

DIFFERENTIATION IN THE CLASSROOM, A CURSORY REVIEW OF THE LITERATURE

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ABSTRACT

Differentiation in the classroom is a method of effectively presenting information to students who may have diverse backgrounds, learning levels, strengths and weaknesses, and different language proficiencies. Providing each student with optimal strategies to learn requires that teachers also have optimal strategies to teach. The current work is an effort that begins to examine differentiation as a teaching strategy for improving student learning, regardless of the diversity within the classroom. Various relevant publications are reviewed and discussed here to define differentiation, to bring to light a wide range of educational concerns, for which differentiation has been considered a possible solution, and to suggest some foundations for differentiation strategies that teachers might employ in the classroom.

Keywords: *classroom, literature, differentiation, teachers*

INTRODUCTION

Differentiation in a diverse-learner's classroom can be described as a teaching approach that uses multiple pathways and support systems to help that student, and all students, attain the same content goals (Tomlinson, 2001). As a dedicated proponent of differentiation, Tomlinson has led the field in publishing information about differentiation, and her works provide an essential foundation for the research that seeks to verify whether differentiation effectively and measurably improves student achievement in highly diverse classrooms. Three works led by Tomlinson are included here to lay the foundation for the current effort, and these works address key, problematic areas of education. An interview with Tomlinson that discusses preparing teachers for diverse classrooms and the use of differentiation (Wells & Shaughnessy, 2010) is also included here.

AN OVERVIEW

The first work provides, in addition to the definition, premises of differentiated instruction (Tomlinson, 2001) and how it can address difficulties of

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effectively teaching diverse classrooms. The second work relates differentiated instruction to a new paradigm that better ensures fair and useful grading (Tomlinson & Moon, 2013). The third work addresses preparing students effectively for standards testing (Tomlinson, 2000). The interview conducted by Wells and Shaughnessy (2010) addresses more closely the preparation teachers may receive to better understand the usefulness of differentiation and strategies to use that strategy in the classroom. A review of other relevant research follows, much of which points to Tomlinson's myriad works in the literature of differentiated instruction.

Tomlinson (2001) provides convincing techniques designed to facilitate learning for all students, both advanced learners and those who struggle for a wide variety of reasons.

Teachers in differentiated classrooms are proactive, and students are also. Teachers seek to balance student-selected and teacher-selected activities, and students become wardens of their own growth in learning. Sharing this responsibility, students learn to make good decisions. In addition, this approach makes the classroom student centered, with the teacher in the role of a coach, not an autocrat.

A PRACTICAL APPROACH

In the differentiated classroom, teachers institute a variety of approaches for what students learn, how they learn it, and how they demonstrate what they learned (Tomlinson, 2001). For example, students may work on selected projects individually, in groups, or as a class. Teachers present the same goals to the entire class, but add different options for attaining those goals. All students use the same rubric for particular units, thus all students are keenly aware of the goals and expectations.

ASSESSMENTS AND GRADES

Differentiated classrooms are rooted in assessment, both pre-assessment and post-assessment (Tomlinson, 2001). Teachers use pre-assessment to discover what students know; teachers use post-assessment is to discover whether students can successfully demonstrate what they have learned. In Tomlinson's view (2001), assessments measure the distances covered, and the distances still to travel; assessments are not a pass/fail, good-grade/bad-grade tool used to evaluate students.

Tomlinson and Moon (2013) expand the theory of differentiating classrooms, presented by Tomlinson (2001), to include a new paradigm for grading achievement. While the authors do not offer statistical evidence of either the benefits of differentiating in highly diverse classrooms or the appropriateness of changing the standard grading system used in most classrooms, the theories for implementing both to improve student achievement, and measure that achievement, are logical and well-defended. Including theory about grading, together with the theory of differentiation, is apt and goes to the heart of the research question, together providing a strong foundation for research.

Specifically, an effective grading system potentially offers evidence that differentiating instruction raises student achievement.

In their work, Tomlinson and Moon (2013) argue that the current grading system has been stretched to include too much, and it thus fails to offer a valid indicator of student learning. For example, Tomlinson and Moon (2013) cite research that provides a definition for grading, which is, simply, a method to communicate information about a student's achievement to the student, the student's parents, and the student's teacher. Currently, however, Tomlinson and Moon (2013) argue that grades are used to rank students, provide motivation for improvement, sort or group students, and to evaluate teachers or programs. Multiple purposes for grading can cause multiple grading approaches that call into question the validity of the grade for indicating a student's actual level of achievement.

Tomlinson and Moon (2013) offer concepts for good grading that teachers should use to ensure that what they provide students is a true representation of their learning. These concepts include eliminating as much error in their grading system as possible; ensuring they are grading what the student really knows; using a variety of assessments that allow students to show what they have learned and know; and faithfully using rubrics for clear goals, expectations for the learning unit, and fair grading. Following these concepts allows teachers to better assess students' performance/product, processes, and progress or growth. Tomlinson and Moon (2013) suggest using different methods of reporting performance, process and growth. For example, to ensure that a student's learning is effectively measured, teachers should provide a separate grade or indicator for each.

For research intended to ascertain the effectiveness of differentiating instruction in the classroom, the processes to grade for the most relevant outcomes of student achievement suggested by Tomlinson and Moon (2013) provide a strong basis for a sample group to be accurately measured.

STANDARDIZED TESTING

Standardized testing has become the norm, in the United States and globally. This practice has also raised monumental issues, the primary one being that teachers "teach to the test" instead of offering a curriculum that more broadly and deeply covers concepts students need to learn.

Tomlinson (2000) argues that differentiating instruction for diverse learners does not run counter to preparing students for standardized tests. By definition, Tomlinson (2000) reminds teachers that a curriculum tells them what to teach, and differentiation provides a method for how to teach the curriculum; teachers should ask whether the standards are reflected in their curriculum, or are they using the standards as the curriculum. Tomlinson (2000) further explains that differentiating instruction is not a substitute for quality curriculum and quality instruction. When the core concepts of the standards are incorporated into the teachers' curriculum, then the concepts can be presented in diverse ways that reach all students in a diverse classroom.

TEACHER PREPARATION

In her interview with Wells and Shaughnessy (2010), Tomlinson discusses the need for teachers to be prepared for student diversity, which means understanding and responding to students' backgrounds, learning levels, strengths and weaknesses, and different language proficiencies. Tomlinson remarks in the interview with Wells and Shaughnessy (2010) that differentiation is not actually something special or new; it is just good teaching. Preparation for that level of teaching might begin during pre-service teachers' formative higher education, when faculty members should model, or demonstrate, differentiation techniques that respond to such diversity. In this way, pre-service teachers will learn more effectively themselves—and subsequently feel more comfortable with differentiation strategies in their own classrooms (Wells & Shaughnessy, 2010).

RESEARCH

Teacher response. Research literature largely favors the theory of differentiated instruction as a positive response to classrooms with an increasingly diverse population of students. Empirical evidence of the effectiveness of differentiating instruction is, in the literature, less prevalent but nevertheless compelling. While some test results point to positive outcomes for differentiated classrooms, areas for the need for further research are simultaneously noted. Research performed by Subban (2006) attempted to ascertain findings of current research with respect to differentiation in the classroom to note both successes and challenges. Because the current research question asks if differentiation is effective, Subban's approach (2006) provided useful background in empirical studies.

Subban (2006) cites research for which undergraduate teachers used differentiated instruction modified for a variety of students with varying abilities. The undergraduate teachers were surveyed for comments and results from their individual perspectives. The undergraduates reported that the experience was a rewarding one. In the classes used for this study, however, special needs students still received additional support. The question Subban (2006) raises with this research is whether differentiated instruction will in fact provide the necessary education requirements for all learners, including gifted students. This is, perhaps, the most frequently asked question in the literature, and the subject will be discussed further in the current literature review with the research performed by Altintas and Ozdemir (2015).

As a follow-on for her study, Subban (2006) cites research that found teachers' attitudes toward differentiation highly affected its success as an effective response to academic diversity. Some teachers were reluctant to use differentiation, and could not show results for its effectiveness. Other teachers embraced the strategy and philosophy, reported positive results, and were thus more likely to continue using differentiation. Teachers reluctant to use differentiation saw it as a barrier to classroom management and feared loss of control in the classroom.

Subban (2006) cites evidence that teachers implementing differentiation require more frequent professional development and more lesson preparation; a support structure is necessary, as is teamwork among faculty teachers. These requirements of effective differentiation can indeed be barriers to successful implementation of this paradigm shift, and Subban (2006) noted that, in her research, experienced teachers were more likely to embrace the changes needed for differentiation and were more willing to overcome the perceived barriers.

Standardized testing. As Tomlinson (2000) noted, necessary preparation for standardized tests questions whether differentiated instruction adequately prepares students for standardized tests. Research cited by Subban (2006) noted that a test group of students who were given differentiated instruction improved their performance in standardized mathematics tests, but reading performance in those tests did not improve with differentiated instruction. Variables that might have contributed to this outcome, such as the length of time differentiation was used prior to the tests, were not discussed by Subban (2006). However, the results call into question the effectiveness of differentiation in all subjects (Subban, 2006).

Differentiation effectiveness. Stavroula, Kyriakides, and Koutselini (2011) cited early literature from Tomlinson and performed research to measure the effectiveness of differentiation in diverse classrooms. For their research, Stavroula et al (2011) identified 24 elementary schools and divided them into a control group and the sample group that would receive differentiated instruction. The students in these schools represented high diversity in areas that include ethnicity, culture, socio-economic status, and the educational background of parents. To ensure that the sample to be tested for the effectiveness of differentiation would contain less result error, teachers in the sample were all trained in differentiation techniques and worked together to develop a common curriculum that would allow more valid and reliable measurement.

Quality and equity. Stavroula et al (2011) expanded the bases of their research to include not only the effectiveness of differentiated instruction but the quality and equity of its effectiveness. Equity, as defined by Stavroula et al (2011, pg. 5), is promoting the same learning goals for all students, access to the same education, and equitable treatment and opportunity. According to Stavroula et al (2011), providing equity for all students also ensures quality of education. The research, therefore, was intended to identify ways in which differentiated instruction would improve equity and quality for all students in diverse classrooms (Stavroula et al, 2011). Here, however, Stavroula et al (2011) criticize the inability of previous theoretical approaches to use differentiated instruction to effectively counteract students' socio-economic status and other factors outside of school that affect their self-perception. Thus, Stavroula et al (2011, pg. 3) reference "critical differentiation," which considers student needs and other such factors that affect student learning. To achieve critical differentiation, Stavroula et al (2011) cite research that suggests differentiated instruction should incorporate "meta-modern curriculum" (pg. 4). This curriculum is described as a learning process rather than a teaching process, which places emphasis on an interactive, proactive student, knowledge, and teacher process (Stavroula et al, 2011).

Stavroula et al (2011) conducted their research for one school year. At the beginning of the school year, students in both the control group and sample group were given written tests in various subjects and literacy tests to evaluate comprehension. At the end of the school year, both student groups were tested again to measure achievement and evaluate the effectiveness of differentiated instruction and the equity and quality of the education. The predicting variables cited by Stavroula et al (2011) were test results for the pre-assessments and post-assessments, and, indeed, those students who tested high on pre-assessments were those who tested high on post-assessments. Any other margins were too small to measure the effectiveness of differentiation compared with the control group (Stavroula et al, 2011). However, the achievement gap identified by pre-assessments remained the same as those indicated by the post-assessment for the sample group receiving differentiated instruction (Stavroula et al, 2011). The achievement gap for the control grew larger between pre- and post-assessments (Stavroula et al, 2011).

Research conducted by Stavroula et al (2011) indicates that differentiated instruction can indeed supply equity to diverse classrooms, and by their argument, quality also. While achievement results were not resoundingly in favor of differentiating instruction improving diverse classrooms' outcomes, controlling the achievement gap is an indicator that differentiated instruction sustained over a longer period of time would begin to show higher achievement for all students in diverse classrooms (Stavroula et al, 2011).

Gifted and non-gifted students. As noted earlier, within the discussion of research performed by Subban (2006), the effectiveness of differentiation for all students, including gifted students, needs further research. Altintas and Ozdemir (2015) conducted research for that reason and sampled gifted and non-gifted elementary-age students from both a public school and a private school for differentiated instruction in mathematics. For their research, Altintas and Ozdemir (2015) selected separate samples and control groups, one from a private school and one from a public school. They kept the private and public school groups separate for their quantitative analyses and did not seek to compare the results with each other for their research. Altintas and Ozdemir (2015) were interested specifically in studying differentiated instruction with gifted students, so they selected a sample population of 57 gifted 5th and 6th graders and a control group of gifted students from the private school. These test-sample students received an enriched curriculum, intended to challenge them, and were provided differentiated instruction along with this enriched curriculum.

Altintas and Ozdemir (2015) were also interested in studying the effectiveness of differentiated instruction with non-gifted students, so they selected a sample population of 60 non-gifted students and a control group of non-gifted students from a public school. The students in the sample group were provided a standard curriculum with differentiated instruction.

Both the gifted and non-gifted student populations and control groups were provided a pre-assessment and a post-assessment to measure and compare achievement before and after differentiating instruction. Altintas and Ozdemir (2015) found that, for the gifted student sample, pre-achievement tests showed

little difference between the sample population and the control group. However, the gifted student group receiving differentiated instruction scored significantly higher on post-assessment than did the control group. The same result was found for the non-gifted students of the public school. Post-achievement for the sample group receiving differentiated instruction was higher than for the control group, who received standard instruction.

Altintas and Ozdemir (2015) conclude that differentiated instruction benefitted their samples of students, both gifted and non-gifted, and suggest that further research be conducted to ascertain the merits of differentiated instruction for other age groups and subjects. The current research, in fact, recognizes the importance of improving instruction and education in diverse subjects for diverse classrooms of all ages, as suggested by Altintas and Ozdemir (2015), and thus finds a theoretical proposal by Bogan, King-McKenzie, and Bantwini (2012) compelling. While Bogan et al (2012) do not offer the empirical evidence for effective, differentiated instruction, for which the need exists and was noted previously by Subban (2006), they do offer the Bogan Differentiated Instruction Model (BDIM) (Bogan et al, 2012). Together with their convincing theory, the BDIM could be used to effectively measure student achievement in multiple subjects and demonstrate the effectiveness of differentiated instruction.

Integrated instruction. Bogan et al (2012) argue that standardized testing has helped cause a strong bias in schools toward mathematics and reading that has omitted other subjects of importance such as social studies and science. Therefore, promoting a strong, integrated instruction for students is worthy research. Bogan et al (2012) state that using an integrated model of instruction not only provides students with a wealth of relevant instruction, it provides the students with information that is naturally assimilated and used for relevant, strategic thinking. Specifically, Bogan et al (2012) developed the BDIM to (1) use the common core focus as the foundation for developing the lesson plan; (2) develop the essential question to be answered or investigated based on the common core focus; (3) develop a differentiated strategy for leading the students on the learning journey that best adapts to their learning needs; (4) provide guided and independent practice; (5) provide access to available technology; and (6) assess learning. The integrated subject element of the theory put forth by Bogan et al (2012) emphasizes use of multiple subjects to engage students' background knowledge and excite motivation to think about real-world events and issues. For example, students engaging in a unit of civil rights will access literature produced during the era of U.S. slavery and the Civil War, study historical accounts of the war, read biographies, and perform mock trials. In this way, students face history and, because they are engaging in it with various activities, can begin to strategically apply their learning to their current world. The successfully planned and taught unit effectively integrates social studies, history, reading, writing, and literature. In addition, the differentiated instruction provides multiple approaches for diverse learners to access information.

Learning style. That diverse learners can improve achievement with differentiated instruction is reported by Allcock and Hulme (2010) through research that actually sought to observe the usefulness of designing lessons

around students' learning styles. Allcock and Hulme (2010, pg. 68) cite learning styles as logical, kinesthetic, musical, naturalistic, spatial, and personal. A group of 33 college-age students were selected; 16 students were to be taught using lessons adapted to learning style, and 17 students, the control group, were to be taught using ability. The subject being taught was psychology. All students took a pre-assessment, and the research was conducted over nine 50-minute lessons. Both the learning style group and the ability group were taught using differentiated instruction. At the end of the nine lessons, post-assessments revealed that all students improved significantly after the lessons regardless of learning-style or ability approaches (Allcock and Hulme, 2010). The key outcome, as suggested by Allcock and Hulme (2010), was that students learn with high-quality, differentiated lessons so that all students can access the information.

Much of the literature on differentiation describes research using younger students, and the subject used for the research is often mathematics, so this research was compelling because it used college-age students in a psychology class. Further research could show whether these results could be extrapolated for younger students, with less emphasis being placed specifically on learning style.

No Child Left Behind. Ozturk and Debelak (2008) cite the importance of providing highly effective, differentiated instruction to U. S. schools as a counter to the difficulty brought about by the No Child Left Behind legislation. Ozturk and Debelak (2008) argue that this legislation caused a shift in the focus of education in the U. S. from an individual success model to one that settles for a lower standard for all students. This change has additionally brought about decreased funding, which places students in resource-challenged schools at greater risk (Ozturk and Debelak, 2008). A method that Ozturk and Debelak (2008) suggest improves differentiated instruction and uses little additional funding is academic competition. Ozturk and Debelak (2008, pgs. 52, 53) cite a number of national competitions that serve to both differentiate for students' diverse interests and motivate gifted and non-gifted students. An example is Scripps National Spelling Bee.

Competition as a strategy. The idea of competition is supported by Sax (2007) in work he has published that describes challenges faced by boys in the current culture. Motivation is important (Sax, 2007), and the ways boys are motivated vary greatly. While Sax (2007) does not specifically reference differentiation as a remedy to motivate students, he cites examples of various types of competition that in themselves provide a differentiated approach for students to engage in various subjects. One example is school sports. Sax (2007) argues that sports offered equally to all students and not an elite few give boys the activity they need and a physical development that provides overall benefit. Another strategy cited by Sax (2007) is academic competition. An example is dividing students up into two teams, and every aspect of academia is fair game for the competition, such as homework performed and test scores. This strategy is designed to motivate students to engage in and take responsibility for their learning, which are fundamental tenets of differentiated instruction.

Multiple intelligences as a strategy. Another compelling source for strategies used to differentiate in the classroom is the knowledge and use of

multiple intelligences, a theory defined and broadened by Gardner (2008). While Gardner's idea of multiple intelligences was initially theoretical, not intended for the development of differentiation strategies, educators globally began using its premises to develop curriculum and teaching strategies. As a result, Gardner turned his attention to education and has helped educators apply his theory to effective teaching. Gardner (2008) describes intelligence as a biopsychological construct that gives an individual the capacity or talent to solve problems in various domains, or disciplines and crafts, themselves described as sociological constructs; he has defined, and shown with empirical evidence, that individuals have strengths and weaknesses in one or more of the identified intelligences, which they have available for problem solving in various domains. The multiple intelligences are musical intelligence, bodily-kinesthetic intelligence, logical-mathematical intelligence, linguistic intelligence, spatial intelligence, interpersonal intelligence, intrapersonal intelligence, naturalist intelligence, and existential intelligence (Gardner, 2008).

Because educators need to impart key understanding and concepts to students, a knowledge of these specific strengths and weaknesses can help direct instruction to students' strengths—and overcome the weaknesses. An example of using multiple intelligences to differentiate instruction may be seen with teachers of students for whom English is not the first language. These teachers invoke many strategies for student learning, such as rhythmic repetition of phrases, dancing or clapping while speaking, and using physical articles, such as toys or colorful pictures, to tell a story.

SUMMARY

Differentiation in the classroom has been defined as a method for effectively presenting information to students with diverse learning skill, backgrounds, languages, and achievement (Tomlinson, 2001). In addition, when teachers are well prepared to provide it, differentiation has been considered a possible solution for some prevailing educational concerns. While the opinion exists that more research is needed to obtain measurable proof of effective differentiated instruction, some of the current findings are positive.

Within the body of literature reviewed for this effort, one of the greatest educational concerns is the effectiveness of differentiated instruction. Stavroula et al (2011) and Altintas and Ozdemir (2015) conducted research to study the effectiveness of differentiated instruction. For Stavroula et al (2011), those students who scored high on pre-assessment also scored high on post-assessment. Within the control group, margins of achievement were small. However, very small achievement gaps existed between pre- and post-assessment scores among students who had received differentiated instruction. Students in the control group saw greater achievement gaps. Altintas and Ozdemir (2015) conducted similar research with results showing that samples of both gifted and non-gifted students improved achievement with differentiated instruction.

Another educational concern includes the effects of and preparation for standardized testing. Along with standardized testing come the negative effects of

No Child Left Behind legislation (Ozturk & Debelak, 2008), which may shift individual success to success of the whole, and which may lower standards for all students. Tomlinson (2000) argues that differentiation can support standardized test achievement because teachers present relevant concepts in diverse ways that reach all students. Subban (2006) found, however, that differentiation improved the math scores of students on standardized tests but not reading scores.

Another concern identified in the current body of research is teacher preparedness. Tomlinson cautions (Wells & Shaughnessy, 2010) that differentiated instruction is just good teaching and that pre-service teachers should themselves receive such instruction from faculty of higher-education institutions; such modeling effectively prepares them for using the strategy in their own classrooms. Subban (2006) performed research with teachers and reports positive results; however, she notes that teachers' attitudes toward using differentiation determine to a large degree the effectiveness of it. Subban (2006) also notes that a good support system for teachers can help develop a more reliable trend for providing differentiated instruction.

Literature from Gardner (2008) and Sax (2007) may help lay the foundations that support differentiation strategies in the classroom and are included in the current effort. Gardner's theory of multiple intelligences (2008) gives educators knowledge of students' specific areas of strengths and weaknesses, allowing them to differentiate instruction to fit the student. Sax (2007) suggests competition as a strategy that may motivate young male students in sports and in academics. Following Gardner's theory (2008), Allcock and Hulme (2010) performed research that directly observed the usefulness of designing lessons around students' learning styles, such as logical, kinesthetic, musical, naturalistic, spatial, and personal. The integrated subject element of the theory put forth by Bogan et al (2012) uses differentiation as part of a strategy to effectively integrate subjects within a school and to motivate students to think about real-world events and issues. For example, students engaging in a unit of civil rights will access literature produced during the era of U.S. slavery and the Civil War; activities for students may vary to accommodate classroom diversity.

CONCLUSION

Absent a more extensive library of compelling and conclusive findings from research, and absent measureable and repeatable results in multiple classrooms, is there yet evidence enough that differentiation in the classroom is effective for all students and all subject content? Should this teaching strategy become mainstreamed? And, so that it might, should pre-service teachers be routinely exposed to well-modeled, classroom differentiation during the course of their higher education, just as they themselves will use it as in-service teachers? Finally, given the current national penchant for standardized testing, can differentiation reliably prepare students for these tests so their schools and teachers can meet the No Child Left Behind criteria, with appropriate ratings?

Currently, Common Core and standardized testing reign supreme. So, teachers who wish to fairly and equitably reach all students in their classroom,

using strategies that must be flexible and able to conform to the needs of each individual student—while aiming, by the way, for the same course objectives—face a monumental task. They may or may not have an in-school support group who can help them learn differentiation strategies. They may or may not have had pre-service differentiation modeled for them. Nevertheless, as they endeavor to differentiate for the needs of their own students, these teachers may well be the tails wagging the dog of a big paradigm shift. If differentiating in the classroom is high-quality teaching, as summed up by Tomlinson (Wells & Shaughnessy, 2010), then let the tail wag. Teachers have classrooms with sometimes great diversity; they need strategies to provide students optimal access to learning. Let this drive improved strategies for higher education.

Broader evidence of differentiation efficacy is needed; yet the evidence that has been presented is compelling. Teachers can use differentiation as the *how* to teach content. The *what* that they teach can be based on Common Core, can be multidisciplinary, and can even prepare students for standardized tests—evidence from research supports this to some extent. Perhaps, if students were given years of differentiated instruction, in all subjects, instead of sometimes in some classes, in some schools, then research might find all the evidence it needs to support differentiation in the classroom as an efficient strategy. Perhaps, with a national standard for the highest-quality teaching, along with well-chosen curriculum, standardized testing could be decreased or, at least, minimized.

REFERENCES

- 1) Allcock, S. & Hulme, J. (2010). Learning styles in the classroom: Educational benefit or planning exercise? *Psychology Teaching Review*, 16, 67-79. Retrieved from <http://eric.ed.gov/?q=differentiation+in+the+classroom%2c+failure&ft=on&id=EJ920100>
- 2) Altintas, E. & Ozdemir, A. (2015). The effect of developed differentiation approach on the achievements of the students. *Eurasian Journal of Educational Research*, 61, 199-216. Retrieved from <https://eric.ed.gov/?q=differentiation+in+the+classroom&ft=on&id=EJ1087538>
- 3) Bogan, B., King-McKenzie, E., & Bantwini, B. (2012). Integrating reading, science, and social studies: Using the Bogan differentiated instruction model, *US-China Education Review*, A12, 1053-1060. Retrieved from <http://files.eric.ed.gov/fulltext/ED539347.pdf>
- 4) Gardner, H. (2008). *Multiple Intelligences, New Horizons* [Kindle Edition, reprint]. New York, NY: Basic Books.
- 5) Ozturk, M. & Debelak, C. (2008). Academic competitions as tools for differentiation in middle school, *Gifted Child Today*, 31, 47-53. Retrieved from <http://eric.ed.gov/?q=differentiation+in+the+classroom&ft=on&pg=2&id=EJ803366>
- 6) Sax, L. (2007). *Boys Adrift*. New York, NY: Basic Books.
- 7) Stavroula, V., Kyriakides, L. & Koutselini, M. (2011). Investigating the impact of differentiated instruction in mixed ability classrooms: Its impact on the quality and equity dimensions of education

- effectiveness, Paper presented at the International Congress for School Effectiveness and Improvement 2011, January. Retrieved from <http://www.icsei.net/icsei2011/Full%20Papers/0155.pdf>
- 8) Subban, P. (2006). Differentiated instruction: A research basis, *International Education Journal*, 7, 935-947. Retrieved from <http://files.eric.ed.gov/fulltext/EJ854351.pdf>
 - 9) Tomlinson, C. (2000). Reconcilable differences? Standards-based teaching and differentiation, *Educational Leadership*, 58, 6-11. Retrieved from http://www.ascd.org/publications/educational_leadership/sept00/vol58/num01/Reconcilable_Differences%C2%A2_Standards-Based_Teaching_and_Differentiation.aspx
 - 10) Tomlinson, C. (2001). *How to Differentiate Instruction in Mixed-Ability Classrooms* (2nd ed.) [e-book, ASCD®, Alexandria, VA]. Retrieved from www.amazon.com/gp/kindle/pc
 - 11) Tomlinson, C. & Moon, T. (2013). *Assessment and Student Success in a Differentiated Classroom* [e-book, ASCD®, Alexandria, VA]. Retrieved from www.amazon.com/gp/kindle/pc
 - 12) Wells, R. & Shaughnessy, M. (2010). An interview with Carol Ann Tomlinson, *North American Journal of Psychology*, 12, 643-648.