher who teaches recovery therapy, and he challenged him on that and it caused a huge episode and after three years he still claims that his questioning him defamed his character, threatening to sue me. “So that’s the kind of environment I work in.” Scott went on to express just how much anxiety he does feel in his Catholic school setting.

Dennis, while not in the same school, agreed noting, “As out as I am, I do feel like there are restrictions on myself and I have to be careful. It does create a lot of stress and anxiety.” So yes there is fear, there is anxiety, it is something he thinks about.

Educators working in public school settings seemed no less traumatic than those working in Catholic schools. Robert felt there were multiple challenges and burdens associated with being a gay administrator, as he described the anxiety and isolation he felt. “It made me somewhat depressed. I wasn’t really happy with the idea that I couldn’t be myself. When we had Christmas parties and other events, I could be who I really was, it was frustrating.” But he knew that in itself would be a death sentence for him and his career.

When the other subjects were asked if he felt he could be fired for being gay, Dennis the Catholic school counselor and boy’s soccer coach, claimed he had a great amount of fear of being fired for being gay. He went on to say that everyday when he walks into the building, he thinks about it. “I have had alumni and parents ask for my job. I’ve been told to keep quiet (about my sexual orientation) by the administration, over various issues.”

Relationship Formation and Maintenance

All of these educators admitted being out to some of their colleagues, and some even their administration within their school communities. When asked whether they were out to their students, colleagues, administration, and families, their responses varied from individual to individual, but even some varied within the same Catholic school community.

When asked about how out she was to her students/colleagues/parents of your students and family, Rose responded, “I’m out to many of my colleagues but not all.” She went on to state that they have had conversations and they are understanding, and are friends of hers, but she is not out to their kids.

The Catholic school educators also expressed varying levels of openness in their school communities. Mayo’s (2008) study with seven gay male teachers found that only one participant was out to his entire school community, but all of the participants were out to some of their colleagues. David feels like he’s open to everybody. “I’ve had students who will approach me and ask me where they can go to find some support, so apparently my persona is like an accepting gay person. Whether gay or straight some of the students talk to me.”
One participant in Mayo’s (2008) study claimed that he has taken a watchful eye approach, as he has noticed the need for some type of a safe zone, a gay friendly area for students struggling with their sexual identities. David did mention that many of the teachers and administrators in his Catholic school did have human rights/equal rights (=) stickers on their doors, but claimed that did not mean that students or staff members could feel safe talking about homosexuality in those rooms.

Although Rose teaches in the same school setting as David, she does not feel like she can be as open with everyone. Rose had claimed that everyone just assumed she was heterosexual. While there may be some negative effects of coming out to students, many of the accounts of teachers who have come out, as well as those who have had gay or lesbian teachers, indicate that the effect is positive, as it helps others come out (Jennings, 2005). Scott, a religion teacher in a Catholic school said, “I did come out a few years ago to my faculty. I just assumed that people knew. I’m 39, and single, people should be able to connect the dots and figure it out. Kids don’t ask questions.”

Participants in Mayo’s (2008) study identified opportunities to form relationships with their colleagues in an attempt to combat feeling isolated. Robert, who was eventually fired for being gay, commented, “Quasi-out with a few select faculty members. It was never really spoken about specifically, but I had a couple that I knew were supportive”. He claimed that when his partner died in the spring of 2003, a few of his colleagues offered their condolences and were supportive.

Richard, however, is out to everyone in his school community, despite his administration’s disapproval. He stated, “I’m just out to everybody in the community. It’s no secret that I’m gay. I’m openly gay. I have a rainbow sticker on my car. I’ve had one for years.” When he first put the sticker on his car, his principal told him to tell the students that he just liked rainbows, if he were asked.

George, who has a contract which protects him from being fired for being a gay man, noted that he was very comfortable being “openly gay” to everyone in his school community. Even Edward is not threatened by being openly gay, commenting that he doesn’t tell everybody, but if they asked he would have no problem being honest with them.

Robert, a rural school ex-administrator, never experienced that comfort level that others expressed having with her colleagues. When asked if he ever felt comfortable bringing his partners or boyfriends to school functions or social events, Robert explained, “No, I never brought my partner to any school functions. I never felt comfortable doing that.”

While many of these educators were out to some of their colleagues and administration, most were not out to students or school community families. Jackson (2007) found that teachers “viewed disclosing their gayness to students as the real mark of coming out at school” (p. 68). Three educators involved with this study claimed that they and their partners were invited to social events with their colleagues, and were comfortable attending school functions with their partners.

Another question about these educators’ relationships focused on how they dealt with anti-gay comments or jokes, in regard to how well their colleagues, administrators, and students respected them as homosexuals. These educators would not hear anti-gay comments or jokes if they were valued as individuals. Relationships determine how we speak and what we talk about with others.
A true friend or trusted colleague or administrator will not allow others to speak to you or about you in a pejorative way.

Robert, the ex-administrator, commented, “At first, I did like a lot of people do, I laughed and walked away. I didn’t publicly comment when they were made.” Later, however, he said he did become defensive, “claiming that I had a gay family member, and I didn’t appreciate those comments. When students made comments, I treated them as any other derogatory slur against any child with the intention of putting someone down.”

Susan agreed with Robert about how to handle anti-gay comments from students noting, “The same way I deal with any inappropriate comments. They have no place in the classroom.” When asked about comments from colleagues, she merely claimed “it hasn’t happened.”

Richard felt the same way about comments from his colleagues stating “I don’t really hear anything from my colleagues anymore.” Regarding student comments, he agreed with many of the other educators. “I tell students that it’s inappropriate and try to take advantage of teachable moments when I can. I don’t have a problem with letting a kid know that I find that’s so gay insulting.” Many of the educators consider anti-gay comments or jokes comparable to any other type of harassing comments students might make to one another.

Adam also attempts to make anti-gay comments into teachable moments. “I take anti-gay comments from kids toward one another very seriously. And when I take them very seriously, I have to be very careful about how I explain that to children.” He explains it that some kids may find it hurtful and offensive to them. He explains that we are all very different, and you watch the news and you know that there are gay people. “Some men live with men and women live with women. I’m not telling you how to believe, I’m just telling you that the differences exist, and sometimes people get their feelings hurt because you say something hurtful.”

George, who teaches first grade, told me he “Uses anti-gay comments or jokes to create teachable moments, whether it’s about the word gay, or a race issue, we take the time to talk about it.” Edward agreed regarding the derogatory comments from students, “I correct the student and tell them it’s inappropriate. I don’t take it personally, because it isn’t directed at me. I would handle it just as I handle any inappropriate comment.” He did, however mention that when his colleagues make these hurtful comments or jokes, he just considers them ignorant, as they unaware of the hurtfulness of their comments.

These educators would not hear anti-gay comments and jokes if they received support from their school communities. When the school system stands as a united front in ending anti-gay jokes and comments, then gay and lesbian school community members will feel safe to be open about the sexuality (Goodman, 2005). However clear it may seem that all of these gay and lesbian educators negotiated their identities differently, they all did so to some extent. There seemed to be a much greater variation on how those identities affected their relationships with their colleagues, administrators, students, and school community families.

**Conclusion**

Each of the six educators interviewed and each of the five participants in the focus group negotiated his/her identity differently. There were some differences in the identity negotiation of the rural, suburban, and Catholic school environment educators, as the urban educators seemed more at ease.
with being out at school. There was, however, no connection between years of experience as an educator and ease of being out at school.

It was however apparent that how the educators’ negotiated their sexual identity did affect their relationships. The teachers who felt more guarded about their sexual identity were less likely to be open to other members of the school community, being open with only a few trusted colleagues. One of the participants, George, expressed the need to be out in school as it allows others to see that “we are not the stereotypes that they have perceived, seen on TV, or heard about. That we are good teachers, and can lead normal lives; they can see reality, that we are not different because we are homosexual.” Edward expressed that he’s aware that there are those who think he “shouldn’t teach because he’s gay,” but he just attributes that to a lack of knowledge about homosexuality.

Many of these educators expressed anxiety about taking a significant other to school functions for fear of how their presence might be perceived. A participant in Mayo’s (2008) study claiming to be open to everyone in his school community, never attended school events with his partner or took his partner to social functions with his colleagues. This participant claimed, “the fact that I don’t socialize with the rest of the faculty is probably due mostly to the fact that I wouldn’t feel comfortable. I don’t trust some of them” (p. 9). When teachers must choose between their teacher identity and sexuality identity, “they hide their sexual identity because anything related to sexuality is deemed inappropriate for children in the school setting” (Keyser, 2015, p. 443).

To be sure, there are lesbian and gay teachers, counselors, and administrators working in the K-12 school systems. This research provides data illuminating how important a safe and supportive school environment for all staff members is in providing a productive school atmosphere, as teachers who live in constant fear of being outed as a gay man or lesbian distracts from an educator’s responsibilities. Just as DeLeon and Brunner (2009) found that as a form of coping with the fears of being out or being outed, educators choose to assimilate and remain silent, because as Bishop, et at. (2010) found the fear of being openly gay or lesbian educators produces fear of job loss and exclusion, even in the most liberal of schools.

Additionally, Goodman (2005) stated gay and lesbian school community members will not feel safe to be out about their sexuality until the school system takes as a united front against anti-gay jokes and comments. The educators in this study agreed, but most also agreed that many of their colleagues and administrators will not agree to such a unified effort. While these educators in this study, as well as other educators not in the study, but with whom I have spoken to, agree that being out in their school communities is absurd. The fear that these teachers spoke about when negotiating their identities, is common among gay men and lesbians working in K-12 school systems. Until school districts are safe for all gay and lesbian students and employees, and there are policies in place to protect against harassment and being fired, fear will continue to keep many of the gay and lesbian educators closeted.

References


The Effect of Realistic Mathematics Education on 6th Grade Students’ Skills of Using Operational Estimation Strategies for Verbal Estimation Problems

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Abstract
The purpose of this study is to explore the effect of realistic mathematics education on 6th grade students’ skills of using operational estimation strategies for verbal estimation problems. The research has been designed as the pre-test post-test control group. The research participants are conducted of 63 7th grade students attending a middle school on the European side of Istanbul. The experimental group students were taught through 17 activities based on “Realistic Mathematics Education (RME)” approach, whereas the control group students were taught through the activities contained in the textbooks and workbooks. The students exposed to the RME activities were required to create the models themselves, while the students using the activities in the textbooks and workbooks were given ready-made models. The data of the research were collected by use of “Word Problems Prediction Test (WPPT)” composed of 10 open-ended questions, which was developed by the researchers. For data analyze were applied frequency and percentage. Teaching through RME approach was found to be more effective, when compared to current system teaching, in improving students’ success in operational prediction and diversity of the strategies they use. In the light of the findings of this study, the researchers have developed suggestions for those who will conduct further researches.

Keywords: realistic mathematics education, operational prediction strategies, fractions

Introduction
Mathematics is defined as the knowledge of four operations and calculations by those who are not directly involved in it, whereas it is a way of inventing new theories and theorems for mathematicians. For scientists and engineers, mathematics is a set of operations which they apply for their own fields of study. However, it is a difficult subject to cover for students. On the other hand, for some students, it is a perfect platform to prove their success (Karadağ, 2012). A farmer uses daily mathematics to distribute or market his produce and measure his land while a mason uses it to see whether the wall he has built is straight. Similarly, small retailers use daily mathematics for the commercial operations they make. People using daily mathematics in their lives do not make theoretical calculations but engage rather in practical mental calculations. The results they obtain through these calculations are the closest to the ones obtained through theoretical calculations (Erdem, Gürbüz, & Duran, 2011). Measurement estimation refers to the size of an object or a group of objects (length, weight, volume, etc.) (Clayton, 1993). Most of the adults estimate the sizes in their daily lives. Population estimation involves measuring a countable
quantity (a group of objects) (Brade, 2003). It refers to the number of objects in a group (Clayton, 1993). Dowker (1992) defines operational estimation as significant estimations regarding approximate responses to arithmetic problems without making real calculations. This study dwells on operational estimation. Operational estimation refers to finding a proper approximate answer for arithmetic problems before calculating the precise answer (Lemaire & Lecacheur, 2002). For example, it is used to find an approximate and quick answer to an arithmetic problem like the following: \( \frac{6.49 \times 98.73}{81.7} \) (Clayton, 1993). Therefore, operational estimation refers to a process or a skill that combines various operations to arrive at a conclusion (Smith, 1993). Operational estimation is a mathematical cognition field for which students employ various strategies. These strategies vary in terms of frequency and practice types. In addition, students select their own strategies and practice types for this field. Previous studies indicate that students employ strategies like “using first and last digits”, “rounding down to one-down decimal”, “distribution”, “arrangement-adjustment”, “readjusting the operations”, “calculating the average (grouping)”, “induction”, “random estimation strategies”, “rearrangement of numbers”, “compensation strategies”, “using concurrent numbers”, “intensively concurrent number strategies”, “being able to use the numbers that can be rounded”, “grouping based on available knowledge and experiences”, and “making mental calculations”, which have been analyzed in many studies (Boz, 2012; Çilingir & Türnüklü, 2009; Crites, 1992; Dowker, 1992; Levine, 1982; Reys, Rybolt, Bestgen, & Wyatt, 1982; Reys, 1986; Reys, Reys, & Penafiel, 1991; Reys, Reys, Nohda, Ishida, & Shimizu, 1991; Rubenstein, 1985; Tekinkır, 2008).

Though there are many studies dwelling on computational estimation strategies for fractional operations and factors regarding computational estimations, there are few studies on teaching these strategies conducted in countries other than Turkey and there is no study at all carried out in Turkey regarding the subject. This study seeks to reveal the effect of mathematics instruction via Realistic Mathematics Education (RME), designed taking into account students’ daily life activities, on teaching estimation to find the results of fractional operations, which are one of the challenging subjects of mathematics. In this vein, this study will analyze the effect of RME on 6\textsuperscript{th} grade students’ skills of employing operational estimation strategies for verbal estimation problems. To this end, the research questions below are tried to be answered.

1. Is there a significant difference between the control and experimental group students’ achievement levels in terms of verbal estimation problems before the instruction?
2. Is there a significant difference between the experimental group students’ achievement levels in terms of verbal estimation problems before and after the instruction?
3. Is there a significant difference between the control group students’ achievement levels in terms of verbal estimation problems before and after the instruction?
4. Is there a significant difference between the experimental and control group students’ achievement levels in terms of verbal estimation problems after the instruction?
5. What is the variety and frequency of the strategies employed by the experimental and control group students in verbal estimation problems?

**Methods**

**Research Model**
Pretest-posttest control group experimental design was employed in the study. In this model, there is an experimental group under the influence of an independent variable and a group which is not under the influence of such a variable. For testing the hypotheses, the scores changing from pretest...
to posttest obtained by both groups are compared to see whether there is a difference (Buldük, 2003; Christensen, 2004).

**Study Group**
The study was conducted with the control and experimental groups composed of 6th grade students from three classes in a middle school in Tuzla, Istanbul. Convenience sampling method was employed. The control and experimental groups were ensured to consist of equal students. There are 17 female and 14 male students in the control group, while there are 18 female and 14 male students in the experimental group. That is to say, there are 63 participants in total.

**Data Collection Tools and Collecting the Data**

*Verbal Problems Estimation Test (VPET):* It was used as a pretest and posttest. It is a test made up of 10 open-ended questions about the acquisition, “They estimate the results of fractional operations using the strategies”, which belongs to the 6th grade learning domain of fractions. To ensure the internal validity of the test, three field expert academics evaluated the questions in terms of their suitability to the strategies. Reliability coefficient of the test was found to be 0.678. Levine’s (1982) scoring system was used to score the responses. If the estimation is within the deviation range of less than 10%, the score is assigned as 3; if it is within a range from 10% to 20%, the score is 2; if it is within a range from 20% to 30%, the score is 1; and if the deviation is more than 30%, the score is assigned as 0. The tests were presented to the students in written format. They were asked to respond individually. 25 minutes were given to the students to finish each test. The tests were implemented by the researcher.

*Experimental Group Instruction (Instruction Activities Based on RME and Their Implementation)*

17 activities based on the acquisition, “They estimate the results of fractional operations using the strategies”, which belongs to the 6th grade mathematics course learning domain of numbers, were prepared in accordance with the basic principles of RME. Experts were consulted, and relevant modifications were made. In RME, learning mathematics is considered as a social activity. Education offers an opportunity for students to share strategies and discoveries with each other. Students form opinions to improve their thoughts by listening to what others have discovered and discussing them. Moreover, interaction activates thinking skills to achieve higher-level comprehension (Van den Heuvel-Panhuizen & Wijers, 2005). The experimental group including 32 participants was divided into eight groups with four members. Hence, the groups were heterogeneous within themselves and homogeneous with other groups. The students carried out the activities individually, and shared their solutions with their group members later. Afterwards, one person from the group explained his opinions to his friends in other groups. In this interactive teaching, students are engaged in explaining, reasoning, agreeing, disagreeing, questioning the alternatives, and thinking. These kinds of activities make students less dependent on teacher evaluations of their actions as correct or incorrect. Thus, students develop confidence in using mathematics (Zulkardi, 2002). The activities were prepared in such a way that they would enable the students to evaluate and discuss different estimations.

*Teaching in the Control Group*

Learning environment for the control group students was different than the one designed according to RME. The instruction was conducted with the teacher’s book recommended by the Ministry of National Education of Turkey as well as the textbook and workbook in use. While the students
were expected to create their own models in RME activities, the ready-made models were given in the examples included in the textbook and workbook. This is contrary to the RME activity principle. As there were more subjects to cover with the experimental group students, the rest of the classes for the control group were supported with problem solving and general review.

Data Analysis
The scores the students got from “Verbal Problems Estimation Test” as pretest and posttest were analyzed using SPSS package on computers. Data normality was tested by Kolmogorov-Smirnov Test. The data that did not show normal distribution were tested by Mann-Whitney U test. Whether or not there was a significant difference between the control and experimental groups in terms of relevant variables was tested at the level of p<.05. The variety and frequency of the strategies used by the students for verbal estimation problems were analyzed in frequencies and percentages.

Results
The first research question is for whether the instruction based on RME influenced the students’ achievement regarding verbal estimation problems. The first sub-question of the study questions whether there is a significant difference between the experimental and control group students’ achievement levels regarding verbal estimation problems before the instruction. The experimental and control group students’ pretest VPET scores were compared to find an answer to the question. Pretest VPET scores were compared via Mann-Whitney U test. The test results are shown in Table 2.

Table 2: Experimental and Control Group Students’ VPET Pretest Scores

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean Rank</th>
<th>Total Rank</th>
<th>U</th>
<th>P</th>
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</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>32</td>
<td>4.50</td>
<td>1060</td>
<td>460</td>
<td>.610</td>
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<td>Control</td>
<td>31</td>
<td>1.50</td>
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</table>

Table 2 shows that there is no significant difference between the experimental and control group students’ VPET pretest scores as p=0.610 value is greater than 0.05. For the second sub-question of the study, the experimental group students’ VPET pretest and posttest scores were compared via Wilcoxon Signed Rank test. The results are given in Table 3.

Table 3: Experimental Group Students’ VPET Pretest and Posttest Scores

<table>
<thead>
<tr>
<th>Tests</th>
<th>Ranks</th>
<th>Mean Rank</th>
<th>Total Rank</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPET Pretest-Posttest</td>
<td>Negative ranks</td>
<td>2.50</td>
<td>5</td>
<td>-4.685</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Positive ranks</td>
<td>16.43</td>
<td>460</td>
<td></td>
<td></td>
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</tbody>
</table>

Table 3 shows that there is a statistically significant difference between the experimental group students’ VPET pretest scores and posttest scores (p=0.00<0.05). Accordingly, it is possible to say that the instruction based RME, which was offered to the experimental group students, had a significant influence on the students’ estimation skills for verbal problems. For the third sub-question of the study, the control group students’ VPET pretest and posttest scores were compared via Wilcoxon Signed Rank test. Table 4 shows the relevant results.

Table 4: Control Group Students’ VPET Pretest and Posttest Scores

<table>
<thead>
<tr>
<th>Tests</th>
<th>Ranks</th>
<th>Mean Rank</th>
<th>Total Rank</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPET Pretest-Posttest</td>
<td>Negative Ranks</td>
<td>11.38</td>
<td>148</td>
<td>-0.392</td>
<td>0.695</td>
</tr>
<tr>
<td></td>
<td>Positive Ranks</td>
<td>14.75</td>
<td>177</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4 shows that as p=0.695>0.05, the control group students do not have any significant difference between their pretest and posttest scores. This result may be indicative of the fact that the instruction offered to the control group did not have any significant influence on the students’ estimation skills regarding verbal problems. For the fourth sub-problem of the study, whether there is a significant difference between the experimental and control group students’ achievement levels regarding verbal estimation problems after the instruction was tried to be revealed. Therefore, Mann Whitney U test was employed to see whether there is a significant difference between the experimental and control groups in terms of VPET posttest scores. The relevant test results are given in Table 5.

Table 5: Experimental and Control Group VPET Post-Test Scores

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean Rank</th>
<th>Total Rank</th>
<th>U</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>32</td>
<td>40.05</td>
<td>1281.50</td>
<td>238.5</td>
<td>.000</td>
</tr>
<tr>
<td>Control</td>
<td>31</td>
<td>23.69</td>
<td>734.50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows that as p< 0.05, there is a statistically significant difference between the experimental and control group students’ VPET posttest scores. This difference is in favor of the experimental group. Accordingly, it is possible to say that instruction based on RME is more effective than the current instruction for the students’ estimation skills regarding verbal problems. The fifth sub-problem of the study aims at revealing the influence of the instruction based on RME on the variety and frequency of the strategies that they employ for verbal estimation problems. Table 6 shows the strategies employed by the experimental and control group students as well as the relevant percentages.

Table 6: Strategies Used in VPET Pretest and Posttest

<table>
<thead>
<tr>
<th>The Strategy in Use</th>
<th>Pretest Experimental Group</th>
<th>Pretest Control Group</th>
<th>Posttest Experimental Group</th>
<th>Posttest Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>1 Rounding up to multiples of 5, 10, and 100</td>
<td>64</td>
<td>20</td>
<td>37</td>
<td>11.9</td>
</tr>
<tr>
<td>2 Multi-stage rounding</td>
<td>7</td>
<td>2.2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 Using concurrent numbers</td>
<td>6</td>
<td>1.9</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>4 Using equivalent fractions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 Rounding the remainder in division operations</td>
<td>2</td>
<td>0.6</td>
<td>7</td>
<td>2.3</td>
</tr>
<tr>
<td>6 Taking the greater denominator as the common denominator</td>
<td>6</td>
<td>1.9</td>
<td>21</td>
<td>6.8</td>
</tr>
<tr>
<td>7 Taking the smaller denominator as the common denominator</td>
<td>1</td>
<td>0.3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>8 Setting a value between denominators as the common denominator</td>
<td>1</td>
<td>0.3</td>
<td>8</td>
<td>2.6</td>
</tr>
<tr>
<td>9 Grouping</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10 Factorization</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>11 Arrangement-adj ustment at the beginning of the operation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12 Arrangement-adj ustment at the end of the operation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13 Others</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>87</td>
<td>27.2</td>
<td>81</td>
<td>25.8</td>
</tr>
</tbody>
</table>

Table 6 shows that the experimental group students employed seven types of strategies for verbal estimation problems in the pretest while this number increased up to 12 in the posttest. While 27.2% of the responses given in the pretest involved strategies, this percentage increased up to
64.4% in the posttest. It is seen that the strategy that was most employed by the experimental group students both in the pretest and in the posttest is rounding up to multiples of 5, 10, and 100. Other strategies frequently employed in the pretest are multi-stage rounding, using the concurrent numbers, and taking the greater denominator as the common denominator, while the least employed strategies are taking the smaller denominator as the common denominator and setting a value between denominators as the common denominator. For the posttest, the other frequently employed strategies in addition to rounding up to multiples of 5, 10, and 100 are using the concurrent numbers, multi-stage rounding, taking the greater denominator as the common denominator, and rounding the remainder in division operations. The least employed strategy is arrangement-adjustment at the end of the operation. The strategies employed in the posttest but not in the pretest are using equivalent fractions, grouping, arrangement-adjustment at the beginning of the operation, and arrangement-adjustment at the end of the operation. Some examples from the strategies employed by the experimental group students are given below with extracts from the students’ responses.

For the question, “Vedat, an amateur footballer, trained for \( \frac{16}{5} \) hours on Monday, \( \frac{41}{11} \) hours on Tuesday, and \( \frac{98}{50} \) hours on Wednesday. How many hours of training did Vedat do on these three days in total? Make an estimation.”, the student rounded up the denominators of the fractions to the multiples of 10 in the pretest without taking into account numerators, and he made an incorrect attempt of rounding up to multiples of 5, 10, and 100. In the posttest, he implemented the strategy of rounding up to multiples of 5, 10, and 100 accurately. The student’s estimations in the pretest and posttest are given below.

Pretest solution:  
Posttest solution:

Another student in the experimental group made an incorrect implementation of rounding up to multiples of 5, 10, and 100 in the pretest in response to the question “How much money will a customer pay for a processor costing \( \frac{61}{2} \) TL and headphones costing \( \frac{35}{3} \) TL in a store selling electronically products? Make estimation.” He employed the concurrent numbers strategy in the posttest effectively.
For the same question, another student added up the numerators and denominators to write the final numerator and denominator in the pretest, which was incorrect. In the posttest, he accurately implemented the strategy of rounding the remainder in division operations.

A student, in response to the question “Nuray’s mother thinks that she has to be careful about watching TV. She recorded the duration of Nuray’s watching TV for 5 days. These are as follows: Monday: \( \frac{31}{10} \) hours; Tuesday: \( \frac{22}{7} \) hours; Wednesday: \( \frac{28}{10} \) hours; Thursday: \( \frac{16}{5} \) hours; and Friday: \( \frac{26}{9} \) hours. Accordingly, how many hours did Nuray watch TV on five days approximately? Make an estimation.”, rounded up the numerators of the fractions to the multiples of 10 in the pretest without taking into account the denominators, which resulted in an incorrect attempt of rounding to the multiples of 5, 10, and 100. In the posttest, he implemented the concurrent numbers and grouping strategies accurately.
A student solved the problem “Ms. Aylin will cook semolina desert to the guests for a ceremony to which 398 people have been invited. As Ms. Aylin uses $\frac{5}{21}$ kg of sugar for semolina desert per person, approximately how many kg of sugar will she need to cook semolina desert for the guests of the ceremony? Make an estimation.” by employing the strategy of rounding to multiples of 5, 10, and 100 in the pretest and employing the strategies of rounding to multiples of 5, 10, and 100 and using equivalent fractions in the posttest

Pretest solution: $\frac{100}{5\pi 20} = \frac{2000}{20} = 100$ kg of sugar

Posttest solution: $\frac{100}{5\pi 20} = \frac{1000}{100} = 10$ kg of sugar

Conclusion, Discussion, and Recommendations
This study has focused on teaching the acquisition “They estimate the results of fractional operations using the strategies.” To this end, it has sought to reveal the effectiveness of the instruction based on RME. The study results indicate that the instruction based on RME is more effective than the traditional instruction based on the guidebook in terms of students’ considering the estimation skill as useful and significant. These results are in line with those found by Aydın Ünal (2008), Akyüz (2010), Bildirici (2012), Çakır (2011), Demirdögen (2007), Gelibolu (2008), Özdemir (2008), and Üzel (2007). In addition, the studies conducted by Kwon (2002), (2008), Keijzer, Van Galen and Oosterwaal (2004) support the findings of this study.

It was seen that the experimental group students could come up with more authentic strategies than the students in the control group. This supports the result revealed by Keijzer and Terwel (2004). In the groups exposed to instruction via RME approach and traditional approach, the most frequently employed strategy in the pretest and posttest is rounding to multiples of 5, 10, and 100, which is included in the process of readjusting the numbers. Liu (2009), Reys, Reys, Nohda, Ishida, Yosikawa, and Shimizu (1991), and Reys, Reys, and Penafiel (1991) stated in their studies that readjusting the numbers is the most frequently employed computational estimation process. Sowder and Wheeler (1989) claim that acceptance of the fact that estimation is useful is under the title of emotional components, which is one of the components of computational estimation. Reys, Rybolt, Bestgen and Wyatt (1982) denote that computational estimators have three dimensions of characteristics. One of these dimensions is emotional characteristics. In emotional processes, good estimators consider estimations as important tools in relation to numbers. In the present study, all the students in the experimental group stated that estimations are useful for real life situations and exemplified such claim of theirs. On the other hand, 23% of the control group students stated that estimation strategies are not useful for their daily life while 13% stated that they are useful yet could not exemplify their claim. This may be indicative of the fact that considering estimation as a useful strategy underlies the significant difference between the experimental and control groups’ estimation success.

Based on the results, the recommendations below can be given:

- Mathematics curriculum makers may make sure that various contextual problems about real life situations exist in the programs so that students can engage in meaningful learning, put their formal knowledge into use, and understand the importance of estimation in real life.
• Problem situations in the activities to teach estimation strategies should be suitable for employing models. Through models, students can access informal knowledge via formal knowledge. Hence, they may engage in the mathematization process.

• Mathematics teachers should offer a learning environment to their students where they can share their strategies and discoveries. Students should be encouraged to explain, justify, accept, reject, question the alternatives, and think.

References


The Impact of a Framework-Aligned Science Professional Development Program on Literacy and Mathematics Achievement of K-3 students

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Abstract
This study investigates the effect of a Framework aligned professional development program at the PreK3 level. The NSF funded program integrated science with literacy and mathematics learning and provided teacher professional development, along with materials and programming for parents to encourage science investigations and discourse around science in the home. This quasi-experimental study used a three level hierarchical linear model to compare the Renaissance STAR Early Literacy, Reading, and Mathematics scores from 2015-16 of K3 students in treatment and control classrooms in a large Midwestern urban school district. The statistically significant results indicate that, on average, every year that a student has a program teacher adds 11.2 points to a student’s spring STAR Early Literacy score, 21.8 points to a student’s STAR Mathematics score, and 47.9 points to a student’s STAR Reading score compared to control students. Implications for teacher education and policy are discussed.

Keywords: teacher professional development, science, literacy and mathematics

Introduction
Current evidence-based science education reform efforts, as described in A Framework for K-12 Science Education (Framework) (National Research Council [NRC], 2012) and the Next Generation Science Standards (NGSS) (NGSS Lead States, 2013), provide a foundation for effective science learning. The Framework envisioned science instruction woven together with three dimensions: scientific and engineering practices (skills used by scientists and engineers as they investigate natural phenomena or design and test solutions to problems), core disciplinary ideas (a limited set of critical disciplinary concepts that can be understood more deeply as students investigate them over time), and crosscutting concepts (themes and processes that apply across scientific disciplines) (NRC, 2012).

Science instruction aligned to the Framework asks students to investigate natural phenomena, read, discuss, and write about their investigations, use mathematics and computational thinking to analyze their data and draw conclusions, and make arguments from evidence, just as professional scientists carry out their work. The Framework particularly focuses on the importance of language for students’ science knowledge development: “Any education in science and engineering needs to develop students’ ability to read and produce domain-specific text. As such, every science or engineering lesson is in part a language lesson, particularly reading and producing the genres of texts that are intrinsic to science and engineering” (NRC, 2012, p. 76).

Links Between Science, Math, and Literacy
Such an imperative aligns with many years of research outlining the importance of argumentation,
critical reading, and writing for promoting science literacy (e.g. Glynn & Muth, 1994; Holliday et al., 1994; Shymansky et al., 2000, Yore, et al., 2004). Reading educators point to the importance of content knowledge, such as students might gain from conducting investigations, to strengthening reading skills; for example, there is a strong link between knowledge of vocabulary and reading achievement (National Reading Panel, 2000). Research that evaluates the impact of merging science and literacy instruction has established that such approaches benefit both science and literacy learning (e.g., Cervetti, Barber, Dorph, Pearson, & Goldschmidt, 2012; Hapgood & Palincsar, 2007; Palincsar & Magnusson, 2001; Romance & Vitale, 1992, 2001; Varelas & Pappas, 2006).

Specific examples of science-literacy connections with young children include the work of Varelas and her colleagues, who studied the opportunities to develop Latina students’ science understanding afforded by read-alouds of science information books and related hands-on explorations (Varelas & Pappas, 2006; Varelas, Pappas, & Rife, 2006; Varelas, Pieper, Arsenault, Pappas, & Keblawe-Shamah, 2014; Romance & Vitale, 1992, 2001; Vitale & Romance, 2011, 2012).

The Framework (NRC, 2012) also emphasizes the role of mathematics in science instruction: “Increasing students’ familiarity with the role of mathematics in science is central to developing a deeper understanding of how science works (NRC, 2012, p. 66). Using mathematics and computational thinking is one of the eight science and engineering practices of the Framework (NRC, 2012), and a second, analyzing and interpreting data, echoes the “Measurement and Data” domain of the Common Core state mathematics standards (National Governors Association Center for Best Practices, 2010). Research supports the benefits of integrating mathematics and science instruction (Hurley, 2001; Sondergeld, Milner, Coleman, and Southern, 2011).

School, Family, Community, and Student Achievement

Reform efforts such as teacher professional development play a key role in improving the academic outcomes of students, yet racial and income achievement gaps in student achievement in science in the United States persist (U.S. Department of Education, 2015). Many have looked to out-of-school time as a resource that could be leveraged to support education reform efforts. With respect to science, Falk and Dierking (2010) found that significant amount of learning occurs outside of school in informal educational environments. Structured, non-school science activities certainly promote interest in science for students, and may contribute to their academic achievement as well (National Research Council, 2009). Maltese and Tai (2009) found that many professional scientists’ interest in science were sparked by early science activities that they completed outside of school.

In addition, parental engagement is an important predictor of children’s academic success for all students, regardless of socioeconomic status, gender, or race (Barnard, 2004; Catsambis, 2001; Henderson & Mapp, 2002; Jeynes, 2005). A recent review of research on families’ effects on children from preschool to early elementary found a positive link between parent engagement and children’s literacy and math skills (Van Voorhis, Maier, Epstein, & Lloyd, 2013).

Despite mounting evidence supporting the importance of family engagement on children’s education, families lack resources on how to do so, and educational institutions have offered minimal pledges to support it (Weiss et al., 2009). Science can be a particularly tricky subject for parents to assist their children’s learning, as they often know little about what their children are
learning in science at school (Solomon, 2003). In addition, parents may be hindered by a lack of communication between school and home, their own lack interest in science, or anxiety and bad experiences with science (Shymansky, Yore, & Hand, 2000).

One possible avenue that educational institutions could take to support families is to provide opportunities for parents and children to engage in science together (Kaya & Lundeen, 2010). Previous research found that family take-home science activity packs provide a viable way to connect schools and families ([Author], 1994), and science activity packs have the potential to promote family conversations about science, encourage observation of scientific phenomena, and spark increased interest in science for both parent and child (Webster, 2001; Author citation, 2016a). Such packs also reinforce literacy skills, extend reading experiences about science topics, and deepen conceptual understanding of disciplinary core ideas (Martin, Daughenbaugh, Shaw, & Burch, 2013).

**Theoretical Framework**

Schools face intense pressure to improve students’ academic achievement, which they must do despite the social problems that students bring to the classroom. Because of this, it would be extremely difficult for schools to alone provide all the supports that children need in their education. Rather, decades of literature suggest that these pressures on schools can be mitigated through partnerships with community agencies and organizations (e.g., Crowson & Boyd, 1993; Heath & McLaughlin, 1987).

The Harvard Family Research Project (Bouffard, Goss, & Weiss 2008) has grounded their complementary learning framework in this theory. The framework is based on two assertions: first, that both school and non-school contexts makes a critical contribution to students’ learning and achievements; and second, that these contexts should create complementary learning opportunities (Weiss, Coffman, Post, Bouffard, & Little, 2005). In such a framework, learning experiences for children are aligned both in school and out of school. This creates a “web of opportunity” for children that breaks down the silos of school, home, and the broader community.

**This Study**

This study examines the effect of a **Framework**-aligned professional development [PD] program on student achievement in reading and mathematics. This NSF funded program, [Program], provided professional development for K-3 teachers, along with home science materials and community science programming for families. Previous work (Author citation, 2016b) indicated that following this professional development training, [program] teachers were able to integrate targeted language skills and mathematics into their lessons. This study arises from the next logical question of whether incorporating **Framework**-aligned science instruction into classroom, family, and community science learning would affect students’ achievement in reading and mathematics.

**Program Context**

This study focuses on the effect on student outcomes of [Program], an early-childhood science project funded by a Mathematics and Science Partnership grant from the National Science Foundation. The program intervention was designed around the Harvard Complimentary Learning Model (Harvard Family Research Project, 2008) to provide comprehensive educational experiences in science. The project includes five primary components: (a) a two-week Summer Institute for PreK-3 teachers, (b) academic year PD including monthly professional learning community meetings and one-on-one coaching, (c) family science activity take-home packs, (d)
family community science events, and (e) public service broadcasts on television that promote family science activities.

**Methods**

This study used a quasi-experimental, between-group design to investigate whether [Program] affected student learning outcomes. To that end, the study asks, **what effect does teachers’ participation in [Program] have on their students’ early literacy, reading, and mathematics achievement?**

**Participants**

Control and treatment students were drawn from students at the 41 elementary schools in a large urban school district in the Midwest with a high degree of racial diversity and 64.8% of students receiving free and reduced lunch. Since this study examined students in three different assessments (early literacy, mathematics, and reading), which were administered by the district in different grades, the three sub-studies have different participant populations. Students were drawn from grades K-2 (early literacy), grades 2-4 (mathematics), and grades 1-4 (reading) based on the district’s timetable for assessment.

Treatment participants consisted of students who had at least one [Program] teacher during the 2013-2014, 2014-2015, or 2015-2016 academic years. Teachers’ participation in [Program] could have occurred in any or multiple of those academic years. Participants consisted of 2899 students for the early literacy study, 2002 students for the mathematics study, and 1810 students for the reading study. Control students consisted of 2515 students for the early literacy study, 3028 students for the mathematics study, and 2448 students for the reading study, who had never had a [Program] teacher in the time frame.

**Data**

Data consisted of raw and scale scores from the STAR Early Literacy, Mathematics, and Reading assessments. These nationally-normed assessments are grounded in research and have been reviewed as reliable and valid by several independent groups (Renaissance Learning, 2014). These assessments were chosen due to their availability as validated assessments for the grade range of interest to [Program], and because their use as a formative assessment by the district meant that students were assessed multiple times throughout the academic year.

These assessments provided a natural pre/post framework for this study, as our partner district administers them in both fall and spring. Data were collected from the district for academic year 2015-2016, which included three measurement occasions: Fall 2015, Winter 2015, and Spring 2016. For the grades of interest to this study, the district administers STAR Early Literacy in grades K-2, STAR Mathematics in grades 2-4, and STAR Reading in grades 2-4. In addition, K-1 students who achieve a threshold on the STAR Early Literacy assessment are given the STAR Reading assessment before grade 2.

**Baseline Equivalence**

Baseline equivalence was established by examining the fall scores for the STAR Early Literacy assessment for kindergarteners in the study for 2013-2014, 2014-2015, and 2015-2016. A two-level hierarchical model was used to assess the equivalency between the treatment and control cohorts; three separate analyses were performed for the three respective years. The results for the treatment type coefficients for all three years indicated no statistically significant difference.
between groups: \( t(40) = -6.66, p = .242 \) for fall 2013; \( t(40) = 3.32, p = .359 \) for fall 2014; and \( t(40) = 0.87, p = .777 \) for Fall 2015 data. The weighted average absolute value effect size for intervention (Hedges’ \( g \)) was .047, which is considered to be a negligible effect size, so no statistical correction for baseline was used during subsequent data analyses.

**Data Analysis**

The hierarchical model adopted in this study is a three-level hierarchical model, as implemented by HLM for Windows, v. 7.01, where the students’ Rasch-model scaled STAR scores for the Mathematics, Reading, and Early Literacy assessments serve as the outcome variables. Although a multivariate approach to the dependent variables is possible, the present study focused on the analysis of one outcome variable at a time. Therefore, the first-level of data consists of repeated observations of the assessment data in one domain (a level-one unit) nested within a specific student (a level-two unit). Students in turn are nested within schools (a level-three unit).

At the first level equation, the individual student mean achievement was predicted from one time-variant variable: grand-mean centered testing occasion (levels: 0 = Fall 2015, 1 = Winter 2015, and 2 = Spring 2016). The first-level equation included student’s intercept (mean value of student achievement) and his/her slope or individual growth trajectory over the measurement occasions, plus a random error interpreted as a residual temporal variation. At the second-level, the estimated coefficients (intercepts and slopes) from the first-level equations became the solutions to two equations, one that modeled student’s mean achievement or \( \pi_{0jk} \) and another one that modeled student average learning rate or \( \pi_{1jk} \). Both second level equations included time-invariant student-level variables: grand-mean centered current grade (2, 3, and 4 for mathematics; 1, 2, and 3 for reading; K, 1, and 2 for early literacy); gender (levels: 0 = female and 1 = male); minority status (levels: 0 = minority or and 1 = non-minority or White); and intervention or whether or not a student had a program teacher up to the point of measurement (levels: 0 = absence or 1 = presence of intervention teacher). The current grade variable was considered a time-invariant because the assessment data utilized the latest, 2015-2016 academic year data. The effects of schools were modeled with the third-level equations. The third-level equations were unconditional or did not include school-context variables.

**Results**

**STAR Early Literacy**

The student mean achievement expressed as a \( \gamma_{000} \) (third-level equation intercept coefficient) for the STAR Early Literacy model was 650.18 (see Table 1). This coefficient represented an average, predicted Winter 2015 score for a minority, female 1st grade student who had never had a [program] teacher. This model predicted outcome was affected in a statistically significant way by the following student-level that the demographic variables: current grade, gender, and minority status. As expected, students’ scale scores increased by 101.43 with an increase in current grade expressed as the \( \gamma_{010} \) coefficient (i.e., moving from grade one to grade two) when controlling for the effects of gender, minority status and intervention. The effect of gender (the \( \gamma_{020} \) coefficient) on mean achievement status was statistically significant with female students outscoring male students by an average of 14.73 units. Also, a statistically significant effect for minority status (the \( \gamma_{030} \) coefficient) on mean achievement was observed, with non-minority students scoring, on average, an additional 15.61 units in comparison to minority students. This final effect, however, has to be interpreted cautiously in the absence of student’s socio-economic status information.
Most importantly, the intervention variable had a statistically significant impact on students’ scores (see the $\gamma_{040}$ coefficient). Adding a [program] teacher to a student’s academic history was associated with an average increase of 11.24 units in mean student achievement, controlling for the effects of the current grade, gender and minority status variables. This effect size (Hedges’ $g$) was 0.119, which is to be interpreted as a treatment group having, on average, 0.119 higher scores in standard deviation units as compared to the scores of the control cohort and is to be interpreted a small effect size.

**Table 1. Summary of Three-Level Exploratory Model for STAR Early Literacy Achievement**

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>$B$</th>
<th>$SE$</th>
<th>$t$-ratio</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model for average status, $\pi_0$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model for mean-status of 1st grade minority female who did not have intervention teacher, $\beta_{00}$</td>
<td>650.18</td>
<td>7.35</td>
<td>88.43</td>
<td>41</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for current grade, $\gamma_{010}$</td>
<td>102.43</td>
<td>2.03</td>
<td>50.37</td>
<td>41</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for gender, $\beta_{02}$</td>
<td>-14.73</td>
<td>2.34</td>
<td>-6.29</td>
<td>5982</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for minority status, $\beta_{03}$</td>
<td>15.61</td>
<td>3.07</td>
<td>5.09</td>
<td>5982</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for intervention, $\gamma_{040}$</td>
<td>11.24</td>
<td>4.80</td>
<td>2.34</td>
<td>41</td>
<td>.024</td>
</tr>
<tr>
<td>Model for learning rates, $\pi_1$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model for learning rates of 1st grade minority female who did not have intervention teacher, $\beta_{10}$</td>
<td>68.15</td>
<td>1.70</td>
<td>39.98</td>
<td>41</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for current grade, $\gamma_{110}$</td>
<td>-19.26</td>
<td>2.00</td>
<td>-9.62</td>
<td>41</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for gender, $\beta_{12}$</td>
<td>0.80</td>
<td>1.55</td>
<td>0.52</td>
<td>8989</td>
<td>.606</td>
</tr>
<tr>
<td>Model for minority status, $\beta_{13}$</td>
<td>0.13</td>
<td>1.31</td>
<td>0.10</td>
<td>8989</td>
<td>.919</td>
</tr>
<tr>
<td>Model for intervention, $\beta_{14}$</td>
<td>-2.39</td>
<td>2.14</td>
<td>-1.12</td>
<td>41</td>
<td>.270</td>
</tr>
</tbody>
</table>

This model also provided information about the associated changes in student mean achievement score from one testing occasion to another, or a learning rate expressed as the $\gamma_{100}$ coefficient (in Table 1). The learning rate for a minority, 1st grade female student who had never had a [program] teacher was 68.15 units. No student-level variables, with the exception of current grade (see the $\gamma_{110}$ coefficient) had a statistically significant effect on the learning rate over this relatively short assessment time. Overall, students in lower grades experienced 19.26 units faster learning than students in higher grades over testing occasions (see the $\gamma_{140}$ coefficient), when controlling for the effects of gender, minority status and intervention. As the reliability of the estimate of the mean learning rate was low (see below), these results should be interpreted cautiously.

**STAR Mathematics**

The model predicted mean achievement of 493.66 expressed as the $\gamma_{000}$ coefficient (see Table 2) for the STAR Mathematics model is to be interpreted as a Winter 2015 scores for a minority, female, 3rd grade student who had never had a [program] teacher. Three of the four student-level variables had a statistically significant effect on the mean measure. The effect of gender on a student mean achievement status was not statistically significant (see the $\gamma_{020}$ coefficient). However, students’ scale scores increased by 85.96 units with an increase in current grade (i.e., moving from grade three to grade four) when controlling for the effects of gender, minority status and intervention (see the $\gamma_{010}$ coefficient). A statistically significant effect for minority status on mean achievement was observed, with non-minority students scoring, on average, an additional
21.11 units in comparison to minority students (see the $\gamma_{030}$ coefficient). This effect, again, should be interpreted cautiously in the absence of student’s socio-economic status information.

Most importantly, the intervention variable has a statistically significant impact on students’ mean achievement on the STAR Mathematics assessment (see the $\gamma_{040}$ coefficient). An average increase of 21.75 units was associated with adding a [program] teacher to a student’s academic history, controlling for the effects of the current grade, gender and minority status variables. This effect size (Hedges’ $g$) was calculated as 0.179.

Analogously, with respect to the assessment of a student’s learning rate, the average slope coefficient for a minority, 3rd grade female student who had never had a [program] teacher was 47.52 units (see the $\gamma_{100}$ coefficient in Table 2). No student-level variables, with the exception of current grade, had a statistically significant effect on the learning rate over this relatively short assessment time. On average, students in higher grades increase their scores at 6.80 units slower than students in lower grades, when controlling for the effects of gender, minority status and intervention (see the $\gamma_{110}$ coefficient).

### Table 2. Summary of Three-Level Exploratory Model forSTAR Mathematics Achievement

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$t$-ratio</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model for average status, $\pi_0$</td>
<td>493.66</td>
<td>5.26</td>
<td>93.79</td>
<td>40</td>
<td>$&lt;$ .001</td>
</tr>
<tr>
<td>Model for mean-status of 3rd grade minority female with no intervention $\beta_{00}$</td>
<td>85.96</td>
<td>2.01</td>
<td>42.87</td>
<td>40</td>
<td>$&lt;$ .001</td>
</tr>
<tr>
<td>Model for current grade, $\gamma_{010}$</td>
<td>2.86</td>
<td>2.24</td>
<td>1.28</td>
<td>5537</td>
<td>.190</td>
</tr>
<tr>
<td>Model for gender, $\gamma_{020}$</td>
<td>21.11</td>
<td>3.07</td>
<td>6.88</td>
<td>5537</td>
<td>$&lt;$ .001</td>
</tr>
<tr>
<td>Model for cumulative intervention, $\gamma_{030}$</td>
<td>21.75</td>
<td>3.48</td>
<td>6.25</td>
<td>40</td>
<td>$&lt;$ .001</td>
</tr>
<tr>
<td>Model for learning rates, $\pi_1$</td>
<td>47.52</td>
<td>1.78</td>
<td>26.75</td>
<td>40</td>
<td>$&lt;$ .001</td>
</tr>
<tr>
<td>Model for learning rates of 3rd grade minority female with no intervention, $\beta_{10}$</td>
<td>-6.80</td>
<td>1.58</td>
<td>-4.32</td>
<td>40</td>
<td>$&lt;$ .001</td>
</tr>
<tr>
<td>Model for current grade, $\gamma_{110}$</td>
<td>2.31</td>
<td>0.90</td>
<td>2.58</td>
<td>5537</td>
<td>.031</td>
</tr>
<tr>
<td>Model for gender, $\gamma_{120}$</td>
<td>0.99</td>
<td>1.46</td>
<td>0.68</td>
<td>5537</td>
<td>.499</td>
</tr>
<tr>
<td>Model for cumulative intervention, $\gamma_{140}$</td>
<td>0.35</td>
<td>1.90</td>
<td>-0.19</td>
<td>40</td>
<td>.853</td>
</tr>
</tbody>
</table>

**STAR Reading**

The predicted mean achievement of 301.46 (the $\gamma_{000}$ coefficient) represented a Winter 2015 score for a minority, female student between grades two and three who had never had a [program] teacher, as seen in Table 3 which summarizes the regression coefficients for the STAR Mathematics mean achievement model. The examination of the student-level variables included in the model demonstrated statistically significant effects for all of the second-level variables. Students’ scale scores increased by 80.37 with an increase in current grade (i.e., moving from grade three to grade four) when controlling for the effects of gender, minority status and intervention (see the $\gamma_{010}$ coefficient).
Table 3. Summary of Three-Level Exploratory Model for STAR Reading Achievement

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>B</th>
<th>SE B</th>
<th>t-ratio</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model for average status, $\pi_0$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model for mean-status of minority female who did not have intervention teacher between grades 2 and 3, $\beta_{00}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average mean status, $\gamma_{000}$</td>
<td>301.46</td>
<td>8.93</td>
<td>33.74</td>
<td>40.00</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for current grade, $\beta_{01}$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current grade, $\gamma_{010}$</td>
<td>80.37</td>
<td>3.29</td>
<td>24.46</td>
<td>40</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for gender, $\beta_{02}$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Gender, $\gamma_{020}$</td>
<td>-14.26</td>
<td>3.53</td>
<td>-4.03</td>
<td>4952</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for minority status, $\beta_{03}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minority status, $\gamma_{030}$</td>
<td>42.42</td>
<td>3.92</td>
<td>10.83</td>
<td>4952</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for cumulative intervention, $\beta_{04}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative intervention, $\gamma_{040}$</td>
<td>47.85</td>
<td>4.86</td>
<td>9.85</td>
<td>40</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for learning rates, $\pi_1$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model for learning rates of minority female who did not have intervention teacher between grades 2 and 3, $\beta_{00}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average learning rate, $\gamma_{100}$</td>
<td>53.06</td>
<td>2.23</td>
<td>23.83</td>
<td>40</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model for current grade, $\beta_{11}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Current grade, $\gamma_{110}$</td>
<td>-3.71</td>
<td>1.52</td>
<td>-2.44</td>
<td>40</td>
<td>.019</td>
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<tr>
<td>Model for gender, $\beta_{12}$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender, $\gamma_{120}$</td>
<td>1.82</td>
<td>1.69</td>
<td>1.08</td>
<td>4952</td>
<td>.282</td>
</tr>
<tr>
<td>Model for minority status, $\beta_{13}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Minority status, $\gamma_{130}$</td>
<td>4.88</td>
<td>1.81</td>
<td>2.69</td>
<td>4952</td>
<td>.007</td>
</tr>
<tr>
<td>Model for cumulative intervention, $\beta_{14}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative intervention, $\gamma_{140}$</td>
<td>0.99</td>
<td>2.68</td>
<td>0.37</td>
<td>40</td>
<td>.714</td>
</tr>
</tbody>
</table>

A statistically significant effect for gender (see the $\gamma_{020}$ coefficient) on mean achievement was observed with female students gaining an additional 14.26 units in comparison to male students. A statistically significant effect for minority status on mean achievement was present, with non-minority students scoring, on average, an additional 42.42 units in comparison to minority students (see the $\gamma_{030}$ coefficient). Again, this effect should be interpreted cautiously in the absence of student’s socio-economic status information.

Most importantly, the intervention variable has a statistically significant impact on students’ mean achievement on the STAR Reading assessment (see the $\gamma_{040}$ coefficient). An average increase of 47.85 units was calculated as a function of adding a [program] teacher to a student’s academic history, controlling for the effects of the current grade, gender and minority status variables. This effect size (Hedges’ $g$) was calculated as 0.289, a level considered substantively important by the What Works Clearinghouse (US Department of Education, 2013).

As with the STAR Early Literacy and Mathematics models, this model also provided information about the increase in score from one testing occasion to another, or learning rate. The learning rate for a minority female student who had never had a [program] teacher, see the $\gamma_{100}$ coefficient in Table 3, was 53.06 units. Most student-level variables had small, statistically significant effects on the learning rate. The effect of current grade (see the $\gamma_{110}$ coefficient) on the learning rate was statistically significant, with students in higher grades learning at 3.71 units slower than students in lower grades. The growth differential for minority status (see the $\gamma_{130}$ coefficient) was also statistically significantly different, with non-minority students making 4.88 unit gains more than non-minority students from one testing occasion to another. Also, the effect of gender (see the $\gamma_{120}$ coefficient), controlling for the effects of current grade, minority status and intervention, was statistically significant, with males outgrowing females by an average of 1.82 units between assessment times.
Discussion

This study provided evidence for the efficacy of [program] in affecting student outcomes in early literacy, reading, and mathematics when student level variables, namely gender, ethnicity and grade level were considered and the school context or between-schools variation properly accounted for. Having a [Program] teacher in the student’s academic life prior or during 2015-16 school year was associated with net gains of 11.2 points to a student’s STAR Early Literacy spring score, 21.8 points to a student’s STAR Mathematics spring score, and 47.9 points to a student’s STAR Reading spring score compared to students who had never had a [program] teacher. The 47.9 points in STAR Reading translated to an effect size of 0.29, a level considered substantively important by the What Works Clearinghouse evidence standards (U.S. Depart of Ed, 2013).

Analysis of the domains tested within each STAR assessment also illuminates our interpretation of the student academic changes show in this study. For example, it is unsurprising that the effect size on STAR Early Literacy scores is smaller than for STAR Mathematics or STAR Reading given that the STAR Early Literacy assessment focuses on domains foundational for later reading and math skills. While some early literacy sub-domains integrate well with science instruction (e.g., Vocabulary), other assessed early literacy domains are less frequently integrated into science instruction (e.g., Phonics, Concept of Word, and Phonemic Awareness).

Overall, this study demonstrates that aligning early elementary science instruction to the Framework, in the context of a program that also integrates family and community science learning, can lead to gains in literacy and mathematics. Our work therefore supports the idea that science is not an “extra” classroom box to check off but rather a framework for teaching literacy, reading, and mathematics skills in the context of science.

Implications for Policy

Considering the recent emphasis on science instruction for early childhood classrooms, such as the April 2016 White House event in support of several public and private initiatives focusing on STEM for young children (Samuels, 2016), it is worthwhile to consider the implications of this work for science policy. Achievement gaps in literacy and numeracy in early childhood, which have repeatedly been shown to predict later reading and mathematics achievement gaps (e.g., Chatterji, 2006; Downey, von Hippel, & Broh, 2004; Jordan, Kaplan, Ramineni, & Locuniak, 2009), receive significant attention through programs such as Head Start and Early Reading First. However, the science achievement gap receives less attention (Tate, Jones, Thorne-Wallington, & Hogrebe, 2012). This is significant because recent work demonstrates that the science achievement gap begins in kindergarten and persists at least to eighth grade (Morgan, Farkas, Hillemeier, & Maczuga, 2016). Further, elementary instructional time for science, which can increase science achievement, has been dropping in the U.S. (Blank, 2013).

This study suggests that the achievement gaps in all three areas can be addressed by providing Framework-aligned science instruction in early elementary classrooms. Including science instruction in early childhood and early elementary classrooms provides opportunities to increase science achievement (Blank, 2013); our work suggests that aligning that science instruction with the Framework can improve students’ achievement in early literacy, reading, and mathematics. We note that the gains measured for students in mathematics and reading in this study were comparable to the gaps measured for minority and non-minority students. Varelas and her colleagues (2014) also demonstrated that students of color, when given access to quality science instruction that accounts for the knowledge that they bring to the classroom, demonstrate the kind...
of scientific thinking advocated by reform proposals. Policymakers should therefore support NGSS implementation and the adoption of Framework-aligned science curricula in early childhood and early elementary classrooms as a means for reducing achievement gaps in science, reading, and mathematics.

References


Author citation. (2016a).
Author citation. (2016b).
Author citation. (1994).
Liberty and Justice for All: A Global View of Corporal Punishment in Schools

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Abstract
Corporal punishment was outlawed as early as 1867 in some States; however, over 160,000 students are administered painful discipline each year in public schools (Gardner, 2016). While this is significantly below the 226,190 students assaulted in 2006 (Eveleth, 2014), it remains an alarming and figure which challenges one’s social conscience as both a practitioner as well as a humanitarian. In addition to the irony of corporal punishment as a means to reduce aggression, there is an even more complex and disturbing thread within the web of childhood assault. Given that 4.5 million students currently in K-12 schools have been sexually abused by an educator (Palmer, 2012), it is no unrealistic conjecture that these educators are likely to be the ones most supportive of such protocols whereby children could be struck with purposeful intensity. Unfortunately, little evidence exists where federal actions have sided with the protection of children’s rights, leaving in place the 1977 case of Ingraham v. Wright which allows for the cruel and unusual punishment of children, excluding them from the Protection of the 14th Amendment, as it was intended for the protection of convicted criminals not children (Morones, 2013). Each morning across the nation, children in chorus recite the following: “I pledge Allegiance to the flag of the United States of America, and to the republic for which it stands, one nation under God, indivisible, with liberty and justice for all” (Bellamy, 1892). Perhaps it is time to reexamine the liberty and justice to which they are entitled.

Introduction
Given that the Constitution of the United States of America grants the responsibility of education to each of its states, there are some significant disagreements with regard to the ways children in schools should be disciplined. This paper proposes to explore how the United States currently allows the use of corporal punishment in schools to be dictated by the individual states. Further, the segue between the use of such a tactile disciplinary policy and the apparent access it may grant pedophiles within the school setting is explored. While one may initially see corporal punishment as an acceptable and readily available tool for use in schools to mitigate negative behaviors, there are concerns that the acceptance of discipline with force used upon others, especially when used by adults against children, may become magnified within the school setting, leading to unanticipated, negative consequences, impacting lives for generations to come.

Corporal punishment is defined as the use of physical force with the intention of causing a child to experience pain for the purpose of correction of the child’s behavior (Cope, 2010). However innocuous this definition may present, one must appreciate the broad implications and interpretations associated with this type of negative feedback. According to the Straus Theoretical Model of Corporal Punishment and Feedback Loops, there are three causes associated with corporal punishment: distal causes, mezzo causes and proximate causes (Straus, 2010).

Distal causes on the part of the aggressor may include personal violence that he may have experienced, as well as often a low level of educational success. Other such stresses on a distal level include war and societal inequity (Straus, 2010). “Spare the rod, spoil the child” advocates of corporal punishment in schools are overshadowed by public opinion, with 72% of respondents
opposed to this type of discipline. Even in the South, where corporal punishment is the most concentrated, only 35% condoned the practice (Cohen, 2012). Furthermore, “The very act of resorting to the rod demonstrates the incapacity of the teacher for one of the most important parts of his vocation, namely, school government” (Frank, 2013).

Mezzo causes differed in the climate of corporal punishment being legally permissible as well as normal pattern of behavior, especially in violent neighborhoods (Straus, 2010). Furthermore, patterns of punishment extend beyond strikes with a ruler to hitting a child with a wooden paddle with significant force. While providing outlier cases in extreme situations such as the following, the potential for such situations to be in any way facilitated by an educational institution is of significant concern. The mother of one child stated that her child’s bottom “almost looked like it had been burned and blistered, it was so bad” (Cohen, 2012). Students are typically put into a bent position with some reports indicating that students are disciplined lying supine on the floor. One father of an 11-year-old child in Texas accounted the following:

“The first swat knocked him down……when he fell, the principal said he had five seconds to get back up, or he’d start all over again….it took him over a minute to get up again. They gave him two more swats. The principal had to go to the nurse’s office to get my son’s asthma inhaler at that point. When my son came home, my wife found severe bruising on his buttocks and his lower back. His butt was just covered” (Adwar, 2014). Proximate causes are associated with community advice, parental violence in the home and social stress (Straus, 2010).

In addition to the concerns raised from the general definition and interpretation of corporal punishment in public schools, the exponentially more concerning data which identifies the prevalence of sexual abuse by educators within the school setting led the researcher to explore the possibility that children in schools which allow corporal punishment could be at even greater risk of abuse by a pedophile, given the tolerance in that setting for an initial expression of tactile discipline. With evidence such as the Associated Press’ investigation which found within a span of only four years, that 2,570 educators’ licenses were removed for sexual misconduct (Associated Press, 2015), clearly there is a significant data on the existence and prevalence of such unconscionable behaviors which are illegal and intolerable by society.

**Literature Review**

The United Nations Convention on the Rights of the Child (UNCRC) focused on the physical, social, cultural, political, and civil rights of children. Of the 195 countries to attend this convention, only the United States and Somalia failed to ratify this agreement (Frank, 2013). Sweden, in 1958, was the first country in the world to prohibit corporal punishment in schools. Countries who have clearly articulated the rights of the child include the following:

Sweden: “Children are to be treated with respect for their person and individuality and may not be subjected to corporal punishment or any other humiliating treatment”.

Denmark: “The child has the right to care and security. He shall be treated with respect for his personality and may not be subjected to corporal punishment or any other offensive treatment.”

Norway: “The child shall not be exposed to physical violence or to treatment which can threaten his physical and mental health.”
Austria: Prohibits inflicting physical or mental harm.

Germany: “Children have the right to be brought up without the use of force. Physical punishment, the causing of psychological harm and other degrading measures are forbidden.”

England: Corporal punishment was prohibited beginning in 1986. (Schmueli, 2010).

U.S.A: While a majority of states have outlawed this disciplinary tactic, 19 states still allow corporal punishment (Frank, 2013).

The abolition of corporal punishment reflects a change in moral beliefs. More people believe it is immoral to hit children, just as they came to believe it is immoral to own slaves or to “physically chastise an errant wife”, the common law right of husbands until the late nineteenth century (Straus, 2010).

Although “a touch causing bodily injury is a felony in most states where the perpetrator is over 18 and the victim is under 14”(Frank, 2013), in the United States, some states still permit corporal punishment in schools. While corporal punishment in schools was initially used a readily accessible tool to cause an immediate change in behavior, the value of its utilization as well as the unanticipated consequences, may well justify its reevaluation. Typically, in states which allow corporal punishment, school officials have the option to repeatedly strike children rather than to employ another, less aggressive form of discipline (Adwar, 2014). With over 200,000 school children struck each year in public schools (Pearson, 2007), various monikers have been established. Whether it is to spank, smack, slap, pop, beat, paddle, puch, whup, whip or hit, the effect appears to be consistently detrimental (Gershoff, 2010) and fails to provide positive academic or behavioral outcomes.

Table 1: Percentage of Students Struck by State Educators

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>7.0</td>
</tr>
<tr>
<td>AR</td>
<td>6.5</td>
</tr>
<tr>
<td>AL</td>
<td>5.5</td>
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<tr>
<td>OK</td>
<td>4.0</td>
</tr>
<tr>
<td>LA</td>
<td>3.0</td>
</tr>
<tr>
<td>TN</td>
<td>2.0</td>
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<td>TX</td>
<td>1.5</td>
</tr>
<tr>
<td>GA</td>
<td>1.0</td>
</tr>
<tr>
<td>MO</td>
<td>0.5</td>
</tr>
<tr>
<td>FL</td>
<td>0.1</td>
</tr>
</tbody>
</table>

According to a testimony released by edworkforce.house.gov, “There is no clear evidence that punishment leads to better control in the classroom. Physically punishing children has never been shown to enhance moral character development...Children subjected to corporal punishment in school...are being physically, emotionally, and mentally abused...creating an unproductive, nullifying, and punitive environment where children become victims” (Greydanus).

There is reasonable concern that creating a platform for children to be physically assaulted, even by somewhat minimally invasive means, by their supervising adults, may have devastating and
unanticipated effects. In “The sex offender no one suspects,” Anne Kington details how the trust both the students and parents have for the teachers is “exactly what allows them to offend.” Incredibly, during the trial of public opinion many such offenders are rallied as “excellent teachers” (Kington, 2014).

The states with the highest percentage of students struck each year by educators are as follows: There is also an issue when one disaggregates the data into categories based on ethnicity and disability status. The next referenced chart allows the reader to view the data comparatively to better appreciate how many students, for example, are impacted by Texas’s 1.1% where 49,157 students received corporal punishment in 2006. This volume of this quantitative data alone could lead one to be concerned that allowing or rather advocating for the practice of corporal punishment could create an environment described by experts as, “unproductive, nullify, and punitive,” causing children to become victims (Greydanus).

In cases in which an unidentified pedophile works within the school setting, children in institutions which allow corporal punishment may be at even greater risk. Focusing on the most vulnerable populations within schools which allow corporal punishment, students with disabilities, present aggressors an ideal candidate for abuse. While corporal punishment may leave bruises or blisters, sexual assault leaves a lifetime of scars that often never truly heal. Given that abused children in this scenario are likely frightened and confused, it is no surprise that 86% or more of sexual abuse incidents against children are never reported (Bernier, 2015). This is a most frightening proposition, devoid of rational thinking and laced with disregard for the safety and protection of children. In order to provide clarity with regard to special population assault, the following chart is presented. Total students struck and highlighted portions which reflect struck students with disabilities (SWD).

Table 2: Total Students Struck and Students with Disabilities Struck

<table>
<thead>
<tr>
<th>State</th>
<th>Total Struck</th>
<th>SWD</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX</td>
<td>49157</td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>56121</td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>28736</td>
<td></td>
</tr>
<tr>
<td>AK</td>
<td>22314</td>
<td></td>
</tr>
<tr>
<td>GA</td>
<td>18249</td>
<td></td>
</tr>
<tr>
<td>TN</td>
<td>14868</td>
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<td>LA</td>
<td>11080</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>14828</td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>7185</td>
<td></td>
</tr>
<tr>
<td>MO</td>
<td>5129</td>
<td></td>
</tr>
</tbody>
</table>

Additionally and remarkably, there is a also a marked disparity in the impact of corporal punishment on different ethnicities. Although corporal punishment lends itself to overall, negative behavioral consequences in children, impacts appear to be more detrimental to African American youth, particularly males (Lansford, 2010). Studies of corporal punishment of all adolescents, however, independent of ethnicity, find outcomes to be “predominately detrimental” and “likely to be futile and counterproductive” (Cope, 2010). Furthermore, the National Longitudinal Survey
of Youth found children’s antisocial behaviors to increase proportionally to their exposure to corporal punishment (Lansford, 2010). Additional research on corporal punishment, independent of gender and ethnicity, is entirely consistent: the more corporal punishment is used, the more aggressive the children become (Gershoff, 2010).

In order to provide a cursory legal review on the incidences of the cases of corporal punishment as well as sexual abuse in schools, the following excerpts serve to provide insight into the problem.

1977 Ingraham v. Wright: an eighth grade boy was disciplined for being “slow to respond to his teacher’s instructions… He was hit more than twenty times so severely he suffered a hematoma and was unable to attend school for several days” (Frank, 2013).

1997 Saylor v. Board of Education of Harlan County, Kentucky: Following a fourteen-year-old girl’s altercation with another student, the teacher gave each student “five licks with the paddle”. Unique to the case is the notice that the student had been “spanked” by five different teachers already that day (Wasserman, 2010).

2001 Johnson v. Newburgh Enlarged School District: Gym teacher assaulted an eighth grade student by grabbing him by the throat, screaming threats, and lifting him off the ground by his neck, dragging him to the bleachers, choking him and slamming his head against the bleachers four times. The assault was only stopped by another student’s intervention (Wasserman, 2010).

Connecting corporal punishment and its relationship to or association with child sexual abuse is a complex endeavor, given that the majority of the abuse is never reported. However incomplete, even relying simply upon the data that is available, an adequate cause for debate is clearly provided. While corporal punishment’s impact can range from what was referred to by two, high school students as a “creepiness factor” (Haynes, 2012) of having a male teacher monitored by another male teacher, paddle a female student, all the way to extreme and indisputable incidences of sexual assault, benefits of corporal punishment in schools are nearly impossible to quantify or to support with factual data.

Furthermore, arguments countering with the benefit of corporal punishment appear to have been repeatedly debunked by the literature. Given the reported findings which included 2,570 educators whose teaching licenses were removed for allegations of sexual misconduct just between the years of 2001-2005 (Associated Press, 2015) one may begin to realize how states’ historical perspectives on corporal punishment in schools may be ready for a reevaluation.

Looking further, research ascribes to the idea of an evolution from victim to one who victimizes as child sexual abusers often report a history of abuse (Knopp, 1984). Additionally, researchers suggest that that there is often a tendency to abuse the victim in a way that replicates the offender’s own experience of abuse” (Hilton & Mezey, 1996).

Conclusion
Given that corporal punishment in public schools is prohibited in all European countries (Schmueli, 2010), one must call into question the present practice occurring in 2016 in 19 states (Frank, 2013). According to the Office for Civil Rights at the U.S. Department of Education, these 19 states account for more than 160,000 students being struck each year in public schools (Gardner,
Independent of age, ethnicity, gender or disability, the data on corporal punishment offers a concerning and even somewhat frightening vision of what can happen when adults in a school setting elect corporal punishment. While this in no way asserts that the use of corporal punishment is intended by any educational entity to provide a segue for deviant behaviors toward children, it does cause one to reevaluate his position on the use of corporal punishment a preferred disciplinary means. Certainly not a new cause on which to propose legal reevaluation, the following letter to then President Clinton in 1993, offered the following: “107 Organizations Call for an End to Corporal Punishment in the Schools in the United States” (http://www.nospank.net/endcp.htm).

Highlighted in the narrative were excerpts from Dr. Morris Wessell, a pediatrician and clinical professor of Pediatric Medicine at Yale University School of Medicine who wrote, “Beaten and battered children are more likely to become adults who have inadequate control of their aggressive feelings, who therefore strike out mercilessly against children, spouses, friends and sometimes even other members of society.” The letter cites the protection from battery as a routine administrative procedure for all groups, agricultural and factory workers, military recruits, ……convicts, suspects, women, elderly….every group, except children.

Given the abundant data on the negative effects of corporal punishment by educators in any clinical setting, the potential pathway to sexual abuse, and the dramatic disparity between populations targeted for assault, it may be difficult to imagine a logical and data driven justification for the continued usage of corporal punishment in schools. Perhaps additional research into establishing alternative disciplinary practices and consistently creating monitoring systems and barriers to any type of abuse within the sanctity of the school setting will help provide educators, parents, and children a safe and secure learning environment, providing liberty and justice for all.

References
Part 9: Research Methods in Education
Creativity and Innovation: The New Strengths Demanded by XXI Century Schools

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Abstract
We live in a changing era, in which man had never lived so closely with knowledge. Thus, it seems paradoxical that in the first decades of the twenty-first century students do not feel the passion for learning, the passion that has moved the world through history and turned the human being into something unique and unrepeatable. The incorporation of creativity and educational innovation in the classroom by a renewed teacher results in an increased motivation by students and, in most cases, the improvement of their academic performance. In this line, it is essential to work advisedly, analyzing and internalizing the attitudes that teachers should have in order to achieve a substantial change in mentality and philosophy of work.

Keywords: innovation, formation, creativity, change, teacher

Introduction
There is an amount of circumstances that cause among teachers a discomfort that often translates into passivity which derives in turn, in a worsening of the baseline. Schools, management teams and teachers in general do not understand how their personal or collective contribution, under certain situations, can improve the educational situation when, on a global and on a policy and legislative framework level, they feel abandoned and, in the worst, harassed. In this situation, the quality of education feeds its problems and finds no new outlets or air to breathe. We must admit that in recent years are constant apparent efforts by education authorities to improve the situation of educational quality and academic performance as well. Several plans to improve the quality of teaching or incident plans in education have landed in schools with a palliative function and have been implemented with more skepticism than faith and more reluctance than illusion. These well-intentioned reforms have not led to the expected changes and they have been contaminated with the endemic disease that affects the state of education. It seems that the solution is not in these improvement plans and educators receive them with reluctance. We have a system based on memorization and standardization, an educational system poorly designed, outdated, variable and ideological. A system that is unable to keep students and teachers excited about their own learning and educational work. This system needs to be changed. However, teachers must not go on passive, waiting for the global situation be changed from upper headquarters.

We can say that there are two types of teachers: traditional and innovative. They belong to the first group those teachers who respect the guidelines that make the management teams without questioning their validity or relevance, they define themselves as specialists in a given area, they give priority to the seniority in the center or the specific charges before the professional curriculum, assume the authority of educational administration without trusting or believing in it, work alone and feel comfortable if the innovators do not alter their bubble of stability. They are immobile and
comfortable with a daily work under control, they do not check their performance nor feel comfortable with self-assessment. Innovators, conversely, are open to change, they do not fear conflict because they operate comfortably in it, they are cooperative, they do not consider seniority or the position in the center a value, they are in continuous process of formation, they are critical with the decisions of managers and management teams and seek for recognition of their work because they feel that it is part of the change they crave. There is also a factor that differentiates them above the rest; the first group of teachers has limited beliefs on students, while the second group has high expectations for its students.

**Learning the Lesson**

Teachers must flip the switch and react against the established mediocrity. Our commitment is to introduce innovation and creativity in the learning-teaching process. The classroom should be the first level of action to start viewing the improvement, the classroom as a place of innovation whose results will be, unavoidably, to transform the centers, from which other measures will be managed to support actions that occur in the classroom. Fullan and Langworthy (2014), two of the most interesting educational experts of the time, invite teachers to develop a new pedagogy based on creativity and innovation to face the new challenges schools have. Only this way, we will see a huge acceleration in the improvement of academic outcomes, instead of the frustrating decrease in the results of the last decades. New teachers that change need to realize that expository methods, must give way to interactive methods in which the teachers encourage student’s autonomy in the acquisition of knowledge, through research, debate and confrontation of opinions. As Tribó (2008) says, ‘The teacher must learn to mediate between information and knowledge’ (p. 194). It is going over emitter teacher to the teacher learning facilitating teacher. But it is not easy, the dominant factor is still nowadays the transmission of information from teacher to student.

In the OECD report (2012) about the education of the XXI century, a huge emphasis is placed on the importance of preparing students on issues such as creativity, critical thinking, problem solving, collaboration, social responsibility, etc. It is these skills that the near future citizen must consider to get on successfully in the changing world he lives. The results of external tests that our students pass and whose results are reflected in the PISA reports, leave in a desolate level European and American student due to the poor academic results obtained by them. These results should be a cause for reflection of all teachers. Low PISA results are explained because teachers do not teach to use what students have learnt in everyday life situations, this mean that we continue teaching for passing exams but not to act as informed and thoughtful citizens. Teachers are poorly trained, there are excellent teachers but they are committed to their self-taught capacity. Internationally, Fullan (1998) became one of the first voices claiming that an emphasis on improving the quality of teachers had to be put particularly with regard to the collective ability to build better learning. The OECD report (2012) points out that low school results are due, among other things, to a teaching profession that does not offer a high quality. The Eurydice report (2013) evaluates the quality of teachers, and advocates a highly-qualified level access to the teaching profession and provides the opportunity to begin to attract the best students to careers devoted to the education.

Nowadays teachers are not responding to a school that belongs to the future. Stoll and Fink (1999) expressed this need for years and daring to say that our schools would be good if we were in 1960. That is why one of the areas of knowledge in which we should print our efforts as educators is to understand and manage the process of educational change, school improvement and innovation. To remedy this situation, there is a need for a change in applicable methodologies in the process of teaching and learning, from expository to participatory methods, from the masterful lesson to
dialogue, from passivity to action. It can be said that innovation and improvement are the aspects that are available to the action of teachers and that is precisely where we should focus our formation and efforts to contribute to change. Both innovation and improvement require a change of attitude and mentality, and an enormous capacity to face the conflict and problems. The professional we require should be open to discussion and dialogue, resistant to discouragement and knowledgeable about what change means.

For a real change, teachers must have a new vision of the educational world, believe in the necessity and form for the process. The schools demand the need for change, a new professional culture in which the teacher sees himself as part of a professional group where skills such as teamwork, coordination and joint programming are the main axes of their activity. Teachers need to realize that expository methods must give way to interactive methods in which the teachers encourage student’s autonomy in the acquisition of knowledge, through research, debate and confrontation of opinions. The teacher must learn to mediate between information and knowledge. But it is not easy, the dominant factor is still nowadays the transmission of information from teacher to student. To provoke change we advocate innovation and creativity as the right tool. However, can teachers be innovative despite the culture of change does not appear in the center?

**Innovation Against Isolation**

Indeed, creativity and innovation in the classroom may open a gap themselves even if there is not a culture of change in the center, not the desired situation but it does have an impact on the classroom space. Teachers who are innovative are committed to finding a new school culture that can influence part of the cloister, through the observation of results, curiosity or the spontaneous formation to other colleagues from these pioneers. This is not to say, however, that we can focus the change of a school on the isolated innovative practices. Paredes and De la Herrán (2009) claim that the change does not occur in isolation as it affects both the macro structure and micro structure and to focus on the individual innovative capacity does not normally produce results in practice as it can occur that innovations disappear when those people leave the institutions or when that individual effort is reduced or canceled when disappearing protection situations to innovation.

When speaking about the change needed and demanded by new schools, we must focus on one of the huge problems which affect the whole system. The individualism that affects not only the teachers’ behavior in the teaching learning process but also, and more important, the whole educative system and results. There is a lack of a collaborative spirit among teachers which choke the educational quality. We remain excessively individualistic in our daily work. Often efforts to promote and encourage cooperatives take place, but they are overly linked to personal efforts of a group of teachers who understand that collective work and participation are still pending, and this happens if there is no management team to boost the centers in the sense of participation and discussion as basic tools to get the real change needed for excellence in educational quality.

We can still define many schools as a sum of watertight compartments: classrooms, departments, management teams, cloisters, management and educational community. The fact that these organs and action spaces maintain a good relationship between them and can boast of a horizontal outline and not hierarchical and vertical, does not make out of its operation the ideal situation. These elements must ally and integrate. In schools, individualized work remains the imposed mode. We can blame the schools organization but it cannot be obviate the existence of those educators who are used to working in isolation and can find it difficult to share ideas or have their practices questioned. Isolation must not be a side effect of being a teacher. In most of schools, it is very easy
to get in the trap of entering the class, shut the door and attend the group of students feeling yourself as the only responsible of their education and improvement. The way schools are organized benefit this way of acting; teachers working together but sharing nothing. San Fabián (2006) attributes this taste for individualism to the cell-way organization of school spaces. Currently, a collaborative culture involves trusting relationships between teachers, mutual support and shared learning. Schools are still dominated by the unshared isolated performances, collaborative work is not regarded as widespread as it should be. The faculty is too installed in the dynamics of ‘tell me and I do’. Although, if we reflect carefully, what came first the chicken or the egg?

It might be thought that teachers are immobile because the centers do not spread in a participatory work or, on the contrary, participatory life of the schools is an impossible challenge because of the individualistic character of teachers. However, effective teachers want collaboration, need collaboration. Teachers must begin to learn each other and from each other in order to become stronger, more effective and more qualified. This academic interaction will result not only productive for teachers but also for students. There are many researchers who have argued that collaboration may improve the teaching and learning process. In a very interesting research, Hausman and Goldring (2001) investigated whether there is an empirical link between teacher collaboration for school improvement and student achievement. According to these authors, teachers are central to any change in schools. Besides, it has been widely proven that the more teachers collaborate in their daily educational activities, the more they are able to converse knowledgably about theories, methods and processes of teaching and learning, and thus improve their instruction.

**A Good Evaluation Against Control**

Another of the great evils which, from our own perspective, teachers have anchored on the road to improvement is the absence of a culture of assessment. The external assessment is still considered a form of control of teaching practice that teachers and management teams are reluctant. What at first it appeared to be a release for the system has turned against us and left us, in many cases, unable to critical judgment, becoming one of the big negatives centers. In the words of Martín (2010), no one doubts that the quality of teachers is one of the essential factors in education, but the professional development also demands counting on the procedures for assessing the task that is performed in order to improve it. However, educational systems still suffer from the dynamism that these processes pose to the quality of education, as revealed TALIS OECD report (2009). The faculty continues to show resistance to be evaluated. In a recent survey of teachers of Elementary and Secondary Education it was shown that only one in three teachers agreed to carry out an assessment of the results of the teaching impact on working conditions.

The problem of rejection experienced in our schools to the assessment of teaching practice is an enormous lack of information and teacher formation in this regard. What kind of assessment should we expose to? Who is the ideal agent for that assessment? Is that assessment translated into information, or bureaucratic requirement? Assessment for improvement or mere control? There are many questions that we, as teachers, do before a task we are not prepared to do, and therefore willing. Ignorance causes reluctance. It is time to rethink not only a new culture of self-evaluation but also reclaim quality evaluation.

The solution is to introduce in schools, from within, a philosophy of evaluation, which stresses the benefits that bring this necessary educational action and minimizes the drawbacks and fears. The assessment should start to be considered, not as a threat, but as a generator of exercise changes. It
is somewhat ironic that a profession that constantly and regularly evaluates as part of its power, is so reluctant, and in the best case, suspicious to be evaluated. The evaluation is necessarily an inherent work to teaching and a factor of relevance to the educational reality and to achieve improvement. As pointed out by Bolívar (2013), any possible external evaluation will have little effect if it does not cause, at the same time, internal evaluation processes leading to make things better.

There are many challenges before us in improving our schools, evaluation is one of them. Without a weighted evaluation exercise cannot be a judicious reflection on teaching practice, rejecting the evaluation we reject the self-critical assessment and the ability to adapt to changes. It is absolutely necessary a reeducation in this aspect.

Conclusion
The teacher is the most influential element in educational practice. The ideal is to have an inclusive approach to innovation, in which teachers, administrators and counselors work in a coordinated way to facilitate innovation and change in our schools, but while this solution comes the teacher must promote and rely on these creative practices. Following Fullan (1998), the future of educational change depends on the evolution from innovation to institutional development. We need to become the roots of a new transformation in education, prompted by real changes in methods, curriculums, technology and social demand for better learning. Teachers must restructure themselves and do it surely and hopefully. Taking the initiative, they will be leading the way to more and more educators, creating a transmissible flow which will motivate them to rethink their relationship with students, colleagues, and the whole community.

Marina (2001) summarizes the features of the new teacher as a professional that sees education as an ethical project; expert in education, in collaboration, trained for action; for diversity and problem solving; who takes a more active role, not to mention that among the attitudes that allow learning are those that have to do with humility and responsibility.

At this time in which it has been widely exposed the need of new teacher’s role and profile, it would be a great self-reflection exercise to remember the lessons that Fullan (1993) bequeathed us in his prescient book ‘Change Forces’ about the difficulties a transformer process implies and to remind ourselves that we are far from dispensing prescriptions for what is right and what is not, the wise and unwise. Changing schools is changing society and vice versa, that is an expensive magisterial formula and that we apply ourselves.

Lesson 1: the important thing cannot be imposed by command, the more complex the change is the less it can be forced. Lesson 2: change is a journey, not a model, change is not linear, is full of uncertainties and passions and sometimes becomes perverse. Lesson 3: problems are our friends, problems are inevitable and one cannot learn without them. Lesson 4: vision and strategic planning come later, premature visions and plans blind. Lesson 5: there must be a balance between individualism and collectivism. There are no one-dimensional solutions to individualism nor to groupthink. Lesson 6: neither centralization nor decentralization work alone, both top-down strategies as bottom-up are needed. Lesson 7: a wide connection with the environment is fundamental. The best organizations learn both from the inside and outside. Lesson 8: each person is an agent of change, change is too important to leave to the experts (pp. 21-22).
References
Part 10: The Impact of Trump Administration
The Glass Half Full? An Opportunity Under Trump’s Administration to Review the Perennial Aims of Western Education

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Abstract
This paper examines the earliest and most enduring goals of Western education, and argues for their continuation in the current US administration’s proposed policies. As a US citizen living in Canada, the author brings a dual perspective to the philosophical values that were identified in antiquity and have since served as a compass throughout the ages. Discussion centers on values as related to the education that today’s teachers feel students need for the society that they will inhabit. In light of 21st century issues, relevant contributions of Socrates, Plato and Aristotle, possibly education’s most renowned pairings of teachers and students, are explored.

Keywords: philosophy of education, values, perennial aims of education, Plato, Aristotle

Introduction
The author is an American citizen who has worked and lived in Canada for two decades. The advantage of being an exile, an outsider, in that state of “in between”, is to acquire, comfortably or uncomfortably, a sharper perspective on events. In Canada there is a tendency to observe the US closely, having an immense border and an influence in mainly one direction that requires Canadians to remain fastidious about maintaining their distinct identity. Canada has its own challenges, and only history will tell which methods succeed best in handling issues common to both countries. Undeniably, both countries are inextricably linked – by history, geography, economics, culture and especially by similar educational ideals and their sources, although with points of divergence – but both can learn from one another.

It is through this lens that the author would like to compare the genesis of Western education in ancient Greece, with the important dichotomy handed down through the centuries from Plato/Socrates and Aristotle that together form the ideas and values on which North America builds its educational systems. It may not be an exaggeration to say that in the US, education is one of the crucial pressure points due to a tug-of-war between 21st century multiculturalism and the settled descendents of European immigrants, or more simply, liberals and conservatives. Furthermore, there are sublevels and subgroups within, mainly those conservatives who, previous to large numbers of non-white immigrants entering the country or jobs moving to Asia, had access to earning a decent living without pursuing higher education but who now find themselves struggling. It is for this subclass of individuals that Donald Trump wants to “make American great again”. In Canada, 80% of immigrants are granted permanent residency for “economic reasons” (Welcome Canada, 2016), meaning they have agreed to import a large amount of money to invest in the local economy. Undeniably connected to this prosperity is that 34% of these economic immigrants already have a university Bachelor’s degree or higher and of those, 50% have STEM degrees, which is greater than the Canadian population at 26% (Statistics Canada, 2011).

Currently, in the city of Vancouver, British Columbia, Canada, 40% of the population is foreign born, and yet there is very little ill will directed at immigrants in terms of their right to enter the
country and, with their education and personal wealth, perhaps more easily find employment. There are schools in Surrey, BC that have an 80% Muslim student population, and most every school in the Greater Vancouver area is highly multicultural. (BC Ministry of Education, 2016). Schools are not without their conflicts, but the question that arises from some outsiders’ perspectives is: how does this system work so well? How is harmony achieved? This brings us back to the roots of education.

Some Context: Ancient Greece

In antiquity, literacy was scarce, writing systems crude and available only to court scribes. The oldest existing artifact of writing is a clay tablet etched with cuneiform wedges from Ancient Sumer in Mesopotamia, or today’s Iraq, dated approximately from 3200 B.C. (Archaeology, 2016). It preserves for the ages not some hard won knowledge intended to spare future generations from repeating devastating mistakes or honor the best among the venerated, but, in fact, to issue a receipt for grain paid to the ruler as tax. So much for the romantic view of the dawn of civilization. By the time of Homer in early Greece (approx. 800 BC), however, the vehicle for education was storytelling, conveyed by the itinerant poets who disseminated knowledge throughout the countryside as a means of forging cultural unity, establishing religious ritual and common identity. Poetry encrypted communication through rhyme, musical beat and dramatic telling, embedding information in the minds of the listeners. Repetition and interpretation among competing poets served to reinforce the public’s collective memory until literacy spread around the Mediterranean centuries later. Interestingly, it is this “threat” of the dominance of fiction to shape the hearts and minds of youth that initiated the rise of rationality, and with it, a whole basis for Western thought and education.

Western philosophy begins before the time of Socrates (470-399 BC), but he has always been seen as its ideal and hero. In his unyielding quest for truth, his prowess in argument, and willingness to die for his beliefs, Socrates’s motives were not fame and fortune, but a need to save his soul. This may seem quaint by today’s sensibilities, but Socrates also had political motives: he was against democracy as a form of government, but even more opposed to men who could not rule (Solomon & Higgins, 1996).

Socrates himself never wrote anything, but Plato, Socrates’s most famous student, attempted to record his most compelling ideas. According to Plato, Socrates, whose only crime was to provoke people in order to make them think, was charged with not believing in the gods, and corrupting the youth of Athens, obviously, on trumped up charges. He was put on trial and his jury consisted of some people he had humiliated. In Plato’s Apology we hear how Socrates respects the law and is willing to be punished by it, because what is the law for but to uphold the values of the people? Socrates is sentenced to death, but he refuses to allow his friends to help him escape, what the jury expects him, like other convicted felons, to do. Instead, Socrates insists that he will die a virtuous man, and he is doing his soul good in accepting his punishment, he believes that much in the importance of the system.

The point for Socrates, in his debates, in his attacks on politicians, and in his death was to force others to search for the answers themselves. Questions such as, What is virtue? What is justice? What is knowledge? may be unanswerable, but it is still important for people to think about, argue through, and possibly die for.
Plato (423-347 BC), a student of Socrates, in his time was keenly aware of the competing ideas that emanated from religions, cultures, politics and philosophies in the rich civilizations around the Mediterranean. He also seized upon truth as a necessity to direct people away from superstition, violence, corruption and ignorance (Havelock, 1963). To this end he wrote *The Republic* (1987), a description of the ideal state that included his concept of the proper education of youth. He believed ideals such as absolute truth, a perfect democracy or complete goodness were not possible, but as a “form” they could exist in the mind of the individual and act as a guide, or a goal to strive toward, which would keep people on the right track.

While Plato put his faith in ideals to lead society, his student, Aristotle (384-322 BC) urged philosophers to train their minds upon reality. He saw qualities on a continuum from weak to strong, where people should aim for a Golden Mean in the middle, so as to maintain balance (*Nicomachean Ethics*, 2002). Aristotle also saw the value in stories as reflecting reality, and the plays especially allowed people to experience dangerous emotions in a controlled environment, surrounded by others having the same experience. At the climax, the “truth” of the story could be cathartic for the audience, and much could be learned from it that could be applied to life. Plato disagreed that emotions could do anything but cloud our rationale minds and prevent us from recognizing flawed characters. Aristotle believed that when examined in hindsight, emotions reveal a truth about experience that is more reliable than rational thinking.

Although Socrates/Plato and Aristotle overlapped on some concepts, they also disagreed on points which continue to be discussed and evaluated. Their legacy has come down to us through the ages, interpreted through the events of history, politics, religions, and new philosophies, and now into modernity, changed significantly, but surprisingly with core ideas resistant to change or dismissal. For this reason they are labeled “perennial” ideas in Western thought. In education, few teachers would want to follow Plato’s recommendations to the letter, yet in broad strokes, there is much of Plato still organically a part of contemporary educational ideas. For example, Plato supported education for everyone, and the opportunity for social mobility based on ability. In his works, Plato recognizes the sovereignty of the Good, the quality that supersedes and encompasses all the other virtues which is deeply a part of the human experience today for those who have internalized moral values (Murdoch, 1970).

In the next sections, four aims of education that still hold true, and may even be more important than ever, will be examined.

**Socrates, Truth and Good Citizenship**

What we know of Socrates’s ideas come to us from Plato’s early writings. Plato carefully recorded some of Socrates’s most famous debates where Socrates often drilled down through questioning, or the Socratic method, to reveal a person’s ignorance, or lead them to a point where they could apprehend the correct idea themselves. Socrates believed people are inherently prejudiced and accept ideas they encounter out in society without questioning them. His educational goals were to get students to dispute what they heard, especially ideas that are widely accepted. In *The Apology* (Plato, 28E), Socrates sees it as his duty to act like a “gadfly on a horse’s back”, biting, agitating, and otherwise annoying others in society (Nussbaum, 1997) to get at the truth.

Today we see powerful examples of ignorance in society, and social media and technology have become foremost in promulgating disinformation. “Crowd sourcing” is not a way of confirming the truth; in fact, one of the worst logical fallacies is the “ad populum” strategy in argument where
the speaker cites the truth of an idea based on its having the most support. In other words, if everybody believes it, it must be true. When students are not explicitly taught media literacy, they are in grave danger of believing what they hear. If students do not learn to think for themselves, or at least question what they encounter and evaluate sources of information, they are vulnerable to inaccurate ideas, propaganda and manipulation. And worse, they may not know it because everyone else seems to be lulled into a sense of certainty through consensus.

Socrates can do much for us today in returning students to a love of learning, and the wisdom acquired through doing the hard work and figuring things out for themselves. Too often educators fail to model a love of learning themselves, and communicate to their students the deep pleasure of becoming more educated.

**Socrates and Self Respect**

Socrates offers a model on the value of education related to the virtues, or developing good character. He gives compelling reasons to be good, and not just when others are watching. He claims it is more important that we do it for ourselves, for our self-respect, because then we can be proud of ourselves, and discover being good is important for intrinsic reasons.

In our students’ lives, they may grasp the idea that there is often another system at work in society: it’s wise to follow good behavior when it works to increase reputation and social capital, but it’s also okay to allow oneself to behave badly, as long as no one gets caught. Socrates would say adhering to this maxim will do damage to the self, if not before getting caught, then certainly after.

In some careers, some people may find it difficult to uphold Socrates’s values if they are embedded in a work culture that rewards corruption and greed due to the necessity of competition and “winning”, such as on Wall Street or in sports leagues. Just as problematic are environments where people in their high status see themselves as above the law or beyond certain social contracts. There are frequent examples in the news where people in public life are “recusing” themselves from testimony, or when interviewed by journalists, deflect questions, put a spin on facts or create new scandals to distract the public from the real issues.

**Plato and Upholding Ideals That Bring Us Closer to Perfection**

In the *Republic*, Plato takes great pains to present his ideal curriculum, opening the educational institution to all {male} children who follow a set plan for their development. His recommendation is that pupils take a variety of courses, beginning with poetry and music, learn to read around age 15, undertake military training, and then their teachers who had marked their progress and inclinations would determine where their place in society lay. Some may choose to drop out as being unsuited to study and instead train for a job. Possibly most remarkable for the time, in Plato’s state, there is mobility based on an individual’s ability; given the talent and energy, any student can continue on to “higher education” and possibly to the apex, that of “philosopher king”, the man most supremely suited to rule.

With Aristotle, the school was meant to mirror real life, only in a better sense. Justice could be upheld and teachers were there to answer any questions that arose at the proper time. When moral conflict emerged, the teacher was not only able to explain proper behavior, but also model that behavior in the teaching of morality.
Because in ancient Greece the great teachers who were also philosophers were highly respected as “sages”, finding one’s place in Plato’s Academy or Aristotle’s Lyceum was greatly sought after. The possession of knowledge and achievement of understanding was the highest goal. For students of both Plato and Aristotle, the promise of knowledge that derived from an ordered mind and a categorization of objects and events in life held great value. Plato called it in the Allegory of the Cave, “emerging from the cave of darkness or ignorance, and coming out into the sunlight or “the Good” (Republic, XII6). Aristotle called it “flourishing”, living the reflective life, in harmony with all other aspects of life. People ought to have enough money to live without worry, but acquiring material goods were not a worthy goal. With Plato, the ideal ruler was one who had been chosen from the most excellent of those who had become philosopher kings. Admired by all for extensive knowledge, advanced ethics, physical superiority and balanced temperament, these students were best suited for making the right decisions for the citizens of the republic.

Today, teachers themselves need to accept, whether they like it or not, that they are role models for their students. As professionals, teachers are held to a higher set of ethics than what students might normally encounter in the public realm, and it is the teacher’s ethical standards that give them the power and the right to actively shape young minds. It may be a heavy responsibility at times for the teacher to think about moderating and monitoring their own behavior, but for many students, it can be a turning point in their young lives to have direction when their home environments offer no moral guidelines. Often they turn to the school to provide the “normalizing” they need in order to begin to think for themselves and take responsibility for their actions. This will also allow students to partake the in moral collective consciousness that society seems to have lost because of a fear of imposing one’s views on someone from another culture or religion. However, a quick survey of the values promoted in major religions and cultures reveals an exceptional uniformity, including key prohibitions, like “do not kill”, “do not steal”, and the like. Often people confuse rituals such as “do not eat meat on Friday” with universal moral imperatives. In Canada, where a diverse population lives, works and cooperates smoothly, tolerance and acceptance is the norm, and the emphasis is on similarities, not differences. Universal moral values are promoted, most strongly in schools. This is an important component in teacher education, and the government and the rest of society embrace it. Here Aristotle’s Golden Mean can teach us about balance and moderation in our behavior and in our society. And also to resist when we see a lack of moral education or balance in others.

**Plato, Politics and Entertainment**

Often it is challenging to explain one of the more perplexing opinions held by Plato, and that is his rejection of the arts, in particular, the poetry and drama of his time. Plato was not only concerned about the emotional reaction people had that clouded their minds, but also that in the telling of the story, they often identified with flawed characters. Havelock (1968) explains that once a society begins to spend more and more of its leisure time on entertainment, the quality and moral values of that society begin to decline. Plato predicts how excessive amounts of entertainment can impact a person’s potential, if a counter-balance, such as a critique of that entertainment, does not take place. Certainly in contemporary society the sources of entertainment are endless. The amount of television youth consume and the quality of the behavior and messages they receive about relationships is questionable at best. If parents are not discussing the content, especially if it is morally ambiguous or disturbing, students are at risk of learning about life from flawed sources. Granted Plato has been accused of being a puritan and not having the sophistication or sense of humor to back off from philosophy to appreciate the lighter side of the arts (Murdoch, 1970). Yet
teachers might agree that their students’ addictions to all kinds of entertainment from their various devices is interfering with their intellectual and social development.

By extension, in society today, in people young and old who do not have the education or awareness to realize the seriousness of what is at stake in government, there is a blurred line between entertainment and politics. In Socrates’s time, the Sophists had great sway over the population and their ability to win public opinion was more based on oratory skills than content and character. This may have been Socrates’s motivating factor in developing his philosophy. Democracy works much in the same way; the most popular candidate may appeal to the public through showmanship and bombast and garner the majority’s vote. A public that is not familiar with the issues, cannot see through the rhetoric, and cannot evaluate the character and values of a politician is in grave danger of losing what they hold most dear. The world can only hold its breath, and hope for the system as a whole to function as it should, and eventually time will move it forward to a better political era. At least, that’s the ideal.

Conclusion

The roots of Western education go back at least 2500 years and have survived revolution and radical influences without losing sight of the fundamental values at its heart. Ask any adult who has completed a high school education what it is to be educated, and you will learn the key aims of education: to be a good citizen, find a job, acquire skills and knowledge so as to participate in subject areas, and last, to understand what it means to be human. The dueling yet complementary voices from antiquity have provided a unique approach in Western education, one that is still strongly with us today, namely: idealism vs. realism; fact vs. value; truth vs. meaning; art vs. science; and the state vs. the individual. The result of these options is that as educators, we are always given two or more perspectives on things which enable us to see complexity. There is no “one size fits all”; rather, there are best practices to hold up to individual cases. At the time of writing this paper, the author can only speculate what changes may come in education under the Trump administration and a Secretary of Education who proposes to implement a charter school model. Educators know that socio-economic factors impact schools and the students who attend them. Struggling students are able to accomplish more in mixed ability schools, rather than through staying ensconced in low achieving environments. Education is the beating heart of a nation, and the care and investment put into creating excellent schools must be based on the best that we know, sourced in universal human values, and forged through the educational philosophies that have been passed down to us.

References

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