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Learning to Teach

Language Arts, Mathematics, Science, and Social Studies
Through Research and Practice

Editors in Chief
Jenny Denyer, Ph.D.
Rebecca M. Schneider, Ph.D.

A publication of the Department of Teacher Education
Jenny Denyer, Ph.D., Chair | University of Toledo

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Learning to Teach Language Arts, Mathematics, Science, and Social Studies Through Research and Practice publishes manuscripts that address curricular innovations, thoughtful discussion of current issues for practice, or essays that inform, advocate for a position or persuade. Manuscripts must address subject-matter specific interactions of teachers and learners.

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Jenny Denyer, Ph.D., Chair

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Language Arts

Promoting Reading Comprehension in the Secondary English Classroom

Alexandria Altwies

Abstract: Reading comprehension, defined as the ability to process text and understand its meaning, has been identified as a problem among middle and high school students. Despite decades of research on reading comprehension, American adolescents' reading scores show stagnant growth. Reading comprehension is a vital part of instruction, specifically in secondary English classrooms as the texts students are asked to read become increasingly complex. According to researchers, reading strategies can play an important role in developing student comprehension. However, these strategies are often not taught because many teachers lack the foundation for teaching them. This paper will discuss frameworks, systems, and effective reading strategies that engage struggling readers in comprehending text.

Promoting Reading Comprehension in the Secondary English Classroom

> *Nico is the most talkative student in Miss Johnson's ninth-grade English class. He comes to class every day with something new to talk about – the basketball game he won at the park, or his favorite video game, or what happened at lunch that day. In spite of this, Nico shuts down whenever it comes time to discussing the novel currently being read in class. Nico struggles to pay attention during group reading, as his mind seems to wander to other things, so Miss Johnson decided to choose the next book especially for Nico. The book was about a high school student who becomes the star basketball player at his new school. Nico read the book aloud during group reading with no problems, stopping to comment on the main character a few times. Pleased with the choice of her book and Nico's positive response, Miss Johnson expected him to perform well on the reading check quiz for the first chapters of the book. Instead, Nico's scores reflected little to no understanding of what they had read. Miss Johnson was frustrated and did not know what next step to take. She did not believe the book to be too difficult for Nico or the rest of the class, and she knew the book interested him. So why, then, did Nico have such trouble recalling information from the text, and what could she have done differently to help better prepare Nico for his assessment?*

An increasing number of Americans are falling behind in their reading skills. In 2019, the National Assessment of Educational Process (NAEP) found that only 32 percent of students in the United States are reading at or above a proficient level by the eighth grade—three percent lower than in 2017. When we think of struggling readers, we often imagine children who have trouble decoding letters in text and translating them into spoken language. It can be challenging for these students to decipher many words they encounter, as they have poor phonological skills. However, there are also many students who seem to read well but struggle with a variety of aspects including vocabulary, inferencing, and comprehension. Many assume that as children grow, if they are decoding text well, they are also reading well.

But in the secondary grade levels when reading comprehension becomes less about decoding and more about language comprehension and focus, teachers may observe students who are decoding text fluently but are not fully understanding what it means. Because these types of struggling readers are less obvious than those who have difficulty decoding, they can easily slip under the radar, resulting in middle and high schoolers who appear to be able to read but are unable to comprehend what they are reading.

Strong reading comprehension is one of the most valuable skills a student can learn, and despite the fact that reading comprehension is assessed in literacy classes from middle school through high school, teaching it may not be. In fact, research indicates that comprehension instruction does not occur in many classrooms past elementary school (Neufeld, 2005). As teachers, we must aid in and encourage students to actively work on improving their reading skills. Rather than focusing on individual remediation, this article centers on three strategies teachers can use with a whole class and that closely align with reading and language arts standards for middle and high school students: providing a purpose, collaborative learning, and SQ3R.

Strategies for Teaching: Providing a Purpose

There are a number of approaches to helping students organize their thinking and make the most out of reading. One strategy teachers can implement before reading even begins is to provide a purpose for reading. Reading can be made more enjoyable for students when teachers help them find a reason for reading and encourage their curiosity about a specific topic. Boardman et al. (2008) propose that when students read for a specific purpose, they are more likely to read carefully and employ strategies that will aid their comprehension. To address the extent to which combining motivation support and strategy instruction influenced reading outcomes, Guthrie et al. (2004) discuss the significance of content goals for instruction. As opposed to performance goals that measure the ability to complete a task or do well on a test, content goals emphasize conceptual understanding. Content objectives are usually given at the beginning of a text in the form of bullet points or an outline so students know what to look for when reading. In the study, when clear and concise content goals were present in reading, students' focus changed: they were less concerned about rewards or acquiring skills and concentrated more on gaining meaning, knowledge and deeper understanding (Guthrie et al., 2004). Additionally, students gained more conceptual knowledge when given content learning goals for reading than when they were given performance goals of scoring well on exams.

Strategies for Teaching: Collaborative Learning

A strategy that has been shown to increase student reading comprehension and improve overall literacy during reading is reciprocal teaching. Reciprocal teaching is a process involving four distinct activities (predicting, questioning, clarifying, and summarizing) administered in a student-led, team approach to develop reading comprehension skills among students (Palincsar & Klenk, 1992). Through example passages, teachers must model each component of reciprocal teaching, guide students

in practice, and provide formative feedback. Once this sequence has been established, the teacher gradually releases the responsibility for predicting, questioning, clarifying, and summarizing to the individual groups of students. The impact of reciprocal teaching can be assessed in several ways, including checklists that outline skills within each of the four activities or graphic organizers that require students to write brief responses for each role. To better understand how reciprocal teaching works in the classroom, consider this example, which focuses on *Romeo and Juliet*. First, have students read the Prologue. Based on its foreshadowing, ask students what they think the play will be about. Ask, "Will it be a happy ending, or a tragic ending?" Next, begin reading Act 1. Ask, "Who is there a feud between? Why are they fighting?" Pause throughout the act to make sure students understand what is happening, asking questions about language, characters, and conflict to clarify meaning. Upon finishing Act 1, guide students through the summarizing process and help them to identify key points. After modeling the previous steps, place students in mixed-ability small groups and have them lead the reading and discussion of the next scene while conducting the four-step process.

Another collaborative approach for improving comprehension during reading is through learning clubs. Research by Casey (2008) explored how learning clubs organized around student interests and needs can offer a sustained, supportive atmosphere to engage struggling adolescents. Similar to literature circles and book clubs, teachers facilitate the process by deciding which areas of inquiry students can select, how groups will be structured, the nature of student involvement, and the response format in which students will respond. The key difference is that the shared literacy event is not always tied to a piece of literature, thereby broadening the conceptions of reading and providing opportunities for working with various genres such as informational texts, videos, podcasts, and more. Casey (2018) analyzed the small-group literary experiences of 19 middle schoolers (six identified as struggling readers) from an inner-city school to determine if the small-group setting informed the struggling students' literacy development. Their findings show that by placing students in control of their own work and giving them a choice, the students were more likely to think about their reading and offer their own feedback on their learning and the learning of others. Similarly, Boardman et al. (2008) agree adolescents are motivated by working together when completing reading-related tasks, and often continue working and learning even after the assignment or activity is complete. The collaborative learning of reciprocal teaching and learning clubs bolster motivation and increase the opportunity for struggling readers to respond within the group and gain increased comprehension of the text.

Strategies for Teaching: SQ3R

SQ3R is a strategy developed based on cognitive psychology research that promotes enhanced reading comprehension. Students can benefit from using SQ3R because it requires them to activate their thinking and review their understanding throughout their reading (Fisher & Frey, 2020). SQ3R is the acronym for Survey, Question, Read, Recite, and Review, which are the five steps that help teach students to read and think like an effective reader. It is expected that through this sequence, readers will be able to improve their understanding of the text by actively engaging in the

reading process before, during, and after. Initially, students review the text to gain initial meaning from any headings, bolded texts, and charts. Next, they will generate questions about the assigned reading from previewing it. The reading step requires students to look for answers to their questions, helping focus students' reading. As students progress through the text, they should recite or rehearse the answers to their questions and take notes for later review. Following reading, students should review the text to answer any remaining questions and recite the questions they previously answered. Just as with reciprocal teaching, SQ3R requires the teacher to model. During each step, it is important to explain what you are doing and why you are doing it. After the modeling session, invite students to independently read a selection and practice applying the five steps, as well as reflect on their notes and the process itself.

Conclusion

Pieces of literature and other forms of text are incorporated into every subject area's instruction in one way or another. Therefore, students must be able to comprehend the information and ideas being communicated to them. Reading comprehension is a vital part of instruction, specifically in secondary English classrooms as the texts students are asked to read become increasingly complex. Reading comprehension is a skill developed over time and one that will grow as the student engages with various texts for various purposes, not just in K-12 but for a lifetime. Experience and research show that there is no one strategy that works for every student but it is our job as educators to foster that growth by implementing frameworks, systems, and targeted strategies that align with student achievement when teaching reading comprehension.

References

Boardman, A. G., Roberts, G., Vaughn, S., Wexler, J., Murray, C. S., & Kosanovich, M. (2008). Effective instruction for adolescent struggling readers: A practice brief. RMC Research Corporation, Center on Instruction.

Casey, H. K. (2008). Engaging the disengaged: Using learning clubs to motivate struggling adolescent readers and writers. *Journal of Adolescent & Adult Literacy*, 52(4), 284–294.

Fisher, D., & Frey, N. (2020). *Improving adolescent literacy: Content area strategies at work.* Pearson Education, Inc.

Guthrie, J. T., Wigfield, A., Barbosa, P., Perencevich, K. C., Taboada, A., Davis, M. H., Scafiddi, N. T., & Tonks, S. (2004). Increasing reading comprehension and engagement through concept-oriented reading instruction. *Journal of Educational Psychology, 96*(3), 403–423.

Neufeld, P. (2005). Comprehension instruction in content area classes. *The Reading Teacher, 59*(4), 302–312.

Palincsar, A. S., & Klenk, L. (1992). Fostering literacy learning in supportive contexts. *Journal of Learning Disabilities, 25*(4), 211–225, 229.

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Using Readers Theater to Differentiate Instruction

Jamey Burson

Abstract: Regardless of grade level, English Language Arts (ELA) teachers are faced with the challenge of providing effective reading instruction to students that represent a variety of skill and interest levels. While no "one-size-fits-all" approach exists, research shows that using drama-based literacies such as Readers Theater help differentiate instruction and contribute to increased levels of fluency, engagement, and comprehension for pre-K-12 learners. This article will provide the reader with an understanding of Readers Theater, explore the current research regarding its impact, and provide suggestions for implementation in an ELA classroom.

Introduction

It was the beginning of August and Mr. Taylor was anxious about starting his twelfth year of teaching tenth grade English Language Arts (ELA) in the coming week. The past two years at Lincoln High had been everything but ordinary for him and his students, having been in remote learning due to the Covid-19 pandemic. During that time, few of Mr. Taylor's students completed any assigned work and many failed to log in for their virtual learning classes. Because of this, Mr. Taylor was especially worried that some students' ability to read will have been negatively impacted. In response, Mr. Taylor had designed a literature circle unit for the start of the year in an attempt to meet the unique needs of a variety of learners.

Mr. Taylor's class is now two weeks into their literature circle unit, and he is noticing some issues among several of his groups. Although some are working with little needed intervention, others have struggled from the start. Mr. Taylor realizes that, rather than engage each type of student, the autonomy provided by this unit for students has served to expose their strengths and weaknesses.

The following describes one literature circle, which is representative of several other struggling groups among the five tenth-grade periods Mr. Taylor teaches. Stella is an avid reader. When assigned reading for homework, she always completes it. In fact, she typically reads ahead and spends time re-reading assigned work so that she is prepared to engage in literature circle discussion during class. Student A also excels in fluency, automatically recognizing words so that she can read them clearly and with expression. Michael is disengaged and often has his head on his desk during group work. At Mr. Taylor's request, he will raise it. However, he refuses to engage in dialogue concerning the text and does not complete assigned reading at home. Megan works hard to complete assigned reading and attempts to participate in literature circle discussion, but she shows signs that she is not comprehending class content. Her scores on simple comprehension quizzes have suffered and she explains before class one day to Mr. Taylor that, although she reads everything assigned, she often "get[s] to the bottom of a page and [does not] remember what [she] read", which causes her to be frustrated and want to give up trying.

Perplexed by the varying performance by his students during this unit and confused about how he might meet their needs, Mr. Taylor reaches out to Mr. Johnson, his department chair, to seek his advice. Specifically, Mr. Taylor wishes to address his students' struggles with reading fluency and comprehension. In addition, he wonders if there is a way that he might make reading more engaging. Mr. Johnson responds empathetically, explaining that those in his classroom are struggling in a similar manner. He then suggests that Mr. Taylor research Readers Theater, an activity whereby students are assigned a role within a script, read that script multiple times, and then "perform" it in front of an audience. He explains that this has proven to be an effective activity in his classroom in the past, and that this may be a means by which Mr. Taylor can meet his students needs and make reading more engaging and enjoyable for them.

The Issue

The variety of students in Mr. Taylor's classroom is not uncommon and presents challenges all ELA educators must attempt to navigate. Although some students flourish when given autonomy, others struggle if content has not been differentiated to suit their interests. While some students excel at reading independently, others struggle with comprehension or fluency, making it a challenge they feel ill-equipped to successfully accomplish. In addition to the variety of student preferences and performance-levels in standard classrooms, ELA educators are faced with teaching students who increasingly struggle in their ability to read. According to Allington (2011), "two of every three students in U.S. schools have reading proficiencies below the level needed to adequately do grade-level work" (p. 1). On top of this, research indicates that pre- and in-service educators receive inadequate training as it relates to reading instruction (Moats, 1994). How, then, are teachers to meet the needs of each student? Although no on-size-fits-all reading approach exists, Readers Theater is one tool educators should consider implementing in their classrooms to meet their students' diverse needs and interests.

What Is Readers Theater and Why Is It Effective?

Readers Theater is a drama-based literacy strategy where students engage in "rehearsing and performing scripts for an audience" (Young et al., 2019, p. 1). In its Position Statement on Drama-Based Literacies, the National Council of Teachers of English (NCTE) explains that "Drama occupies a legitimate place in literacy classrooms and has the potential to democratize instruction, amplify students' meaning making, and support crucial literacy as learners play around with and in all kinds of texts" (para. 1). The NCTE's explanation of drama-based literacy, then, describes it as a collaborative effort where students construct meaning through performance. Such "meaning making" is achieved, the NCTE explains, by empowering students to allow their creativity to become a crucial factor in the interpretation of text. They primarily do so through the vehicle of emotion, which might be introduced through "sound, intensity, and inflection" (NCTE, 2020, para. 4) while reading.

After assigning each student a role from the text, the class typically reads the script several times in anticipation of a final performance. "The instructional focus

in readers theater," according to Young et al. (2019), "is on reading and performing a text in an expressive manner that is meaningful and satisfying to an audience" (p. 2). Research shows that Readers Theater is an effective form of reading instruction that can be used to differentiate reading instruction for a wide variety of readers to increase levels of fluency, engagement, and comprehension.

Improving Reading Fluency

Fluency refers to a student's ability to automatically decode words during reading, allowing them to read with accuracy, speed, and prosody. Mraz et al. (2013) explain that prosody is "the ability of the reader to read with appropriate intonation, expression, and phrasing" (p. 166). Readers Theater contributes to fluency due to the repetition involved in the reading process. As students continue practicing a script, they become more familiar with the words within it, alleviating the cognitive space necessary for decoding and enabling them to read with fluency. Mraz et al. (2013) also note that fluency is highly related to a student's ability to comprehend material. They explain that, because one who reads fluently decodes words "instantly and independently", they are able to "free up cognitive processes for higher level comprehension" (p. 164). Therefore, if students lack fluency in their reading, Readers Theater, which engages students in the repeated reading of a text over several days, can be used as a means of increasing fluency which in turn contributes to an increase in a student's ability to comprehend material.

Multiple researchers have found that the implementation of Readers Theater in diverse classrooms contributes to increased levels of fluency. In "Readers Theater: 'Hold on, Let's Read it Again'", Garrett and O'Connor (2010) studied the impact of the implementation of Readers Theater in four southeastern elementary special education classrooms on "letter recognition, initial reading level, fluency score, and comprehensions score" (p. 12). These classrooms consisted of students from kindergarten through fifth grade. Over the course of a school year, these teachers used readers theater in different ways "based on the needs of their schedules" (p. 12) students and the challenges associated with their classroom configurations and At the conclusion of the year, students were measured on a four-point scale over the previously mentioned reading criteria and test results indicated that readers theater contributed to an increase in each of the four criteria. In terms of fluency, the "average change…was .9, or almost one rating level," (p. 12). indicating that the use of Readers Theater is effective in contributing to increased levels of reading fluency

Fostering Engaged Reading

A lack of student engagement during class reading is often a struggle ELA educators face. A variety of factors contribute to a lack of student engagement, including a student's disinterest in the material presented, how content is read, and/or a student's ability to engage based on their reading level and fluency. In their study on the effects of implementing Readers Theater in elementary special education classrooms, Hautala et al. (2022) compared the effects of implementing once-a-week Readers Theater instruction to "traditional oral reading interventions" (p. 4). on fluency, reading comprehension, and engagement. The results of their study indi-

cated that, because those who received Readers Theater instruction were given the task of a culminating performance, they were "more emotionally and behaviorally engaged" (p. 13). Mraz et al. (2013) concur with their research, explaining that the culminating performance and element of choice in textual interpretation inherent to the practice of Readers Theater lend themselves to increased student engagement. They explain that "When students are provided with open-ended tasks that include choice, children are more interested and tend to expend more effort learning and understanding the material" (p. 169).

Ensuring Comprehension

Readers Theater is grounded in automaticity theory. This theory, posed by LaBerge and Samuels in 1974, claims that as a reader's fluency concerning a text increases his or her ability to comprehend said material also increases (Samuels, 1979). Samuels (1979) explains that once fluency is reached, automaticity takes place. Automaticity, he explains, occurs when one can immediately decode and read a word, therefore decreasing the attention required for this task and making more attention "available for comprehension" (p. 405). Thus, according to automaticity theory, Readers Theater, which relies upon the rehearsal or rereading of text in preparation for a final performance, may contribute to increased comprehension for students. A variety of research findings support Samuel's (1979) perspective. In their research on the daily implementation of Readers Theater instruction for a group of seventy-six second-grade students, Young et al. (2019) compared the effects on comprehension of implementing this drama-based literacy versus a control group that emphasized traditional reading instruction. After eighteen weeks, students were asked to complete the Gates-MacGintie Reading Test (GMRT-4), a standardized test that measures "students' decoding skills, word knowledge (vocabulary), and reading comprehension" (Young et al., 2019, p. 5) The results of the standardized test indicated that there "were statistically significant…effects on students' reading comprehension scores" (p. 7). Because of this, Young et al. (2019) concluded that "teachers could consider consistently implementing readers theater in their classrooms" (p. 9).

Implementing Readers Theater

Identifying a Text.

While research surrounding Readers Theater points to its efficacy in providing valuable reading instruction to a variety of students, little has been stated regarding its practical implementation in classrooms. One of the benefits of using Readers Theater is that it can be used as a tool for improving fluency, engagement, and comprehension regardless of student reading level or performance. One way that educators can further differentiate instruction during Readers Theater and ensure its effectiveness is by selecting texts that are appropriate for a student's age and reading level. Moran and Jo (2006) suggest choosing texts "that will be sufficiently challenging while remaining within reach" (p. 320). Because variability exists within classrooms, this may mean that teachers need to separate students into groups based

on reading level. In addition, teachers should consider providing students texts that are of interest to them. Doing so, Moran and Jo (2006) explain, makes a text accessible and contributes to student engagement.

Although educators should limit their selection of texts for Readers Theater to those that are age-appropriate and interesting to their students, they should not feel limited by selecting plays as the only genre with which their students can use this exercise. Young and Ortlieb (2018) explain that teachers should consider turning existing stories or poetry into scripts for their students. They even suggest, to provide students the opportunity to engage in higher level learning, that they be given the task of "[creating] parodies of existing fictional texts, and therefore intentionally [changing] the voice of the text and/or meaning" (p. 890).

Implementing Readers Theater Instruction.

Many studies on the effectiveness of Readers Theater were measured by comparing standardized results of students who received it in their daily instruction to a control group who received similar literacy instruction without Readers Theater over a specified period, often spanning several weeks to months in duration (Garrett & O'Connor, 2010; Martinez et al., 1998; Mraz et al., 2013; Young et al., 2019). During this time, those within the Readers Theater group received instruction on a five-day cycle, whereby a text was presented to students on Monday and a final performance was delivered by students on Friday in front of an audience. Others, such as Young and Ortlieb (2018), have suggested that using this five-day cycle in isolation rather than over several months will also contribute to positive results for students' fluency, engagement, and comprehension. Regardless of duration, researchers of Readers Theater indicate that best practice with this exercise should follow some version of the following format. On day one, the teacher should introduce students to the text and model reading with prosody. They should then assign students roles for their selected text. Days two through four should include a variety of choral and re-reading exercises as well as opportunities to engage with difficult vocabulary. Finally, on day five, students' work culminates in a final performance in front of an audience that may consist of their peers in other classes, teachers, or even school administrators.

Conclusion

All ELA educators are faced with the challenge of providing effective reading instruction to a wide variety of students, many of whom struggle to read at grade-level. In addition, teachers are faced with a growing culture of students who struggle to focus during reading instruction, creating an added emphasis for teachers to create content that is both engaging and fun. ELA teachers should consider consistently implementing Readers Theater in their classrooms to meet a variety of student learning needs and interests and to promote student engagement. Doing so provides the opportunity for all students, regardless of reading level, to challenge themselves, have fun, and grow as readers.

References

Allington, R. L. (2011). What at-risk readers need. *Educational Leadership, 68*(6), 40-45.

Garrett, T. D., & O'Connor, D. (2010). Readers' theater: "Hold on, let's read it again.". *Teaching Exceptional Children, 43*(1), 6-13.

Hautala, J., Ronimus, M., & Junttila, E. (2022). Readers' theater projects for special education: A randomized controlledsStudy. *Scandinavian Journal of Educational Research*, 1-16.

Moats, L. C. (1994). The missing foundation in teacher education: Knowledge of the structure of spoken and written language. *Annals of Dyslexia, 44*(1), 81-102.

Moran, K., & Jo, K. (2006). Nurturing emergent readers through readers theater. *Early Childhood Education Journal, 33*(5), 317-323.

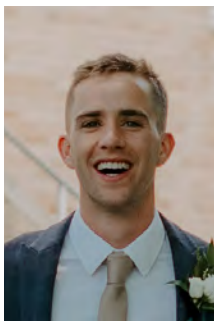
Mraz, M., Nichols, W., Caldwell, S., Beisley, R., Sargent, S., & Rupley, W. (2013). Improving oral reading fluency through readers theatre. *Reading Horizons: A Journal of Literacy and Language Arts, 52*(2), 5.

NCTE: National Council of Teachers of English. (2020, August 5). *Drama-Based Literacies*. Retrieved March 7, 2022, from https://ncte.org/statement/drama-based-literacies/

Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher, 32*(4), 403-408.

Young, C., Durham, P., Miller, M., Rasinksi, T. V., & Lane, F. (2019). Improving reading comprehension with reader's theater. *The Journal of Educational Research*, 1–12. https://doi.org/10.1080/00220671.2019.1649240

Young, C., & Ortlieb, E. (2018). Implementing readers theater in secondary classrooms. *Reading Psychology, 39*(8), 879-897.



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Jamey Burson received a Bachelor of Business Administration from the University of Toledo in 2019 and returned to UT to earn a Master of Education in 2022. Upon completion of his degree, he will begin teaching sophomore and junior English at St. John's Jesuit High School in Fall, 2022.

Social-Emotional Learning for Post-Secondary Success

Gena Collier

Abstract: Integrating social-emotional learning into High School English Language Arts supports growth in the emotional intelligence of students which is needed for post-secondary success. Social-emotional learning develops student competence in self and social awareness, reasonable decision making, establishing relationships, and self-management. These competencies improve students' academic achievement and attitude about school. This can be critical to their transition and adjustment to postsecondary life as they enter college and the workplace. As students become employees, there is an expectation that they will be able to conduct themselves professionally and perform well in their jobs or careers. Postsecondary success is a main goal of schooling, so learning how to integrate social-emotional learning into high school English language arts is worthwhile.

Introduction

> *Jenna, a high school student, is quietly working on a class assignment in English language arts. Her class has been asked to help decide their next book to read by talking in small groups. Jenna ignores the directions deciding to work alone, writing down her thoughts. After a while, Jenna's teacher asks everyone to share their ideas. Jenna has written many books she'd like to read with strong points to support her choices, but she doesn't like speaking in front of her class. So, when asked to share she claims she couldn't think of anything. Her teacher responds "Are you sure? There are no wrong answers, and everyone's feedback is helpful! I'd love to know what you wrote down." Jenna confirms her answer by shaking her head no and her teacher respectfully moves on to the next student. After everyone shares their suggestions, the class takes a vote and selects their book.*
>
> *Later, Jenna expresses disappointment with the group's selection to a classmate saying, "It's so boring! I can't believe you voted to read this." Her classmate responds with an eye roll and reminds J that she had a chance to suggest something else but declined. Annoyed, Jenna says, "Whatever. You only picked this book because you know they like it," gesturing to her classmate's crush. Embarrassed, her classmate gets quiet just in time for class to start.*

High school students like Jenna are in a unique developmental period of life known as adolescence. They face the pivotal point where their learning and performance in school start to blend with the needed skills and expectations of adult life. The lessons learned or not learned from the classroom lead and shape postsecondary life. In Jenna's case, learning to follow directions, work in a team, communicate with her teacher and peers, build self-confidence, adjust her attitude, and be accountable demonstrate a few lessons that will affect her later in life. These same areas all contribute to the academic and personal success of all students. While the lessons Jenna is exposed to during the classroom activity are seemingly broad, there is a common

thread among them that deserves attention from educators teaching high school English language arts (ELA). Jenna's social and emotional competencies determined how she perceived and responded to the class activity and remarks from her peer. A key component to her success or failure is the development of emotional intelligence acquired through social-emotional learning weaved into the lessons in her ELA class. ELA is foundational to our ability to communicate making it the ideal content area to facilitate social-emotional learning.

Definitions

Social-emotional learning (SEL) refers to the process of understanding and exemplifying self-awareness, self-management, social awareness, relationship-building skills, and responsible decision-making skills (Schlund, 2011). It is the framework used to develop our ability to recognize and manage our emotions and behaviors in various situations. Students engaged in SEL methods and techniques acquire a broad range of life skills such as resilience, empathy, and adaptability and are less susceptible to negative life outcomes (Merrell et al., 2008). Schools that promote systemic SEL often report higher academic success that is attributed to students' ability to handle challenges constructively and foster positive relationships with their teacher and peers (Dresser, 2013).

Emotional intelligence (EI) refers to the ability to identify and manage the emotions of yourself and others and is acquired through the process of SEL. It combines our cognitive and emotional skills and abilities to produce socially acceptable behaviors. Emotional intelligence is needed for adolescents to navigate multiple life aspects such as popularity and acceptance in a way that positively contributes to their development of self-worth and promotes self-advocacy. As students become adults, their development of EI will affect how they learn from experience, their perception and insight, and their ambition and motivation (Basu & Mermillod, 2011).

The growing interest in SEL in the classroom and EI in the workplace further proves the importance of adequately preparing high school students for their post-secondary world. Both student and employee need to have developed (or be developing) skills in interpersonal relationships, leadership, and self-management. To be successful in life they must be capable of compassion, dedication, influence, goal setting and achievement, stress management, and be socially aware (Basu & Mermillod, 2011). Skills such as these are of strong interest to both business and college environments.

Why We Should Integrate SEL into High School ELA

While all content areas should integrate SEL, high school ELA educators are in a unique position because of the age group of their students and the interdependent relationship between ELA and SEL. According to Storey (2019), "ELA provides ample opportunity for meaningful personal engagement and connection, meaning making, and reflection. The pith and substance of ELA involves matters that are intricately interwoven with social and affective experiences" (p. 126). By design, ELA is a content area that prompts the exploration of social and emotional topics like

relationships, conflict, point of view, and identity (Storey, 2019). When we engage with literature, we can view the world from different perspectives, empathize with stories both familiar and unfamiliar, and learn to express our own stories. Recall the various literary works you were assigned in high school ELA such as Shakespeare's Romeo and Juliet. A tale of young love, family drama, death, suicide, choice, and consequence, renders an abundance of relatable themes for any student to explore. Students can either see themselves within the story, debate on what they would or wouldn't do, and even analyze complicated emotions like love and grief. Literature provides a safe space to vicariously examine the nuances of life.

Methods and assessments used in high school ELA also align with SEL engagement strategies. In Jenna's class, she and her classmates were tasked with selecting the next book. By directing the students to talk to each other in small groups, suggest and defend their ideas, and present to the entire class, the teacher effortlessly combined ELA and SEL. Including the class in decisions that affect them supports empowerment. Asking for the reasoning behind their book suggestions strengthens critical thinking and communication. Since the class needed to pick one book handling approval, rejection, disappointment, or satisfaction are just a few examples of the emotions that the assignment would create. Literacy is foundational to developing social-emotional skills. When students are asked to read or write to persuade, innovate, and reflect, it strengthens their skills in effective communication and critical thinking. Engaging students in assignments based on literature and communication allow students the opportunity to reflect on who they are and how they want to live their lives which helps to shape their identities (Marlatt, 2020).

Vocabulary is one way to explain, express, or convey our emotions. While studying high school ELA, students can broaden the words they use to accurately describe their emotions which is key in identification and management. Students or adults that are unable to clearly express their emotions risk being misunderstood, experiencing compounding or secondary emotions, and misdirecting their behavior connected to their emotions (Vila et al., 2021). Think about Jenna's interactions with her peers. When challenged for complaining about the class decision, she became defensive and responded by embarrassing and insulting her classmate. Having the right words to communicate internally and externally what she was feeling could have avoided her poor behavior.

SEL Teaching Strategies and Implementation

Recall Jenna's interaction with her high school ELA teacher. Her teacher knew Jenna had something to contribute and offered positive encouragement to convince her to share her thoughts. Additionally, her teacher assigned the class to select a book by discussing suggestions, providing input, and making a final selection by voting. These are examples of implementing SEL in the ELA classroom. Jenna and her classmates were provided the opportunity to reflect, speak, listen, and ultimately work together to decide. Teaching strategies and classroom activities that promote SEL could be easily included, but according to Marlatt (2020), they lack strategies to support effective classroom implementation. ELA curricula and standards provide a natural framework for integrating ELA. This can be done in a variety of ways, but teachers need to use strategies within classroom assignments and activities that con-

nect to a SEL competency to target and support the development of specific social-emotional skills and knowledge. One sample strategy addressing self- awareness would have students complete a project describing their personal goals and interests and answering provided questions to have them elaborate in order to help students understand how to set goals, identify personal characteristics, and explain their ways of thinking. Another strategy to address responsible decision making would have students identify a decision made by a figure from the literature. They would be asked to think about the process and outcome of the figure's choice and share their opinions. Using literature can allow students to explore more complicated themes. Other areas that can be addressed through strategy use in the ELA classroom include self-management, social awareness, and relationship skills.

SEL and Post-Secondary Success

Our world is ever-evolving and requires us to keep up the pace. SEL provides us with the ability to deal with the changes in the world respectfully and productively. According to Paolini (2020):

> Social emotional learning is vital for career success, as it emphasizes the intrapersonal and interpersonal skills that people need in order to be productive and efficient in their work setting including leadership, celebrating diversity, effective communication skills, accountability, assertiveness, conflict resolution, time and stress management, as well as motivation (p. 125).

In addition to the future success of students, SEL enhances their experience in school and encourages educators to bring relevance and meaning to the content. By scaffolding SEL standards into ELA content, students can succeed academically while building skills and knowledge applicable to their personal and professional development.

> *Shortly after graduating high school, Jenna lands her first job. She initially struggles with attendance, following the dress code, inappropriate phone use during work hours, and understanding her job duties but improves by asking for help and being receptive to feedback. Overall, she enjoys her work and feels important because so many people depend on her.*
>
> *After a few months, she starts having trouble with a co-worker. When Jenna first started, she considered her co-worker a friend. They followed each other on social media, exchanged text messages, and spent time together outside of work. Recently, they can't work together without arguing over simple tasks, and Jenna believes her co-worker is starting rumors about her. Fed up, Jenna decides to confront her co-worker during their shift. The two engage in a heated argument exchanging insults and expletives in front of other employees and clients. Management intervenes to calm Jenna and her friend, but Jenna refuses to finish her shift with her co-worker. Upset, she decides to leave her shift without informing her team.*

When comparing Jenna's behavior at school and at work, we can identify a few changes and stagnations. Relationships with her peers remain a challenge as she acts based on emotion. Keeping her job for some months is an indication she has grown

in responsibility but arriving late, refusing to work, and leaving early show there is still room for improvement. Communication remains an issue though she was able to ask for help and was receptive to feedback. In a professional environment, Jenna's behavior will have major consequences. Behavior at work affects a person's ability to thrive professionally and maintain employment. On a personal level, Jenna could be losing a source of confidence and a friendship. Professionally, she may lose her job and destroy a potential connection that could serve her in her future. However, if she had acquired the necessary social emotional competencies as a high school student, she could have improved her experience as an employee.

Conclusion

The time of transition between ending high school and beginning our post-secondary path is challenging and peculiar. It is the time of life when we test boundaries, develop independence, and build self-esteem. Our perception of the world shifts as we are faced with the daunting realities of impending adulthood. As we close our coming-of-age era and emerge into the post-secondary world as adults, we are expected to show up with hard skills such as reading, writing, and arithmetic and soft skills like communication, relationship building, and conflict management. Our skills are developed both in and out of the classroom, but there are learning opportunities at school with the potential to shape our future success or failure being overlooked and underrated. As educators, we have a responsibility to prepare our students for the world outside of our classrooms. High school ELA is the ideal space to create skill-building opportunities for developing emotional intelligence. Ambitious as it may be, integrating SEL into ELA proves to be an effective way to help our adolescent students effectively prepare for adulthood.

References

Basu, A., & Mermillod, M. (2011). Emotional intelligence and social-emotional learning: An overview. *Psychology Research, 1*(3), 182-185. https://doi.org/10.17265/2159-5542/2011.03.004

Dresser, R. (2013). Paradigm shift in education: Weaving social-emotional learning into language and literacy instruction. *i.e.: inquiry in education, 4*(2), 1-20. https://digitalcommons.nl.edu/ie/vol4/iss1/

Marlatt, R. (2020). Revitalizing English language arts through social and emotional learning. *The English Journal, 109*(3). 44-49.

Merrell, K. W., Juskelis, M. P., Tran, O. K., & Buchanan, R. (2008). Social and emotional learning in the classroom: Evaluation of strong kids and strong teens on students' social-emotional knowledge and symptoms. *Journal of Applied School Psychology, 24*(2), 209–224. https://doi.org/10.1080/15377900802089981

Paolini, A. C. (2020). Social emotional learning: Key to career readiness. *Anatolian Journal of Education, 5*(1), 125-134. https://doi.org/10.29333/aje.2020.5112a

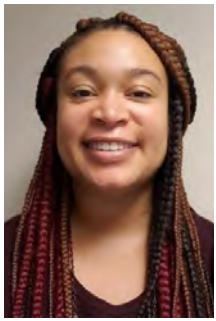
Schlund, J. (2021, July 22). What does 'social emotional learning' really mean? Social Emotional Learning. https://medium.com/social-emotional-learning/in-school-systems-around-the-world-theres-growing-appreciation-of-the-importance-of-social-and-fc797d8aa84

Storey, M. (2019). Engaging minds and hearts: Social and emotional learning in English Language Arts. *Language and Literacy, 21*(1), 122–139. https://doi.org/10.20360/langandlit29355

The Aspen Institute National Commission on Social, Emotional, and Academic Development. (2019). From a nation at risk, to a nation at hope: Recommendations from the National Commission on Social, Emotional, and Aca-

demic Development. https://www.aspeninstitute.org/programs/national-commission-on-social-emotional-and-academic-development/

Vila, S., Gilar-Corbí, R., & Pozo-Rico, T. (2021). Effects of student training in social skills and emotional intelligence on the behaviour and coexistence of adolescents in the 21st Century. *International Journal of Environmental Research and Public Health, 18*(10), 5498. https://doi.org/10.3390/ijerph18105498



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Gena Collier is currently studying curriculum and instruction at the University of Toledo. Her career in training and professional development shapes her perspective on education. She recognizes the parallels and gaps between school and work and focuses her research on this area.

Using Cultural Responsiveness to Promote Early Childhood Literacy

Rachael Engel

Abstract: In early childhood education, English language learners face a multitude of challenges that are unique to their educational experience. One challenge is English literacy, a required skill for later academic achievement. Contemporary research efforts have examined various pedagogical approaches that address these issues, such as culturally responsive teaching. This manuscript explores literacy methodologies through the lens of culturally responsive teaching, which include connecting cultural values between school and home through parental involvement, encouraging high self-efficacy in early childhood educators of ELLs, using evidence-based instructional methods, and connecting other languages with English to promote second language acquisition. Such efforts are important because appropriate support for English language learners is necessary to promote educational equity within the United States education system.

Introduction

The United States is one of the world's largest melting pots of culture and diversity. Because of this, there are challenges unique to the United States education system. Initial challenges English language learning children experience include contending with learning to communicate in a new language while instantaneously developing English literacy skills. Academic achievement in the United States requires students to read and write in English. Therefore, English Language Learners (ELLs) begin their academic journey with more obstacles than their native English-speaking counterparts. ELLs must not only overcome linguistic differences, but also cultural differences and incongruencies between values within education and home environments. Moreover, this population is growing. According to the National Center for Educational Statistics (NCES) (2020), students of cultural minorities, such as Hispanic, Pacific Islanders, American Indian, Alaskan Native, and others are projected to steadily increase. To provide these individuals with an equitable chance for academic achievement, early childhood education in the United States must be prepared to properly support the distinctive needs of this population.

Teaching ELLs in early childhood is not a new occurrence, however, it has been modified over the past decades. One individual recalls her experience as an ELL in the 1990's with overall dissatisfaction:

> Though I was born in the US, I spent my first years of life under the care of my relatives in Mexico. When I was 6, I moved to Chicago to be with my mother, and was placed in bilingual kindergarten to begin my schooling in the United States. I cannot recall much, but I know that I spent most of my time confused and crying. Sometimes, I would have to go to special classes with the other English learners. When I got older, I finally tested into native English lessons. I remember feeling sorry for students that had to remain in bilingual lessons. I really wish they had not separated students based on their language abilities

> at my school. We were so afraid of being different (D. Chavez, personal communication, March 8, 2022).

In the past, this may have been a common experience for ELLs. However, with contemporary globalization efforts, multicultural educational research and specialized pedagogical strategies have become more prolific in early childhood education settings. Such research has branched into a plethora of concepts, such as cultural identity development, parental involvement trends of ELLs, integration of culture into developmentally appropriate practices, and the use of culturally responsive teaching. English literacy, being an important component to early childhood education, has also been thoroughly explored within the context of ELL instruction. This paper will examine pedagogical strategies that utilize cultural responsiveness to support ELLs in early childhood literacy and discuss why its use is important.

Culturally Responsive Teaching

Effective strategies for teaching ELLs in English literacy require a cultural component. Culturally responsive teaching (CRT) encompasses all approaches that connect teaching strategies to a child's native culture. According to Geneva Gay (2001), CRT can be defined by:

> Using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively. It is based on the assumption that when academic knowledge and skills are situated within the lived experiences and frames of reference of students, they are more personally meaningful, have higher interest appeal, and are learned more easily and thoroughly (p. 106).

Because CRT provides teachers with a way to more effectively teach cultural minorities, this approach should be applied to pedagogical strategies when teaching literacy to ELLs.

Culturally responsive teaching is designed to close the education gap that may result from cultural differences between the teacher, American society, and other students. Multiple researchers, such as Garza, Lavigne, and Si (2020) contend that culturally responsive teachers develop stronger relationships with their students because these teachers illustrate greater empathy to cultural values, socioeconomic status, and linguistic backgrounds. As a result, students exhibit higher engagement and a better relationship with their educational experience. One example of successful CRT can be observed in dual language classrooms, where everything is taught in English and Spanish. Students not only learn multiple languages but are never separated and are encouraged to work with one another (Garza et al., 2020). This demonstrates value for all cultures.

Early childhood education encompasses all areas of child development, such as mathematics, language and literacy, social emotional growth, and motor skills. Culture is deeply intertwined within all of these areas and contribute to a child's cultural identity. According to Vygotskian theory, the child's cultural surrounding is paramount because culture propels learning (Crain, 2005). In the United States, it can be easy to forget that the general population has a culture, which is inherently

euro centric. Therefore, children of minority cultures, for instance, Hispanic heritage, must find a balance between the culture that is experienced within the home and within their educational environments.

Since culture is a tool which propels learning, culture that is relevant to ELLs can be utilized for building skills such as literacy. Approaches to teaching literacy using CRT may include involving parents in literacy activities, promoting literacy using evidence-based instructional strategies, connecting children's native languages to English to support language acquisition, and encouraging high self-efficacy for teachers of ELLs in early childhood education.

Parental Involvement in Literacy Activities

Parental involvement in education is essential for student success, especially for ELLs learning literacy in early childhood education. A key reason for this is cultural congruency. Cultural congruency "implies one-to-one correspondence between what happens in school and what happens in the home. It seeks consistency between the child's home-school experience" (Roh, 1996 p. 8). In all cultures, parental involvement in education is imperative for developing early literacy skills. According to the NCES (2003), Hispanic parents of ELLs are more hesitant to participate with English language learning, possibly due to lacking English skills, limited access to resources, or simply because of differing values. However, connecting home and educational values are important for children to become more engaged with learning to read in English. A common issue teachers face while collaborating with ELL parents is prioritizing English over their child's native language development (Choi et al., 2020). However, parents that read to their children at home (in any language) establish value in reading which supports literacy in academic settings (Panferov, 2010). A culturally congruent way to translate these literacy values for other languages could be to provide reading materials in children's native languages as well as English in the classroom (Cabeza & Rouse, 2014).

Teachers can involve parents of ELLs in classroom activities such as asking for their participation in presentations or community events. Communicating with and involving parents in classroom activities also demonstrates value of the ELL child's unique culture and contributes to the child's cultural identity. Children that are in programs that equip CRT, such as dual language programs, have higher confidence and engagement in their academic experience and their roles as individuals in their families (Rodriguez Tamayo & Tenjo-Macías, 2019, p. 100). For hesitant parents, teachers should use multilingual resources or school communication systems to effectively converse with parents and inform them on ways to assist their child with their education at home (Panferov, 2010).

Using Culture in Evidence-Based Literacy Instruction

Though evidence-based instruction is already used for general English literacy teaching, it can be adapted using CRT. Evidence-based instruction uses physical representations of concepts being taught to children, such as realia, pictures, and actions (Cabeza & Rouse, 2014. p. 62). Culturally responsive teachers label objects throughout the classroom using multiple language vocabularies, sing songs using

more than one language, provide books in multiple languages, invite parents for presentations, and include cultural artifacts in lessons (Cabeza & Rouse, 2014). In response, children will be eager to participate in relevant classroom activities, discover linguistic connections between their native languages and English, and motivated to read and communicate in any language. Evidence-based instruction appeals to all learning styles and can flexibly cater to multiple cultures while encouraging classroom engagement.

Translanguaging

Another culturally responsive strategy that combines culture and supports language acquisition and literacy is the use of "translanguaging." Translanguaging combines the child's native language and English to promote acquisition and code-switching abilities (Sayer, 2013. p. 68). Through translanguaging, students gain a better understanding about the intricacies of language use. In bilingual classrooms, the use of translanguaging has been found to promote better understanding of syntactic use of each language. For instance, a student combining English and Spanish while communicating will have to be aware of his or her use of verbs and nouns. Using this strategy is culturally responsive because it legitimizes the ELL's vernacular rather than marginalizes their native culture within a dominant culture (Sayer, 2012. p. 69). Since translanguaging is an interpersonal code-switching practice, it can be implemented through group activities that encourage communication among peers. For example, each student could make a page for a class book to be read during circle time. Each child may write using words in any language but should be prepared to explain what they have written to their friends. Such activities foster interest in literacy, promotes code-switching, and supports social emotional development. On behalf of the teacher, translanguaging can be supported within the classroom through modeling or by not limiting the use of students' native language during discourse.

The Self-Efficacious Teacher

It is ultimately the responsibility of teachers to implement CRT within American classrooms. Teachers that use CRT exhibit high self-efficacy (Garza et al., 2020). This is because these teachers empathize with students from differing cultural backgrounds and actively support their highly individualize needs. Unfortunately, one strategy cannot work for all English language learners. There has been more effort on behalf of the US education system to find supportive methods for ELLs, however, according to one teacher, more support is still needed to adequately accommodate the needs of ELLs in kindergarten:

> I teach kindergarten with many English language learners and believe that there are more ways to support ELLs nowadays. We use new platforms that translate and help us communicate with parents. I use standard strategies for helping these children learn to read, such as sentence stemming, TPR, and visual aids, but this is similar to how we teach all kindergarteners. I believe that English speakers are always ahead of the ELLs. I wish that our district would help us teach to the whole child rather than focus entirely on their reading and testing

skills. Our trainings have not discussed culture (I. Wirt, personal communication, March 14, 2022).

Though this is the case for one school in one district in Northern Virginia, it illustrates the reality that teachers who have limited training or theoretical understanding about multicultural instruction must personally research and implement CRT with their students. Many teachers in early childhood education feel uncomfortable or unprepared instructing ELLs due to lack of cultural training (Choi et al., 2019). This can be more challenging in classrooms that have ELLs from multiple cultural backgrounds. Self-efficacious teachers are guided by individual relationships and understanding of student's native cultures. With modern technology, there are numerous resources that can be explored to implement CRT for the purpose of literacy instruction, such as the "Planned Language Approach" program (see https://eclkc.ohs.acf.hhs.gov/culture-language/article/planned-language-approach). For better understanding of the individual child's culture and language, teachers could interact with parents or examine resources online. For example, the teacher of a child that speaks Farsi would greatly benefit from exploring Farsi phrases, discussing interests and household routines with the child's family, and being knowledgeable of Farsi traditions.

Conclusion

Over 10% of the student population in the United States are ELLs, a third of which are Hispanic. (NCES, 2019). When observing academic trends of ELLs, it is important to acknowledge data for Hispanic individuals because they are the majority of the ELL populace and constitute for over 25% of the entire US population. Hispanic children are less likely to visit a library, have poorer reading scores than their white peers, and exhibit the highest dropout rates in the country (NCES, 2019). The main issue being that they are English language learners: "One of the challenges currently facing schools is providing equal educational opportunities to students from various cultural backgrounds, some of whom are not proficient in English" (NCES, 2019 p. 72). For a democracy that promises equitable education opportunities, this is a serious concern.

The world of teaching is rapidly changing, and culture has become a major component to the effective implementation of early pedagogical teaching strategies in American schools. Researchers are providing more data about the importance of integrating culture into early childhood pedagogy, for reasons of engagement, social emotional development, language acquisition needed for literacy, and understanding concepts that are taught in English. English language learners, on average, perform more poorly in academics than their English-speaking counterparts. However, students in programs that implement CRT exhibit high academic achievement in later years (Garza et al., 2020). Culturally responsive teaching is certainly a valuable tool for teaching literacy in American schools because it not only values what is being learned, but values the learner as well.

References

Cabeza, C., & Rouse, E. (2014). How do early childhood teachers understand and support the needs of young English language learners?. *Asia-Pacific Journal of Research in Early Childhood Education, 8*(4), 1557-1571. DOI: 10.13189/ujer.2020.080450

Choi, J., Ryu, D., Van Pay, C., Meacham, S., & Beecher, C. (2021). Listening to Head Start teachers: Teacher beliefs, practices, and needs for educating dual language learners. *Early Childhood Research Quarterly, 54*, 110-124. DOI: 10.1016/j.ecresq.2020.08.005

Crain, W. (2005). *Theories of development* (5th ed.). Pearson.

Garza, T., L. Lavigne, A. and Si, S., (2020). Culturally responsive teaching through the lens of dual language education: Intersections and opportunities. *Universal Journal of Educational Research, 8*(4), 1557-1571. DOI: 10.13189/ujer.2020.080450

Gay, G. (2001). Preparing for culturally responsive teaching. *Journal of Teacher Education, 53*(2), 106-116.

National Center for Education Statistics (NCES) (2003). *The condition of education 2003*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/pubs2003/2003067.pdf

National Center for Education Statistics (NCES) (2019). *The condition of education 2019*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/pubs2019/2019144.pdf

National Center for Education Statistics (NCES) (2020). *The condition of education 2020*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/pubs2020/2020144.pdf

Panferov, S. (2010). Increasing ELL parental involvement in our schools: Learning from the parents. *Theory Into Practice, 49*(2), 106-112. DOI: 10.1080/00405841003626551

Rodríguez Tamayo, I. and Tenjo-Macías, L., (2019). Children's cultural identity formation: Experiences in a dual language program. *GiST Education and Learning Research Journal, 18*, 86-108.

Roh, H. E. (1996). New directions in early childhood teacher preparation: Developmentally and culturally appropriate practice. *Journal of Early Childhood Teacher Education, 17*(3), 7-19. DOI: 10.1080/10901029608548589

Sayer, P., (2013). Translanguaging, TexMex, and bilingual pedagogy: Emergent bilinguals learning through the vernacular. *TESOL Quarterly, 47*(1), 63-88.

US Department of Health & Human Services. (2022, March 18). *Planned Language Approach*. ECLKC. https://eclkc.ohs.acf.hhs.gov/culture-language/article/planned-language-approach

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Utilizing Culturally Relevant Texts in the English Language Arts Classroom

Savannah Heabler

Abstract: Maintaining students' engagement and assessing their reading comprehension is very challenging. Today, students have a difficult time connecting what they learn in class with their daily lives based on the texts that have been commonly used for years in the classroom. English language arts teachers introduce students to characters that they believe their students will relate to, however, every student comes from different cultural, socioeconomic, and diverse backgrounds that need to be taken into account when choosing texts to read in class. This paper explains why culturally relevant texts are important for English language arts teachers to incorporate into their classrooms to help students remain engaged and strengthen their reading comprehension.

Introduction

Students today have a difficult time staying engaged and motivated in the classroom and that stems, at least in part, from them being exposed to content or literature that does not interest them. Teachers have a certain amount of time in the school year to assess students' ability to read well and understand the components of a story or texts in order to make connections. Therefore, it is important for teachers to get to know their students on a personal level in order to choose the texts explored throughout the school year that will effectively impact students' academic and personal lives. Oftentimes, teachers choose texts that are commonly taught year after year; however, research has shown that when students are introduced to texts that are relevant to them, their ability to comprehend the text and remain engaged increases. So, how can we as English language arts educators create more engagement and motivation in the classroom to increase students' reading comprehension and ability to make deeper connections with texts?

Culturally Relevant Texts

Diversity and culture are two important components that need to be incorporated into an English language arts classroom by increasing the number of culturally relevant texts. What exactly makes a text culturally relevant? Culturally relevant texts consist of characters, events and experiences from the passages and selections found throughout the past material to find a resemblance or similarity with the students' own present perspective and those of the future. For example, researcher Alma Rodriguez's (2009) work on connecting Hispanic students to school curriculum, identifies a text as culturally relevant when, "there are similarities between the characters and students with their families, and when there are relationships between the students' experiences and those told in the stories" (p. 14). She also looked at the reasons and benefits of incorporating culturally relevant texts into the curriculum to enhance English Language Learners' comprehension. She was able to conclude that

culturally relevant texts allowed students in the classroom to develop their critical literacy skills by activating their prior knowledge to help make sense of the material and generate deeper level questions on the ideas represented in the text (p. 15).

These culturally relevant texts work alongside culturally relevant pedagogy in the English language arts classroom. Culturally relevant pedagogy is defined by Gloria Ladson Billings (1995) as a "theoretical model that not only addresses student achievement but also helps students to accept and affirm their cultural identity while developing critical perspective that challenge inequities that schools (and other institutions) perpetuate" (p. 469). This would suggest that teachers in English language arts classrooms need to take into account their students' cultural identity while choosing texts to use in the classroom that will ultimately increase their ability to relate to the text on a personal level which in turn will enhance their comprehension, engagement and motivation in the classroom.

Cultural Relevant Texts and Reading Comprehension

Culturally relevant texts give students the opportunity to "see" themselves in literature which creates a spark of interest. Along with sparking interest in students, research has shown that culturally relevant texts improve students' reading comprehension. How exactly do these texts increase students' comprehension? A study done by researchers Amy Clark and Jane Fleming (2019) found that reading and discussing culturally relevant texts with children from nondominant social backgrounds activated childrens' experiential knowledge that promoted increased reading comprehension development. During their study, they documented and observed 13 preschool to third-grade teachers from four large urban school districts with students from different sociocultural and linguistic backgrounds. Each teacher was required to use culturally relevant texts in their English Language Arts classrooms that spoke directly to the everyday experiences of their students to assess their reading comprehension development. Teachers that participated in the study found that students were able to connect their personal lives to the story which enhanced their comprehension. For example, one teacher in the study, Ms. Carter, read aloud the book Something Beautiful (Wyeth, 1998) after which she suggested that "the text and discussion affirmed the children's lived experiences and engaged them cognitively in drawing inferences and making personal connections to a key theme of the text" (Clark & Fleming, 2019, p. 35). This observation and conclusion from Ms. Carter showed that when students draw on their cultural and experiential background knowledge to make sense of a text, their ability to comprehend greatly improves.

Another prime example of how culturally relevant texts can impact students' reading comprehension comes from a study done by researcher, Ann Ebe (2010). She studied how culturally relevant texts improved English Language Learners' ability to read proficiently and make connections to two different texts. The first story used in the study was, Kwan the Artist (Various, 2022), which is about a young boy that just moved to the United States and has a hard time understanding and interpreting his teacher. He strives to do well in school despite the prevalent language barrier between him, his teacher and his peers. This particular story was used as the cultural relevant story in the research study. The second story used in the research

study was not a culturally relevant piece of text but was a traditional tale about deciphering who is strong; the wind or the sun.

Throughout the study, nine students were asked to read both stories and then retell each story using a cultural relevance rubric created by researcher Ebe (2010). The rubric asked students to rank each story on a scale of 1 to 4 (1 being not culturally relevant and 4 being very culturally relevant). The rubric used to identify the facts of cultural relevancy for each story consisted of eight categories; the ethnicity of characters, setting, the year the story takes place, ages of characters, gender of the characters, the language or dialect used in the story, the genre of the story, and the readers' prior experiences and background knowledge. Ebe (2010) found that the culturally relevant text, Kwan the Artist (Various, 2002) scored higher in cultural relevancy with a mean score of 26.9 compared to the text, The Wind and the Sun (dePaola, 1995) with a mean score of 14.2. At the conclusion of the study, Ebe (2010) revealed that when students read Kwan the Artist (Various, 2002), they had a better understanding of the text and they remembered more and were able to recall information from the story in order to accurately retell the story when prompted (Ebe, 2010, p. 208). On the other hand, the text The Wind and the Sun (dePaola, 1995) , revealed that students had a more difficult time retelling the story due to having to sound out unknown words and not having as much prior knowledge and background of the topic or content (Ebe, 2010). The interesting observation in this study was the miscue analysis and retelling data Ebe (2010) tracked which suggested that the students' reading comprehension was greater when reading a story they identified as being more culturally relevant. Therefore, these two studies provide insight and information that demonstrates that culturally relevant texts help aid students' reading comprehension by making it easier to formulate connections and recall information from the text based on their prior experiences and knowledge.

Culturally Relevant Texts and Engagement

When discussing motivation and academic achievement, the two concepts go hand in hand in the classroom. Without motivation, students have a difficult time becoming high achieving individuals which in turn creates a disparity in our world. Motivation is identified as an individual's ability to remain focused and driven in order to attain a goal or incentive. It is the goal of an English language arts educator to keep their students motivated in the classroom by fostering meaningful discussions and utilizing various interests to their advantage. In the research study implemented by Rodriguez (2009), one of the themes revealed was motivation. Rodriguez (2009) reported that, "participants mentioned through culturally relevant books, ELLs [English language learners] would want to 'read more' and to 'produce good work'" (p. 19). This observation shows that students are more willing to read and develop meaningful connections when they are exposed to culturally relevant texts that are directly related to some aspect of their lives and cultures.

Along with motivation, students need to be fully engaged with a text in order to create meaning and understand the text at a higher level. Student engagement can be described as a student's innate ability to be curious, optimistic, passionate and interested when learning and processing information in order to internalize that information into their lives. "Culturally relevant texts have increased student interest,

reading engagement and achievement scores with various significance levels as compared to other required reading texts" (Ebe, 2011; Marshall, 2011; Scullini, 2014 as noted in Tan & Estascio, 2021, p. 344). Culturally relevant texts allow students to develop their critical thinking skills by initiating the natural curiosity and interest they already have about the text to make meaning and connections to their own lives.

Tan and Estacio (2021) conducted a study on the level of engagement of high school students with culturally relevant texts. The study consisted of eight tenth grade students at a private school in the Philippines. The eight participants included seven boys and one girl, all students from different cultural backgrounds. These students were required to work in a small group together and read five texts that were familiar and relevant to their lives such as having characters in the texts the same or near the age of the students, similar language and interactions between peers and family, and familiar experiences. Tan and Estacio (2021) used researcher Ann Ebe's (2011) cultural relevance rubric to assess students' ranking of each texts' cultural relevance. While students were in literature circles and had individual roles, they all participated in meaningful and critical thinking discussions about each text. Students were asked to answer journal prompts each night for homework which consisted of questions that pertained to their evaluation of cultural relevancy of each text, the level of discussion in their literature circles and one that required them to offer their opinion based on what they learned from the text. After the eight participants filled out a total of five cultural relevance rubrics, one after each story was read, the text that was deemed the highest in cultural relevancy was The Summer of My 17th Year" (Santos, 1942) with a score of 20 points out of 32 (Tan & Estacio, 2021, p. 350). Tan and Estacio (2021) explained the significance and reason behind students' high rating of the text by saying:

> …one factor that caused 'Summer' to have the highest rating among the reading texts was that participants' current city of residence at the time was directly mentioned in the story. Aside from this, the biggest factor that helped boost cultural relevance was the theme of teen romance, which was very relevant to readers at their current age (p. 350).

The other four texts also received high rating in cultural relevancy, but students reported that the words included in the texts were not in their same manner of talking on a daily basis and that the experiences or interactions between parents were unfamiliar and foreign to them. For example, students reported that the text Duffy's Jacket (Coville, 2014) was an enjoyable story; however, they expressed that their parents would never leave them alone with a younger sibling in a strange place, like the characters had in the story. It was found that all eight participants enjoyed reading each text, despite them reporting that not every text was perfectly rated as culturally relevant to them.

In the study, both researchers concluded that "…the level of relevance found in the texts was still significantly higher than the current reading texts required in the curriculum of the school where the participants study, which were mostly from the early 1900s. This resulted in an unprecedented level of focus observed by the researchers from the participants during independent reading and self-stimulated engagement in text discussion which are always desirable results for teacher of English and reading in general" (Tan & Estacio, 2021, p. 359). This study demontrates

that culturally relevant texts impact students' ability to remain engaged by activating their curiosity and interest which in turn strengthens their capability of discussion and comprehension of the text.

Conclusion

Exposing students to culturally relevant texts is important for teachers to incorporate into their English language arts classrooms to become more aware of their student's cultural heritages and bridge the gap between home and school experiences. In order to strengthen and maintain students' ability to comprehend texts and be engaged and motivated to learn, it is crucial for educators to source what they know about their students' personal and academic backgrounds and use that to increase students' ability to learn in meaningful, relatable and effective ways. By doing this, teachers can create a cultural awareness environment that celebrates their students' learning and individual backgrounds at the same time.

References

Clark, A., & Fleming, J. (2019). "They almost become the teacher": Pre-K to third grade teachers' experiences reading and discussing culturally relevant texts with their students. *Reading Horizons: A Journal of Literacy and Language Arts, 58*(3), 23-30.

Coville, B. (2014). *Duffy's jacket*. Bruce Coville.

dePaola, T. (1995). *The wind and the sun*. Silver Burdett Press.

Ebe, A. E. (2010). Culturally relevant texts and reading assessment for English language learners. *Reading Horizons: A Journal of Literacy and Language Arts, 50*(3), 193-210.

Ladson-Billings, G. (1995b). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465-491. https://doi.org/10.3102/00028312032003465

Rodríguez, A. D. (2009). Culturally relevant books: Connecting Hispanic students to the curriculum. *Gist: Education and Learning Research Journal, 3*, 11–29.

Santos, H. O. (1942). *The summer of my 17th year*. Dodd Mead, Simon & Shuster.

Tan, D.N., & Mante-Estacio, M.J. (2021). Reader-text connection: Reporting the engagement of high school students with culturally relevant texts. *TEFLIN Journal- A Publication on the Teaching and Learning of English, 32*(2), 342-359. https://doi.org/10.15639/teflinjournal.v32i2/342

Various (2002). *Kwan the Artist*. Rigby Reading.

Wyeth, S. D. (1998). *Something beautiful*. Double Day Books for Young Readers.

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Implementing Technology in Upper Elementary English Language Arts

Ashlee Himes

Abstract: In the education field, we have experienced a shift in how we utilize technology to teach English language arts (ELA) concepts. Technological literacies can easily integrate into curriculum when using the Ohio ELA and Technology Standards to determine the most important objectives and implementation strategies. When educators understand the use and efficacy of technology in ELA instruction and research, they are able to implement new media into reading, writing, and when speaking and listening. Students will be able to naturally learn how to use technology in everyday work. Integrating ELA and technological concepts helps students understand how these medias and modalities can work together. When we implement technology into the umbrellas of ELA, we set students up for success as adults in the 21st century digital world.

Introduction

When we consider the changes that have taken place in our educational approaches to technology, overall, we see an inability in students to effectively demonstrate literacy skills with the use of technology (Huang et al., 2019). In recent years, the field of English language arts has experienced immense technological growth. Alsup et al. (2006) describes this growth by defining literacy in today's world, "To become fully literate requires writing and reading in the six intertwined worlds that we now inhabit: the personal, the cultural, the educational and professional, the economic, the civic, and the cyber" (p .282). Consider the original skills expected of a typical upper elementary student: reading from a physical book, speaking with a peer, face-to-face, or handwriting a letter or academic paper. These skills all focus on concrete and straight forward practices. How does the format of our lessons need to change in order to successfully implement technological practices that would meet the needs of the cyber world?

Immersing technology in upper elementary language arts classrooms prepare students to succeed in the 21st century digital world. Implementing these technological skills in upper elementary grades is crucial to student growth and success in future learning and adulthood. These formative years lay the foundation that students will carry with them throughout their lifelong learning journey. Standard six of the NCTE's International Reading Association states, "Students apply knowledge of language structure, language conventions, media techniques, figurative language, and genre to create, critique, and discuss print and nonprint texts" (1996, p. 26). It is important to integrate ELA and technological concepts in order to help students understand how these medias and modalities can work together. This idea has become globally accepted as our world shifts to a digital format.

In a Classroom

Mr. Smith is a 4th grade teacher that has 20 students in his class. Each student has access to their own Chromebook for daily use. Mr. Smith struggles to identify which technological skills are important for his students to know, as well as how to tie Chromebook work into his ELA lessons. His students seem to only be interested in playing games on these devices during free time and lack in the areas of typing skills, researching, and relaying information. He fears that he is not preparing his 4th graders for the technological knowledge that they will need in junior high. He begins researching ways to implement technology use within the three core areas of ELA: reading, writing, and speaking/listening.

It is important to note that Mr. Smith does possess a moderate level of technological knowledge. He is aware of what programs are available in his school district and understands the fundamentals of how they operate. An educator that does not hold this knowledge might consider the work of Wang (2018). This work offers a detailed explanation of self-directed learning in adulthood. As technology advances, computer-based applications allow us to "...create, publish, modify, organize, and maintain information" (Wang, 2018, p. 30). For educators to be successful in the 21st century work and school environment, we must motivate them to participate in self-directed technological learning in order to advance their skills. It is also common for school districts to offer their staff professional development opportunities as new technology continues to be adapted.

Technological Skills

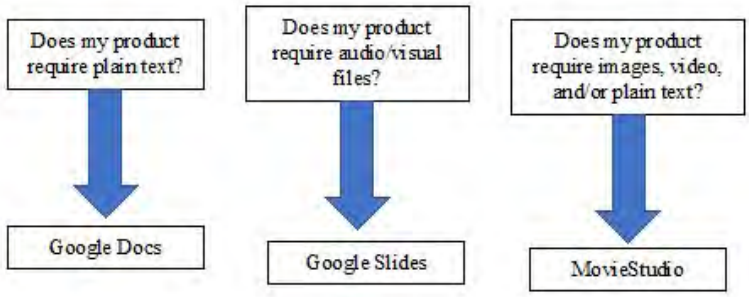
Wilhelm (2004) wrote about his ideas on the crucial need for all citizens to have technological literacy. He develops his theories around the term Digital Nation, which is the idea that our society relies on digital tools to live. Wilhelm constructs this viewpoint of the Digital Nation as one that needs civic engagement and requires society to be the shapers of the environment. Through the use of technology, he compares his theories to that of Darwinism and survival of the fittest. In other words, if we do not teach literacy skills, our civilization will eventually stop prospering and ultimately end in our demise (p. 18).

Wilhelm (2004) brings up a national discussion taking place that aims to determine what skills are considered necessary for today's youth. He states, "…low-skilled young people and adults cost society immensely over these cohort's lifetimes, jeopardizing the nation's economic and political stability" (p. 18). In another study, Casner-Lotto and Barrington (2010) conducted a survey with U.S. employers that suggests that the current generation of high school graduates are not proficient in the 21st century technological skills that are needed in today's society to hold a professional career. These skills include basic computer use, knowledge on digital communication, and ability to convey ideas with various media tools.

Wilhelm (2004) divides technological skills into three core ideas. These three core ideas include: 1) proficiency with using today's tools, 2) understanding the purpose of each tool, and 3) knowing what and what not to do with each option (p. 22). In other words, students should have a familiarity with the tools available to them, they should know the capabilities of each tool, and they should know when

and when not to utilize each. The basic tools that help provide foundational digital knowledge in the upper elementary classroom can be found in Figure 1. Having students ask these questions and utilize these tools will teach these three skills and prepare students for successful technology use in the ELA domain. By providing these foundational skills, students will be able to complete tasks using more complex technological mediums as they grow in their learning. We want our students to excel in technological skills as it pertains to ELA because it will ensure their ability to communicate, participate, and demonstrate overall success as adults in a professional and cyber world.

Figure 1
Questions to Ask Yourself When Determining Which Tool to Use



Implementation

Mr. Smith begins his research by finding ways to implement his knowledge of technology use within the three core areas of ELA: reading, writing, and speaking/listening. When examining the areas of ELA that the Ohio Department of Education (ODE) focuses on, we see importance given to reading, writing, and speaking/listening (2017). In addition to the core academic domains, the Ohio Department of Education also has standards for technology use by grade band (2017). A teacher should review both the ELA content standards and the technology standards while preparing instruction. The content standards provide the necessary information and skills to be mastered while the technology standards provide a framework for how acquisition of the content might occur with use of technology.

In Reading

After examining the standards, Mr. Smith decides to focus on standards A and E. He gives students a book talk on both Wonder (Palacio, 2012) and Tales of a Fourth Grade Nothing (Blume, 1972). He then allows students to choose which book they want to read. Next, Mr. Smith introduces three Chrome book programs: Google Slides, Google Docs, and MovieStudio. Students practice using these and choose which one they would like to use to share a synopsis of each chapter read, or to answer guided questions given by Mr. Smith. Students can make a slide show of

information, type a paragraph, or record video/audio material describing what they have read.

This activity would allow Mr. Smith to not only assess comprehension, but also to provide his students with the choice and opportunity to incorporate technology into their learning. Offering this technological component and giving students control over how they communicate their knowledge will heighten student interest, engagement, and participation (Abrams et al., 2019). Students will gain experience in using technological modalities to communicate their knowledge and could potentially collaborate with peers based on the teacher's goals and lesson objectives.

In Writing

When looking at the standards to be addressed in his lesson, Mr. Smith determines that he wants his students to both conduct research with informative writing (ELA), as well as describe a process with a result (technology). For this example, he can achieve both standards by providing students with options for study. Students could choose from researching how a claw machine (game) or vending machine operate. Students would need to research how these machines operate and complete a function. How does the machine go from accepting a coin to moving to the desired or chosen object? What are the working parts inside that trigger the next movement?

After completing this research, students would then need to write an informational piece, or create an infographic on the process that the machine and coin go through in order to complete the task. Not only would students gain an understanding of the design of the technology, they would also gain experience with informational writing skills through sharing what they have learned. The research that they collect, along with the conceptual understandings that they develop about the workings of the machine, would help them apply findings to other types of technology. This type of comparison or expansion could be offered as an extension or enrichment activity. For example, when we put bread in a toaster, toast does not just magically appear. There are inner workings within the device that cause it to get hot and toast the bread. This new way of comprehension and thinking would help students gain a deeper understanding of technology and the importance of its design.

In Speaking and Listening

The third and final umbrella of ELA includes the skills needed for speaking and listening. Similar to the writing portion, Mr. Smith would need to revisit the standards to determine what he wants students to do and accomplish through the lesson activities. There are many ways to incorporate speaking/listening and information/communication technology. He finds that the most engaging and interesting method for students is through the use of virtual field trips. For this lesson he chooses to use Cedar Point, a local amusement park that is very popular among his students. To create a virtual field trip, he must first create a document or series of slides with appropriate and helpful links, videos, and/or media stories about the destination. To go along with these resources, he also must provide guiding questions to steer student learning and communicate what he wants the students to locate and learn.

When the preparation portion is complete, students would then be able to 'go on' the virtual trip.

Working independently or with a peer, students would navigate the media resources to find answers to the given questions or topics. Students would answer the guiding questions and gain experience navigating digital tools and media to find specific material. Students meet the standard in speaking and listening through their work with the diverse media formats and through their interactions with their peers if they are working in pairs. They also examine the information that is presented visually on the park's interactive maps. This activity would provide students with the opportunity to not only learn about their destination, but also how to navigate digital information to convey a needed answer or response.

After Implementation

After implementing these activities and strategies, Mr. Smith is beginning to feel more confident in his ability to foster technological skills into his ELA lessons. He is able to identify what skills are important and sees his students gaining confidence in their digital abilities. They have begun typing faster, they are able to effectively use the internet and digital resources to locate or follow along with research, and they are knowledgeable about multiple digital modalities that can be used to convey their ideas. Mr. Smith has witnessed students learning in new formats and exploring technological resources. By implementing a variety of technological activities into his ELA curriculum, he feels that he is laying the foundation for his students to be participating members of the 21st century world.

Conclusion

Students need to possess a technological skill set in order to successfully participate and learn in today's digital world. Knowing what tools (Figure 1) are available is the first step for both students and educators in their journey to understanding and utilizing technology. After resources are known, time can then be spent learning how to use each tool in various modalities. Knowing how to use each resource determines the extent to which we are able to successfully utilize them. Once students know the tools, and how to use them, they must then learn how to distinguish when and when not to implement them in their work. In other words, students must know when it is best to use one modality or resource over another. Educators must dive into these concepts themselves in order to provide them to their students.

Not only do educators need to have their own technological skill set, they must also follow their state and school guidelines and standards. Through research and reviewing the work of Puerling (2018), it can be stated that in order for students to understand how technology works in our society, we must combine our teachings of it with core academic domains. Teaching the concepts side by side offers students the understanding that technology is applicable in an infinite number of ways. Parr and Campbell (2012) state, "As navigators of literacy, students and teachers can smoothly blend theory and practice…" (p. 26). Offering students the opportunity to practice skills and explore technology and its' abilities through classroom academics

will help provide the foundation required for students to grow into successful and participating members of the 21st century digital world.

References

Abrams, S. S., Schaefer, M. B., & Ness, D. (2019). Adolescents' digital literacies in flux: Intersections of voice, empowerment, and practices. *Journal of Media Literacy Education, 11*(2), 79–94.

Alsup, J., Emig, J., Pradl, J., Tremmel, R., Yagelski, R. P., Alvine, L., DeBlase, G., Moore, M., Petrone, R., & Sawyer, M. (2006). The state of English education and a vision for its future: A call to arms. *English Education, 38*(4), 278-294.

Blume, J. (2012). *Tales of a fourth grade nothing*. Puffin Books.

Casner-Lotto, J., & Barrington, L. (2010). *Are they really ready for work? The Conference Board, Corporate Voices for Working Families, the Partnership for 21st Century Skills, and the Society for Human Resource Management*. Retrieved March 30, 2022, from http://www.21stcenturyskills.org/ documents/ FINAL_REPORT_PDF9-29- 06.pdf

Huang, R., Spector, J. M., & Yang, J. (2019). *Educational technology: A Primer for the 21st Century*. Springer.

National Council of Teachers of English. (1996). *Standards for the English language arts: A project. National council of Teacher of English*. https://cdn.ncte.org/nctefiles/resources/books/sample/standardsdoc.pdf

Ohio Department of Education. (2017). *Ohio's learning standards*. https://education.ohio.gov/Topics/Learning-in-Ohio/OLS-Graphic-Sections/Learning-Standards

Palacio, R. J., & Carpenter, T. (2022). Wonder. Alfred A. Knopf. Parr, M., & Campbell, T. (2012). *Balanced literacy essentials: Weaving theory into practice for successful instruction in reading, writing, and talk*. Pembroke Publishers.

Puerling, B. (2018). *Teaching in the digital age for preschool and kindergarten: Enhancing curriculum with technology*. Redleaf Press.

Wang, M. (2018). *E-learning in the workplace a performance-oriented approach beyond technology*. Springer International Publishing.

Wilhelm, A. G. (2004). *Digital nation toward an inclusive information society*. MIT Press.

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Intertextuality and Its Role in the Classroom

Sophia Rechin

Abstract: Within the English language arts classroom, our students come to us with a background of different experienceS or lack of such experiences. They have all read different books, seen different movies, been to different places, and lived vastly different lives. When a student approaches a new text, they bring to it all their previous experience and interactions. This manuscript will explore the ways in which these experiences, and the idea of intertextuality, can be used within the English language arts classroom in order to enhance things like student engagement and reading comprehension. We will look at ways in which it can be integrated within curriculum and used to the student's advantage.

Introduction

Within the goals and standards for English language arts education at the secondary level is the aim to help students become proficient readers, analyzers, critical thinkers, and to be able to do so in different contexts such as fiction, informational texts, etc. When interacting with these texts, students bring their prior experiences and knowledge, all of which influences how they engage with that text. It has been shown that student engagement is influenced by student's prior knowledge and their ability to relate their previous experiences to the text at hand. The idea of intertextuality, of relating texts to one another and to prior experiences, allows students to relate texts to one another, and to their own personal prior knowledge, deepening their engagement and ability to connect to the texts they are reading. Intertextuality can be used within the classroom to target and encourage these connections students make. With this comes the question of how educators can use intertextuality to encourage this deeper thinking, as well as independent reading of more diverse texts. How can educators use intertextuality in classroom strategies to increase comprehension and meaningful connection to texts? This manuscript will explore what intertextuality is and explain how it is present within the classroom, as well as explore what happens when intertextuality is not present.

During my time student teaching in a ninth-grade English classroom, I saw these trends of intertextuality within my classroom. My students, who attend an urban school and who are mostly of a low socioeconomic standing, respond differently to works presented throughout the year. With two works specifically, I saw a harsh contrast. In the beginning of the year, our class read George Orwell's (1945) *Animal Farm* together. An allegory for the Russian Revolution, this novel explores ideas of control, power, and manipulation of a higher institution in a satirical way. While some students were able to connect it with their history studies of the Russian Revolution, at times it felt like a struggle trying to help students connect the themes to their own life. More recently, we studied Lorraine Hansberry's play, *A Raisin in the Sun* (Hansberry, 1959). The play, about a black family living on the south side of Chicago in the late fifties facing financial problems, racial prejudice, family tensions, and struggles with identity seemed to grab the attention of more of my students. When prompted, they connected the play to their own families, their own

dreams, and aspirations in life, and saw the perspectives of even the most villainized characters. This shift in texts came with a shift in what kind of intertextual experiences my students were able to bring to that text, meaning that their prior knowledge and experience overlapped much more with *A Raisin in the Sun* than it did with *Animal Farm*. In this case, they were able to interact with it in a much different, and deeper manner. This manuscript will be exploring issues like this one and address ways that educators can scaffold different experience and textual exposure levels to a class. This presents educators with the question of how can we use the texts that our students already possess to teach new texts?

This idea of intertextuality should be explored because our students learn from what they already know. By helping students understand that all texts are affected or influenced by other texts, we can help them become members of the English language arts discourse community. When our students not only understand, but engage in the relationship among different texts, it opens new opportunities and skills for them as a reader, writer, member, and contributor of the ELA community. Everything within English language arts, and arts in general is connected, and is about the world. When students realize that the world is experienced through language arts, they will be able to better understand intertextuality and connect to the works they are exploring.

What is Intertextuality?

Intertextuality is the relationship or connection among texts. This can occur in different places and in different forms. For example, intertextuality can occur from one text to another text. This could be when a title or author of a text is directly or indirectly referenced in a separate text. When students interact with a text such as a novel, an article, or film, they bring to it an array of previous texts, interactions with other texts and their experiences with the texts. These previous texts could be things like other books they have read, movies they have seen, or even interactions they have had, the location in which they were raised, personal experience, socioeconomic situation, and other perspectives. Each of these texts is interconnected and effects the text the student is currently interacting with, and the way in which they engage with it. This specific type of experiential intertextual interaction is especially relevant within a high school classroom, because of students' limited experience with written literary texts. Most of student's experience comes from life encounters, media interacts, or personal experiences. How, though, can educators identify these specific types of textual experiences, and use them in their curriculum?

As previously explored, intertextuality, at its simplest definition, is the relation among texts, and our understanding of texts based on texts that came before it. Although the idea of intertextuality can be credited to Swiss linguist Ferdinand de Saussure, the term was coined in the late 1960s by Julia Kristeva, A Bulgarian-French philosopher and literary critic who analyzed different aspects of language. Kristeva's idea of intertextuality came during a shift between forms of thinking, going from the rather rigid walls of structuralism to the less orderly thinking of poststructuralism (Klages, 2015). This is of such significance because this surrender of rigorous and rationalized thinking took power away from the author of a text and gave power to the reader. Now, instead of there being methodological components

to a text, there was now suddenly room for the reader to make the text their own, to base their understanding of it on other texts and experiences.

Martin (2011) acknowledges the adaptation of intertextuality in disciplines and art forms other than literature. She explains a piece of art done by a photographer that seemingly related photographs to works of literary text. This discussion of intertextuality and the relations among texts other than works of literature brings us to the analysis of a text itself, and the further question of what we classify as a "text". The idea of a text as simply a written piece of work has long been abandoned, recognizing that a text can take many different forms. James E. Porter (1986) writes,

> "In fact, these critics have redefined the notion of 'text': Text is intertext, or simply Text. The traditional notion of the text as the single work of a given author, and even the very notions of author and reader, are regarded as simply convenient fictions for domesticating discourse. The old borders that we used to rope off discourse, proclaim these critics, are no longer useful" (p. 35).

The notion of a "text" within the discussion of intertextuality takes on countless different forms and occurs in different locations. Similar to Porter's excerpt, Bloome and Egan-Robertson (1993) discuss this briefly in their article titled "The Social Construction of Intertextuality in Classroom Reading and Writing Lessons". Bloome and Egan-Robertson (1993) note,

> Intertextuality is not limited to explicit or implicit references to other texts, and it is not limited to literary texts. Nor is it limited to imitation. Rather, intertextuality can occur at many levels (e.g., words, the organizational structure of texts, register levels, genre types, content, and the situational contexts in which texts occur)…" (p. 306).

When a student interacts with an intended text, they bring previous texts – and their experience with previous texts – to that interaction. One location, and maybe the most commonly noted location, in which a text can occur is in the text itself. This type of intertextuality occurs when an "explicit or implicit reference is made to another text" (Literacy - Intertextuality). Whether or not the reader notices or understands this textual reference made, the intertextual component still exists. Another, and possibly more complex, location of intertextuality is within the person or the reader. As previously noted, students bring an array of different texts when interacting with a primary text. These could take the form of "conversations, books, or other printed texts, narratives of personal experience, memories, and so forth. The person may use these previous texts to create meanings for the target text or to help with the process of comprehending the text." (Literacy – Intertextuality). Recognizing these different forms that texts take can help us as educators to navigate the intertextuality that occurs within our students, and how that influences their experience with certain texts. We can use these locations and occurrences to deepen their understanding of works and build on our student's prior knowledge and experience for their learning.

Intertextuality and the Classroom

In his article "Intertextuality and the Discourse Community" James E. Porter (1986) brings to light just how impactful intertextuality is in the classroom, but more importantly what its absence within the classroom teaches students. Porter's definition of intertextuality is based in Vygotsky's "web of meaning:" the idea that "all writing and speech arise from a single network" and he discusses how works of literature are just this; texts that have arisen from a network and understanding of other texts. (Porter, 1986). Based in pedagogical ideas, Porter believes that intertextuality provides important perspectives that are currently being neglected within the teaching of reading and writing. He discusses how pedagogy that is currently in place is in favor of a romantic, idealized author. An author who created a great work of literature completely independently and internally. While these "dashing and heroic" images of writers may appeal to our need for intellectual heroes, it undercuts the greater idea that authors are a part of a larger community of discourse, and that writing is a dependent and social action (Porter, 1986). Porter goes on to explain how many of our educational tools that we use in our classrooms, like textbooks and anthologies, reflect this author-as-an-isolated-hero message, and that it is, in fact, detrimental to our students learning how to write within the discourse community. Porter notes,

> Generally, this pedagogy assumes that such a thing as the writer actually exists – an autonomous writer exercising a free, creative will through the writing act – and that the writing process proceeds linearly from writer to text to reader. This partial picture of the process can all too readily become the picture, and our students can all too readily learn to overlook vital facets of discourse production. (p. 41).

Porter is bringing to light how when we "romanticize" the process of writing by only focusing on the individuality and autonomy of the writer themselves, then we are robbing our students from understanding how to participate in the larger community of the English language arts discipline. We are overlooking key questions that address how authors participate within a larger community of writers, and how discourse communities influence both writers and readers. Porter includes a quote from David Bartholomae, emphasizing "The struggle of the student writer is not the struggle to bring out that which is within; it is the struggle to carry out those ritual activities that grant our entrance into a closed society" (p. 42). When we as educators focus only on isolated works, or we overemphasize the role of the author as a genius individual, we are not welcoming our students into the discourse community. We are not teaching them how to use other's work and continue conversations within the discipline, and we are restricting their ability to compose writing that contributes to English language arts. Intertextuality within the classroom, with its beliefs that all texts are interdependent, bring a whole new set of skills that our students must learn how to employ.

Strategies and Models

In their article "Teaching Textual Conversations: Intertextuality in the College Reading Classroom," Armstrong and Newman (2011) examine intertextuality within the

classroom and give models to support it. Although this article does address a post-secondary classroom, many of the reading models that are presented in this text can be adopted and modified for the middle school or high school classrooms. In the beginning of the article, Armstrong and Newman (2011) discuss the harsh transition that students experience when going from high school to college. They state that "as students begin to realize that the academic literacy practices expected of them in postsecondary contexts are vastly different from those they are familiar with from their primary schooling, this literacy transition often requires conceptual change related to their views of reading and writing." (p. 6). As reading tasks and expectations change from one level of education to the next, we as educators must adapt and prepare our students for this shift in reading practices. Armstrong & Newman (2011) present a model for reading instruction based on the connection of texts to combat this. They give a visual model, showing a large box divided into smaller boxes. Some boxes are empty, some have the words "Existing Schema" in them. Outside of the large box is "Supplemental Texts" pointing to some, but not all, of the empty boxes. This visual model shows that a reader's understanding and comprehension of a text is supported by the existing schemas and prior knowledge of that reader, but there will always be gaps in that knowledge (Armstrong & Newman, 2011). Because of those gaps, supplemental texts must be provided in order to support those gaps in knowledge. The larger box may never be completely filled, and those gaps in knowledge may never be fulfilled completely, but there will still be a much fuller and more filled in terms of comprehension of the main text (the big box) than there would have been otherwise. Armstrong and Newman state, "Using intertextuality as an instructional approach in a reading class allows students to practice the process of making connections or relationships between what is being read and what has previously been read on a topic" (p. 10). By implementing models that are directed by intertextuality, we can help our students develop a more comprehensive understanding of the text and see themselves as members of the English Language Arts community.

Conclusion

We know that the presence of intertextuality in the classroom opens a realm of thinking, reading, and composing writing that would otherwise not be present. The topic of intertextuality is such an important and relevant thing to discuss in our community of educators because it allows students to have an active role in the larger discourse community of English language arts. Students learn from building on their prior knowledge, and when we expand their prior knowledge and fill in our students' gaps in understanding, we deepen their learning and critical thinking. Instructing within the context of intertextuality allows us as educators to expose our students to the world of academic discussion, as well as seeing the deep relationship among texts and the world. The expansion of the definition of a "text" opens a discussion for our students on what experiences of interactions they are able to bring to a focus text. Integrating intertextuality in our classrooms helps our students to become better members of the English Language Arts discourse community.

References

Armstrong, S. L., & Newman, M. (2011). Teaching textual conversations: Intertextuality in the college reading classroom. *Journal of College Reading and Learning, 41*(2), 6–21. https://doi.org/10.1080/10790195.2011.10850339

Bloome, D., & Egan-Robertson, A. (1993). The social construction of intertextuality in classroom reading and writing lessons. Reading Research Quarterly, 28(4), 304. https://doi.org/10.2307/747928

Klages, M. (2015). *Literary theory: A guide for the perplexed.* Continuum.

Martin, E. (2011). Intertextuality: An introduction. *The Comparatist, 35*, 148–151. http://www.jstor.org/stable/26237266

Porter, J. E. (1986). Intertextuality and the discourse community. *Rhetoric Review, 5*(1), 34–47. http://www.jstor.org/stable/466015

StateUniversity.com. (2022). *Literacy - Intertextuality.* Education Encyclopedia - State University.com. Retrieved May 3, 2022, from https://education.stateuniversity.com/pages/2184/Literacy-INTERTEXTUALITY.html

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High Level Discourse in the ELA Classroom
Analyzing and Assessing Author's Purpose

Anna Warner

Abstract: The aims of this manuscript are to analyze the definitions and practices of discourse as they exist in English language arts classrooms currently and to identify why sophisticated discourse is a necessary tool in assessments. Sophisticated discourse is the most efficient and impactful method for ELA educators to assess the ways in which their students are understanding author's purpose in complex pieces of literature. Sophisticated discourse is inclusive and does not discount any persons' ideas surrounding the text. It allows for educators to evaluate all students' understanding of complex ideas in a text more efficiently, and it prepares and encourages students to think more deeply about the literature and how to apply it to real life scenarios.

Introduction

Theodore Zeldin (1988), English philosopher and writer said, "Conversation is a meeting of minds with different memories and habits. When minds meet, they don't just exchange facts: they transform them, reshape them, draw different implications from them, engage in new trains of thought. Conversation doesn't just reshuffle the cards: it creates new cards" (p. 14).

The use of discourse in high school classrooms, specifically English language arts (ELA) classrooms, is not uncommon. In fact, it is rare for an English classroom to not include conversation in regular practice—whether it is formal or casual. It is my belief that most educators would agree that discourse is a viable method to track student progress, using methods such as Socratic Seminar or Philosophical Chairs, for example. These activities are beneficial for students and teachers alike and are an ideal way for educators to introduce a higher level of thinking and conversation. Sophisticated discourse, which I have defined for the intent of this manuscript as high-level discussion that includes all members of the classroom and explores abstract ideas of the text, is a method that should be included in high school level ELA classrooms. This level of discourse is specifically beneficial when addressing literature and ideas and theories that go beyond what is stated in the text. This manuscript will highlight the particular benefit of using sophisticated discourse when analyzing author's intent. At the high school grade level, students are expected to begin thinking more abstractly rather than concretely. Sophisticated discourse should be included in all high school level classrooms because it promotes inclusive and diverse thinking, and it allows for teachers to assess their students on their understanding and progression of comprehending complex ideas rather than what they are expected to know based on what is stated directly in the text. It also equips students with skills that are necessary in higher level education and beyond. As educators, regardless of the content area, one thing holds true and this is that we carry the responsibility of making sure that the students with whom we interact become citizens of intellect—those in which are able to portray and explain important ideas, uphold truths, and

maintain new and unique ways of thinking. Sophisticated discourse that explores depth of literature allows for students to adopt these very ideas at a young age.

Sophisticated Discourse in the ELA Classroom: Analyzing and Assessing Author's Purpose

As mentioned previously, sophisticated discourse includes the higher level of thinking and conversation that is necessary in order to bridge the gap from concrete ideas to those that are more abstract. This manuscript will include case studies and research that examines ways in which sophisticated discourse has been used as an effective and beneficial means of both assessment and instruction for students and teachers alike. For example, studying author's intent is a necessary ELA content standard at the high school level and often requires a thorough amount of mentoring, practicing, and thinking in order for students to form a firm grasp of it and teachers to properly relay to students how and why this is important. Using this higher level of discourse should be done frequently in high school classrooms not only to increase student participation and understanding of literature, but also to assist teachers in their assessment of standards involving literature.

According to the research that has been examined for this manuscript, utilizing high level discourse in ELA classrooms allows for students to obtain an ability to think epistemically, which further allows them to acquire skills necessary for formal conversation and/or writing.

Inclusivity and Classroom Culture

Providing an inclusive and positive environment for your students to thrive in is crucial. Creating a classroom where professional and complex discussions are had in regular instruction time, in addition to assessments, is an excellent way to establish this precedent for students. It is important to note that sophisticated discourse in its nature is not exclusive—it is incredibly inclusive as it emphasizes diverse ideas and promotes the understanding that each individual reads and, in turn, may understand the text differently. Lloyd et al.'s (2016) vignette. Although an example from an elementary level demonstrates that even younger students are able to think more complexly when presented with a semi-casual approach to discussion.

> Grasping copies of the book, Across Five Aprils, a fifth-grade teacher and six of her students gather at a round table in the back of the classroom. Responding to the teacher's utterance, 'Are these not the most exciting two chapters? Tell me in your own words what happened!' A student says, 'My favorite part was…' to which the teacher responds, 'Hah! Why was that important?' Without further teacher prompting, other students add to the conversation, looking intently at one another as they acknowledge and expand on each other's comments. At one point the teacher interjects, 'What events happened before this that led you to believe this would be the outcome?' Again, without additional teacher direction, the students converse on topic. Listening intently, the teacher comments, 'I would never have dreamed that he would get a letter back! I was

> shocked. Were you?' Repeatedly, each student, independent of the teacher, contributes to the lively conversation. (Lloyd, et al).

The students were comfortable explaining their ideas and thoughts on the story when there was not as much pressure for expectation. The teacher did not ask for a correct answer, but rather they asked the students to explain in their own words and explain why they thought this was important. Walker (2019) describes research on the relation of classroom participation and inclusion in her dissertation on the philosophy of patterns in classroom discourse, "Extant research highlights the relationship between student participation, learning, and inclusion (Shepherd, 2014; Van Es et al., 2017; Wager, 2014 as noted in Walker 2019). Wager (2014) in her descriptive analysis of equitable pedagogy and student participation notes that "as teachers provide access for children to participate, they are providing access to learning, both of which are essential to processes of educational inclusion in the classroom." (as noted in Walker, 2019, p. 313). The more access that students feel and truly believe that they have to the ability to share their ideas, the more likely they are to feel comfort in participating in the classroom. The sharing of ideas is a community building concept that tends to spread like wildfire among students the more that it is modeled and practiced—and ultimately can end up being the most viable way to assess students on their ability to think complexly about literature.

It is important to note as well when considering an inclusive method of assessing that the author's purpose is extremely subjective. Each student may (and likely will) perceive the text totally differently than the next. There is not a right or wrong answer in the discovery and analysis of the intent in which a story is written. The wider the variety of ideas that are brought to the, the more opportunity for a rich classroom environment.

Assessing students on understanding rather than expectation

Up to the point of high school in their education, students have been tested and assessed on knowledge in a variety of ways, but primarily by focusing on the content at face value. While this component is, of course, important for comprehension, it is just the tip of the iceberg that will reveal a whole upper echelon of learning for students at this level. Rather than reading for comprehension or content, students will use sophisticated discourse understand more abstract ideas surrounding the text, namely author's purpose. This is important for students and teachers alike because it encourages thought-provoking and breakthrough discoveries while allowing educators to gage students' ability to think critically.

According to Hadley, et al. (2021), there are several steps that educators must take in order to make for a successful discussion for assessment.

> Joughlin (1998), in a review of the literature on assessment practices related to oral discourse, identified four areas to guide instructors in evaluating student performance: (a) knowledge and understanding (e.g., recall of basic concepts, facts, and principles), (b) applied problem-solving ability (e.g., application of the knowledge base in derived scenarios), (c) interpersonal competence (e.g., communication abilities), and (d) intrapersonal qualities (e.g., self awareness, poise) (p. 1).

These components are all essential building blocks and should be included in the modeling and instructing of students when helping them understand complex discourse. Educators must not neglect to include plenty of preparation and models for students while planning lessons that introduce and eventually practice sophisticated discourse. As we grow older, become more educated or, in general, develop intellectually, higher thinking becomes second nature. However, students up to this point (from ninth grade and up) may not yet have experienced theses deeper and more meaningful conversations in the classrooms.

Discussing the author's intent on an abstract level in assessment exercises, like the Socratic seminar, will allow not only for students to become more comfortable sharing their ideas, but will also allow for students to expand their writing capabilities. This is illustrated in an article by Ian Barnard (2011) of California State University. Barnard writes:

> When a colleague and I met with a student recently as part of a capstone interview with the student, we paradigmatically suggested to one another beforehand that we begin the discussion of the student's writing by asking the student 'what were you trying to say?' The assumption seems to be that if we can get to intent, we can get to all the other issues and/or problems around a particular piece of student writing, and that we can do so by preserving the student's 'voice' (p. 3).

Barnard is using this anecdote to illustrate the importance of teaching and understanding intent in literature in order for students to understand the importance of stance and voice in their own writing. This idea of epistemology and allowing students access to their most powerful, thoughtful, and unique voices is applicable not only in the classroom in reading and writing, but beyond.

Application in higher education and the "real world"

It goes without saying that a large and general goal for most educators is to equip their students with all of the necessary tools that they need in order to be successful should they go on to college, or just in life as a whole. The skill of conversing includes comprehension of words and ideas at a level that goes much further than the surface and is one that is necessary for success. The most interesting aspect of higher level, sophisticated discourse, is that it is transferable from content area to content area. For instance, Griswold, et al. (2017) evaluated the Socratic seminar as a means of measuring students' ability to discuss scientific data. He notes, "During a Socratic seminar, students can talk about, reason through, and socially construct the meaning of data through collaborative dialogue. Socratic seminars are foundational to Paideia methods of instruction and are most commonly used with text, not data" (Griswold, et al. 2017, p. 492). This idea that discussion can be used from classroom to classroom, concept to concept, etc., is interesting and thus leads us to conclude that it must, in fact, be quite important in life beyond the twelfth grade.

Conclusion

The overarching idea in all of these findings is that discourse is important in the high school classroom. This, of course, goes without saying and many would not disagree. However, it is in fact the intricate details of the discussion and the consistency with which this sophisticated discourse is performed that makes it so important. By implementing a higher level of thinking and discussion in regular classroom time, students will become more comfortable, and far more likely to engage and share their thoughts. Additionally, students who are able to share their thoughts about and understand the importance of author's intent will be better equipped in their abilities to compose their own writing. Using this method of discourse will encourage students to add depth to their thoughts and will provide them with a means of authorizing their own intent and ideas on texts and in writing.

Sophisticated discourse goes beyond the discussion of literature as it can be used throughout the rest of a student's life. The ability to express important ideas about theory, philosophy, art, language, and so on will allow for students to ease into higher level education and will provide them with a formal way of conversing that they may carry with them throughout their professional lives. As English language arts teachers, we must include sophisticated discourse in our classrooms regularly, specifically when we address intent so that our students understand the importance of translating abstract thinking into powerful words and use this way of thinking to shape their own writing and discussions throughout the rest of their academic and professional careers.

References

Barnard, I. (2011). Authorial intent in the composition classroom. *Composition Forum, 24*, 1-19.https://files.eric.ed.gov/fulltext/EJ985768.pdf.

Griswold, J., Shaw, L., & Munn, M. (2017). Socratic seminar with data: A strategy to support student discourse and understanding. *The American Biology Teacher, 79*(6), 492–495. https://www.jstor.org/stable/26411267

Hadley, A. J., Hartman, C. E., & Young, D. G. (2021). Math readiness for college and career in South Carolina. *National Resource Center Working Paper 4*, 1-36. https://sc.edu/nrc/system/pub_files/1625592049_0.pdf

Hoskins Lloyd, M., Kolodziej, N. J., & Brashears, K. M. (2016.). Classroom discourse: An essential component in building a classroom community. *School Community Journal, 26*(2), 291-304. https://eric.ed.gov/?id=EJ1124019

Walker, L. B. (2019). *Inclusion in Practice: An explanatory study of how patterns of classroom discourse shape processes of educational inclusion in Tanzanian secondary school classrooms* [Unpublished doctoral dissertation]. University of Cambridge. https://www.repository.cam.ac.uk/bitstream/handle/1810/304576/LBW_Dissertation_ESubmission.pdf?sequence=2

Zeldin, T. (1998). *Conversation: How talk can change our lives.* Hartville Press.

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Using Repeated Readings to Support Fluency and Comprehension

Julie Wymer

Abstract : A critical component of early literacy is fluency. Reading with fluency in early elementary school allows a student to find success in future reading. A student who cannot read fluently will have a limited understanding of the text. This manuscript addresses the importance of developing fluency and using repeated readings to develop this skill, and in turn, build comprehension. Through repeated readings, students build fluency with meaningful reading experiences. Studies show that repeated readings help students improve their reading at a rate that supports comprehension. Repeated readings are an effective instructional strategy used in the primary classroom to develop fluency (the ability to read with appropriate rate, accuracy, and expression) and reading comprehension (the ability to understand the text).

Introduction

Sarah is a first-grade student at the beginning of the school year. In kindergarten, she developed an understanding of letter names and sounds. She can decode three-sound words and is starting to understand more phonics patterns. Decoding is the ability to apply letter-sound relationships to read words. Sarah decodes words slowly and has not yet developed automaticity (the ability to read words automatically), which is an indicator of fluency. Sarah would read the following sentence, The cat sat on a mat in the sun, by each sound. Her reading would go as follows: The c-a-t s-a-t o-n a m-a-t i-n the s-u-n. Sarah has little reading fluency (the ability to read with appropriate rate, accuracy, and expression) and does not recall many passage details. She does not like to read. Students such as Sarah would benefit from regular use of repeated readings (reading a passage more than once) to develop the reading skills required to reach fluency. Repeated readings are an effective instructional strategy used in the primary classroom to develop fluency and reading comprehension.

Fluency: What is it, and why is it important?

Fluency is a critical component of literacy development. Strong decoding and word recognition skills are required for students to read fluently. Students develop decoding skills through systematic practice of phonics. Word recognition is the ability to see a word in print and quickly recognize the word. When a student has developed decoding and word recognition skills, the student can start to build fluency.

Fluency is a multifaceted skill that develops as a child encounters more complex reading. "Reading fluency refers to efficient, effective word recognition skills that permit a reader to construct the meaning of the text. Fluency is manifested in accurate, rapid, expressive oral reading and is applied during, and makes possible, silent reading comprehension" (Pikulski & Chard, 2005). Teachers must understand the meaning of fluency to provide effective reading instruction for students. Fluency

skills are composed of appropriate rate (the ability to read words rapidly with automaticity), accuracy (the ability to correctly recognize words in print), and expression (the ability to read with proper phasing and emphasis) (Hasbrouck, 2014).

Students can have strong skills in letter-sound correspondence (recognizing the sounds letters make) and blending phonemes (individual sounds) to form words but cannot yet read fluently. Reading passages can be frustrating and tiresome when students spend energy on each letter sound to form a word. This is because the more cognitive energy (energy the brain uses to process information) readers spend on sounding out individual words, the less cognitive energy they have to devote to comprehension. More importantly, the need to sound out individual words may take the joy out of reading and lead to a dislike or avoidance of reading.

Fluency Misconceptions

Reading rate is an essential component of reading fluency but not the only component. Children and educators can develop the misconception that being a strong reader means being able to read fast to reach a word count per minute (WCPM) goal. A WCPM measure is often a component of benchmark assessments. Benchmark assessments provide information on reading ability, indicate the start of interventions, and track growth. Benchmark assessments provide valuable information, but fluency misconceptions can develop when educators only consider reading speed when assessing fluency. Students must also read with accuracy to read fluently. For a person to read something accurately, they will read at different speeds (Pearson, 2006). The accuracy of reading will affect comprehension.

Fluency assessments acquiring a WCPM score typically do not consider comprehension or expression. A WCPM assessment that does not account for comprehension simply measures who can read quickly (Pressley et al., 2005). Educators need to consider comprehension of material when evaluating student reading. Reading with expression and prosody (using phrasing and expression) (Rasinski, 2004) must also be considered when assessing fluency since reading with expression gives meaning to the text.

Appropriate Growth in Reading Rate

Reading rate will improve through high-quality instruction and purposeful reading experiences. A weekly improvement rate of two to three words per minute on oral reading fluency passages would assist below-level readers in reaching grade-level fluency goals (Fuchs et al.,1993). Making weekly gains of two to three words per minute will build fluency abilities at an appropriate rate to support text comprehension. Repeated readings are an effective strategy to help students reach fluency goals.

Repeated Readings

Repeated Readings to Develop Fluency

One of the most well-supported strategies to help children develop reading fluency is repeated reading. "The NRP [National Reading Panel] concluded that guided oral

reading, including repeated reading, is the most effective technique for improving word recognition, speed, accuracy, and fluency" (Birsh & Carreker, 2018, p. 376). Repeated reading is reading the same passage several times, with the intention of reaching a reading goal. The student will make improvements in fluency each time a passage is read. Even though repeated reading involves reading the same passage, the skills developed will translate into future reading.

Repeated readings are well known for being used as an intervention tool to help below-level readers. During interventions, a student can use repeated readings in ability groups or one-on-one with a tutor or teacher. The student should be exposed to a modeled reading of the passage before reading independently to understand the intended reading skill to be developed. An adult or more developed peer can provide the modeled read (Rasinski, 2014).

Educators can use repeated readings with the current curriculum for reading and phonics instruction. Suppose the current curriculum topic focuses on instruction and practice with digraphs (two consonant letters that make one sound). In that case, the text that the teacher selects for repeated reading should include many digraphs. This will further develop phonics skills, decoding, and word recognition. A repeated reading containing the current instructional phonics pattern will allow students to apply decoding and word recognition skills to reading a meaningful text.

Repeated readings can also be differentiated. Students who are below reading level would benefit most from reading decodable texts (a passage with words that students have already learned while introducing words with the current phonics skill focus). Decodable texts are beneficial because students read a passage containing words that are readable with their existing skill set. Students can develop automaticity with previously learned words and practice decoding unknown words. On-level students would benefit from a passage containing current phonics patterns and exposure to new phonics patterns. Above-level students would benefit from repeated readings that require higher-level phonics skills and provide more practice with prosody. Passages should be at an appropriate level of reading difficulty to support growth.

The independent reading level is ideal for texts that students read without assistance. If students are reading for enjoyment, the text should be at an independent level with a 97-100% accuracy rate. Students will find success in word reading accuracy to support comprehension at this level. The instructional reading level is ideal for repeated reading passages. The instructional level allows students to have appropriate decoding and word recognition challenges to grow their reading ability. Enough challenge is present for students to experience new words and practice skills and strategies but not too challenging to the level of causing frustration. These students should be reading texts with a 90-96% accuracy rate. If students are reading at 90% accuracy or below, the text causes frustration, and the students are less likely to build and develop skills needed to read fluently. Comprehension of the text will also be minimal at the frustration level (Rasinski, 2004).

Approaches to Implement Repeated Readings

Repeated readings will be most beneficial when used regularly. There are several approaches to repeated readings that encourage active engagement and excitement

about reading: choral reading (Birsch & Carreker, 2018), partner reading (Goldsmith-Conley & Barbour, 2011), individual reading, reading with an auditory model, recorded student reading, small group reading, individual reading one-on-one with a teacher or tutor, poetry (Faver, 2008), and reader's theater (Young & Rasinski, 2009). Different repeated reading strategies will support varying purposes for reading the text. A teacher must consider the intended reading goal or learning outcome when selecting a passage and variation of repeated reading.

Home-to-School Connections

Parents can be eager to help their child improve their reading but unaware of how to help. Educators can support parents with materials and directions to foster reading development. A passage can be sent home weekly with a below-level student. The teacher could also provide modeled recorded readings of the text to parents with limited English and literacy skills. For best results, a conversation should occur between the teacher and parents to provide instructions, including frequency of use and variations to the reading of the passage. The child could read the passage three times a week and answer general comprehension questions to support the development of reading skills.

The Connection Between Fluency and Comprehension

Regular use of repeated readings will allow students to grow in reading rate, accuracy, and expression. Students develop automaticity in reading by quickly identifying a word in print. Quicker word identification will improve the rate of reading. "The theory of automaticity suggests that with increased speed and accuracy of reading subskills (e.g., letter-recognition, decoding), cognitive resources become available for reading comprehension of connected text" (Patton et al., 2010, p. 101). Automaticity can be improved through repeated readings and will allow the reading rate to improve while simultaneously increasing comprehension.

Reading with automaticity will help lessen the cognitive energy required to decode. The mental focus of the reader can be transferred to making meaning of the text when fluent reading occurs. Students may have the cognitive resources and abilities to comprehend the text but cannot comprehend it because all energy has been spent on decoding and recognizing words in print (Rasinski, 2012). Little comprehension can occur when cognitive resources are no longer available to make meaning out of what has been read. The studies in Table 1 support the effectiveness of using repeated readings to develop fluency skills, which in turn will aid comprehension.

Table 1
Repeated Reading Studies

Strategy	Method Used in an Example Study	Results from the Study
Fluency Development Lesson (FDL) This framework is a daily lesson in which students read a new passage. Sessions include teacher modeling, assisted practice choral reading, partner reading, and independent passage reading.	*Rasinski, 2017* Educators completed a study with six struggling fourth grader students using the FDL framework during a 12 week period. The students were reading at an average of a second-grade reading level before the study.	Students made an average growth of one year and one month in reading achievement and almost doubled in word reading fluency
	Zimmerman et al., 2019 The FDL framework was studied in a 5 week period to measure the strategy's effectiveness in a program such as a summer reading session. The study included 30 students.	Students made average gains of 2.14 words per minute per week
Poetry Repeated readings can include poems to improve reading performance.	*Wilfond, 2008* Lori Wilfong developed the Poetry Academy, a program designed to help students improve their reading through repeated poetry reading. 86 students were involved in the study. Students worked with a volunteer and engaged in the following steps. • The volunteer modeled the reading. • The child and volunteer read together. • The child read independently. • The child read the poem at home. • The child read the poem to the volunteer one week later.	Evaluators compared students in the program to a control group. Students in the Poetry Academy made significant growth on curriculum- based assessments, word count per minute, and word recognition scores. Students in the Poetry Academy made, on average, a 45.06 growth in words read per minute
Readers Theater Students practice reading and performing a script. There is a focus on prosody and reading for meaning rather than speed.	*Young & Rasinski, 2009* A study was completed over a second-grade academic year. 29 students engaged in regularly occurring readers' theater productions. Each day, a different focus and lesson plan for the script was used.	Improving reading speed was not the goal of this study. Students were reading for comprehension and using expression while reading. However, the students in this class made average gains of 65 words per minute over the year

Repeated Readings to Improve Comprehension with Skilled Readers

Once automaticity has been achieved, repeated readings can be utilized to develop comprehension skills and strategies. Comprehension is the primary reason to read. "Several readings of a worthwhile text may be necessary for students to process most of the ideas and information-literal and inferential-and to remember the main points. The richer or denser the text, the more this is true" (Moats & Tilman, 2019b, p. 193). Using repeated readings for comprehension teaches a child that reading a text more than once is acceptable if the information is not understood after the first

read. Strong readers go back and reread portions of a text when confusion occurs. More details and connections are made to the text with repeated reading.

Repeated readings can be used for various elements of comprehension. Each read of a repeated reading text can have a different purpose. This purpose can be tailored to fit the instructional topic of a current reading curriculum. If the focus of reading instruction is identifying story elements of a fiction text, three repeated readings could go as follows. First read: Students listen to the text read aloud with the focus of determining the characters and setting. Second read: Students engage in a choral read of the material to determine the problem in the text. Third read: Students read the text in a whisper voice independently with the focus of determining the solution to the problem. The teacher can also pose different questions to support deepening comprehension levels with each text read. The teacher could ask about other potential solutions to the problem presented in the text or further develop the lesson to include a more in-depth analysis of the characters and their roles in developing the problem and solution.

Components of reading are intertwined and continuously being developed and strengthened as a child progresses into more in-depth reading skills. Students develop new skills in decoding, word recognition, and prosody. Using repeated reading for comprehension allows the teacher to use the text to teach comprehension strategies while simultaneously giving students fluency practice. This instructional strategy can also be used in content area disciplines to support understanding and acquisition of new concepts. Repeated readings are versatile and can be easily adapted to include the focus of any comprehension strategy with fiction and nonfiction texts.

When Should Repeated Readings Begin?

Repeated readings are adaptable to all reading levels and grade levels. Students begin building word recognition skills in kindergarten and first grade. Fluent readers use word recognition skills to read words with automaticity (Rasinski, 2012). Repeated readings will help build early automaticity skills. Repeated readings do not need to be lengthy and should be started as early as kindergarten or first grade.

Educators should intervene in early elementary grades to provide students with high-quality instruction. The older a child gets, the more difficult it can be to fill the achievement gap in reading through interventions. Students in early elementary school are learning at a critical age for developing foundational reading skills such as building fluency skills to support comprehension. If a child is identified and provided with interventions later in elementary school, the child will likely continue to be behind in fluency skills (Moats & Tolman, 2019a). Using repeated readings in the primary classroom will help students succeed in their current and future reading.

Considerations for Implementing Repeated Readings in the Classroom

Deciding to incorporate repeated readings into regular classroom instruction will benefit all readers. There are several considerations to determine how this strategy will best fit into a primary classroom's current reading curriculum and structure.

- In which setting would the teacher like to use repeated readings: Whole class instruction, partner reading, individual reading, small groups, one-on-one interventions, or a combination of settings?
- Where can time be found in the regularly scheduled routine to incorporate repeated readings?
- What types of texts will be used for instruction?
- How can repeated readings fit into the current reading curriculum to support the grade level's phonics patterns and comprehension strategies?

After these considerations have been made, educators can smoothly incorporate repeated readings.

Conclusion

When Sarah entered first grade, she had the skills necessary for reading success in kindergarten but displayed a need for further development in fluency. It is now nearing the end of first grade, and Sarah has an entirely different view and skill set for reading. She has spent the last several months engaging in many repeated readings and experiencing various texts in her classroom. Sarah cannot wait to open her own copies of beginning chapter books at home. She is reading for entertainment and understanding the stories she enjoys. Sarah's story reflects how repeated readings helped develop her fluency skills, supported her comprehension of the text, and in turn, resulted in a new love and excitement for reading.

References

Birsh, J. R., & Carreker, S. (2018). *Multisensory teaching of basic language skills* (4th ed.). Paul H. Brookes Publishing.

Faver, S. (2008). Repeated reading of poetry can enhance reading fluency. *The Reading Teacher, 62*(4), 350–352. https://doi.org/10.1598/rt.62.4.8

Fuchs, L. S., Fuchs, D., Hamlett, C. L., Walz, L., & Germann, G. (1993). Formative evaluation of academic progress: How much growth can we expect? *School Psychology Review* (22). 27-48. https://doi.org/10.1080/02796015.1993.12086636

Goldsmith-Conley, E., & Barbour, J. (2011). Studying timed repeated partner reading: A classroom-friendly fluency strategy. *Illinois Reading Council Journal, 39*(2), 27-38.

Hasbrouck, J. (2014, March 26). *Oral reading fluency is not a measure of reading fluency*. Voyager Sopris Learning. https://www.voyagersopris.com/blog/edview360/2014/03/26/Oral-Reading-Fluency-is-NOT-a-Measure-of-Reading-Fluency

Lange, A. A. (2019). Technology, instructional methods, and the systemic messiness of innovation: Improving reading fluency for low socio-economic elementary school students. *Educational Technology Research and Development, 67*(5), 1333–1350. https://doi.org/10.1007/s11423-019-09675-2

Moats, L. C. & Tolman, C.A. (2019a). *Letrs 1* (3rd ed.). Voyager Sopris Learning, Inc.

Moats, L. C., & Tolman, C.A. (2019b). *Letrs 2* (3rd ed.). Voyager Sopris Learning, Inc.

Patton, B., Crosby, S., Houchins, D., & Jolivette, K. (2010). The comparative effect of fluency instruction with and without a comprehension strategy for elementary school students. *International Journal of Special Education. 25*(2), 100–112.

Pearson, D. P. (2006). Forward. In Goodman, K.S. *The truth about DIBELS*. What it is. What it does. pp. v-xx. Heinemann.

Pikulski, J., & Chard, D. (2005). Fluency: Bridge between decoding and reading comprehension. *The Reading Teacher, 58*(6), 510-519.

Pressley, M., Hilden, K., & Shankland, R. (2005). A*n evaluation of end-grade-3 dynamic indicators of basic early literacy skills (DIBELS): Speed reading without comprehension, predicting little*. Literacy Achievement Research Center, technical report.

Rasinski, T. V. (2004). *Assessing reading fluency.* Distributed by ERIC Clearinghouse.

Rasinski, T. V. (2012). Why reading fluency should be hot! *The Reading Teacher, 65*(8), 516–522. https://doi.org/10.1002/trtr.01077

Rasinski, T. V. (2014). Delivering supportive fluency instruction-Especially for students who struggle. *Reading Today, April/May 2014*, 26-28. https://www.timrasinski.com/presentations/delivering_supportive_fluency_instruction_article.pdf

Rasinski, T. V. (2017). Readers who struggle: Why many struggle and a modest proposal for improving their reading. *The Reading Teacher, 70*(5), 519-524. https://doi.org/10.1002/trtr.1533

Wilfong, L. G. (2008). Building fluency, word-recognition ability, and confidence in struggling readers: The Poetry Academy. *The Reading Teacher, 62*(1), 4–13. https://doi.org/10.1598/rt.62.1.1

Young, C., & Rasinski, T, (2009). Implementing readers theatre as an approach to classroom fluency instruction. *The Reading Teacher. 63*(1), 4-13.

Zimmerman, B. S., Rasinski, T. V., Was, C. A., Rawson, K. A., Dunlosky, J., Kruse, S. D., & Nikbakht, E. (2019). Enhancing outcomes for struggling readers: Empirical analysis of the fluency development lesson. *Reading Psychology, 40*(1), 70–94. https://doi.org/10.1080/02702711.2018.1555365

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Mathematics

The Development of Adaptive Reasoning in the Mathematics Classroom

Jeffrey Stanford

Abstract: Each strand of mathematical proficiency requires the development of sometimes overlapping skills. Instead of debating which strand demands the most attention, mathematics educators have been discussing ways in which to adequately develop every strand. Adaptive reasoning is a set of skills that can be difficult to develop and may require teachers to adjust their established teaching practices. If educators have access to successful researched-based instructional strategies, they will be better prepared to develop these skills in their students. There is widespread agreement that students who are unable to adequately reason will have limited mathematical proficiency, and there are several research-based strategies educators can use to develop adaptive reasoning skills in young students of mathematics.

Introduction

Imagine a mathematics class full of sixth grade students at the beginning of the school year. They spent the previous year extending their knowledge of fractions and learned how to fluently add and subtract simple fractions and mixed numbers. Additionally, they were taught how to multiply and divide fractions with whole numbers and other fractions. The class is presented with a problem designed to activate their prior knowledge and assess how well they remember the concept of dividing a whole number by a fraction. On the board, the teacher writes, "Timmy has 6 sub sandwiches that are each divided into sections that are 1/4 the length of the sub sandwich. How many total sections does Timmy have?" The students are asked to find a solution and write an equation that represents the situation.

The teacher notices multiple students looking frustrated and looks at the work of one student. She has written "$6 \div 1/4 =$?" He asks what she is thinking, and she responds: "I know you have to divide, but I don't remember how to divide by a fraction. I think there was something where you flip the fraction, but I don't remember." The teacher encourages her to try to think of other ways to find the solution without needing to remember that procedure. He finds several other students are stuck for the same reason. It seems they have forgotten the procedure for dividing a whole number by a fraction, and they are unable to adapt their thinking to find an alternative path to the solution.

Another student has forgotten the procedure as well, but he has used the strategy of modeling. He draws out six sub sandwiches and draws lines as if he is cutting them all into fourths. Then, he counts each section to come up with the correct answer of 24. Other students find the solution in a similar manner by reasoning that if the sub was cut into sections that are 1/4 of a sub long, then there are four sections per sub. Simply multiplying that number by six also yields the correct answer of 24. This reasoning can be used to justify the procedure that the first group of students had forgotten.

The final set of students has the solution written as "6 ÷ 1/4 = 24". When asked how they found the solution, they state that they remember when dividing a number by a fraction, the fraction needs to be flipped and the division needs to be changed to multiplication. This is known as the "invert and multiply" rule. This rule is simply a trick, or a shortcut used to quickly calculate solutions to problems involving division by a fraction. When asked why the student used that rule, they reason that it was the way they were taught. When asked why that rule works, the students are unable to justify the reasoning behind it. They simply state, "that's the way we were taught."

This scenario is an example of how students may think when faced with an exercise or problem in mathematics. The teacher wants his students to understand concepts, know when and how to use procedures, and understand that math is important and worthwhile. He also understands that his students need to be able to reason through the problem-solving process and be able to justify their solutions, however, he is unsure how to develop these skills in his students. In this paper, adaptive reasoning will be defined and its importance in mathematical proficiency will be established. Several research-based strategies to promote the development of adaptive reasoning in the mathematics classroom will be discussed. Using these strategies with young students of mathematics can enable them to develop skills necessary for mathematical proficiency.

What is Adaptive Reasoning?

Adaptive reasoning refers to the capacity to think logically about the relationships among concepts and situations (National Research Council [NRC], 2001). Students who have developed this skill can use prior knowledge and a variety of solution methods to reach a conclusion about problems, including ones which are unfamiliar. These students can also justify their procedures and conclusions using formal and informal reasoning. Students display procedural fluency when they know mathematical procedures and can use them appropriately, accurately, and efficiently (NRC, 2001). Procedural fluency is an important strand of mathematical proficiency, but students are often taught to rely on certain memorized facts and procedures without having to justify their reasoning behind the use of those procedures. Even now, knowing this reliance on procedural knowledge is detrimental to a student's deeper understanding of mathematics, teachers still focus on this strand.

The NRC (2001) claims that "adaptive reasoning is the glue that holds everything together" (p. 129). The "everything" they are referring to are the five strands of mathematical proficiency: conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition. Knowing what those strands are and why they are important for mathematics education is not as important as being able to effectively teach those skills. Mathematics education that relies on students to follow a certain procedure or set of rules without logical thought or the ability to explain and justify a solution will result in students with a lack of overall mathematical understanding. An example provided by the NRC (2001) showed that when 13-year old students were asked to estimate 12/13+7/8 and given the choices of 1, 2, 19, and 21, 55% chose either 19 or 21. If a student does not remember the procedure for adding fractions, reasoning skills can be used

to conclude that since both fractions are almost one whole, the actual answer should be close to two.

There is clearly a need for the development of adaptive reasoning in the mathematics classroom, and it is important for current and future educators to be equipped with specific instructional strategies to accomplish this. Battista (2017) claims:

> Students who achieve genuine understanding and sense making of mathematics are likely to stay engaged in learning it. Students who fail to understand and make sense of mathematical ideas and instead resort to rote learning will eventually experience continued failure and withdraw from mathematics learning. (p. 1)

Students can develop reasoning and sense making through the use of mathematics instruction based on three principles: (1) Students must construct these ideas for themselves as they try to make sense of situations; (2) Mathematics teaching must carefully guide and support students as they attempt to construct personally meaningful mathematical ideas in the context of problem solving, inquiry, and student discussion of multiple problem-solving strategies; and (3) Instruction must be derived from research-based descriptions of how students develop reasoning about particular mathematical topics (Battista, 2017).

What Can Teachers Do?

A review of research discovered that there are specific instructional strategies teachers can use to promote the development of adaptive reasoning in the mathematics classroom. Some of these strategies are commonly taught to preservice teachers through pedagogy instruction and training. These strategies are typically ongoing and may already be included in a teacher's instructional design. Other strategies include teaching models, such as the Creative Problem-Solving Model and the Problem-Based Learning Model. These models occur over longer periods of time, where individual skills that are necessary for students to succeed may need to be developed ahead of time.

Mathematics Interventions

Pulles and Burns (2022) examined mathematics interventions and how these interventions incorporated all five strands of mathematical proficiency as stated by the National Research Council. These interventions were defined as "instructional practices and activities designed to enhance the mathematics achievement of students" (Gersten et al., 2009, p. 1205). After reviewing 13 meta-analyses of studies of mathematics interventions that included students in grades kindergarten through eighth grade, eight interventions were found which had both a positive statistical effect and incorporated adaptive reasoning. These strategies include cognitive strategy instruction, concrete-representational-abstract, feedback, peer-assisted learning strategies, schema-based instruction, self-monitoring, self-regulated learning, and think-alouds (Pulles & Burns, 2022).

Cognitive strategy instruction combines instruction in cognitive and metacognitive strategies and processes with the purpose of teaching students how to think and behave like proficient problem solvers and strategic learners (Montague & Dietz, 2009). Using Montague's (1992) problem-solving model, students use cognitive strategies in seven steps: (a) reading the problem, (b) paraphrasing the problem, (c) visualizing the problem on paper or mentally, (d) hypothesize, or plan how to solve the problem, (e) estimating the solution, (f) calculating the answer, and (g) check and evaluate the validity of the process. Additionally, cognitive strategy instruction includes metacognitive strategies such as self-monitoring and self-regulated learning. Students who employ self-regulated learning strategies are aware of their own thoughts and behaviors. They plan and set goals for their learning, use appropriate learning strategies, monitor and question their own performance, and reflect on their performance. These are critical thought processes that students need in their application of adaptive reasoning. Within self-regulated learning is self-monitoring which is a strategy where students actively keep a record of their own behaviors and compare them to a targeted behavior.

Peer-Assisted Learning Strategies (PALS) is an instructional method that was developed by researchers at Vanderbilt University. Students using PALS receive instruction on how to effectively become a peer tutor, then use those skills to tutor another student. This instruction includes how to model, explain, gradually release responsibility to the tutee, and provide feedback. Effective feedback should also be provided by the instructor, as it is another instructional strategy to promote the development of adaptive reasoning (Pulls & Burns, 2022).

Schema-based instruction is explicitly taught, and Powell and Fuchs (2018) describe effective schema instruction as:

> Providing explanations in simple, direct language; modeling efficient solution strategies instead of expecting students to discover strategies on their own; ensuring students have the necessary background knowledge and skills to succeed with those strategies; gradually fading support; providing multiple practice opportunities; and incorporating systematic cumulative review. (p. 6)

Concrete-representational-abstract is a common mathematics instructional method where concepts are first introduced with physical manipulatives, then representations, and are finally displayed abstractly using the numerical model. Think-alouds are another common instructional strategy where teachers model their thinking out loud as they solve a problem. Students then use these models to help them independently solve problems.

Creative Problem-Solving Model

The Creative Problem-Solving (CPS) model of learning is designed to strategically use divergent and convergent thinking processes to find a solution to a problem. This model was developed in the 1940s by Alex Osborn, who was also the person credited for popularizing the term "brainstorming." When using the CPS model, students are given the opportunity to solve problems by identifying challenges, creating ideas, and implementing innovative solutions (Muin et al., 2018). These opportunities are given over long periods of time, where the teacher plays the role of fa-

cilitator and motivator, and students are given the chance to solve problems in many different ways. After researching the effect of the CPS model in the mathematics classroom, Muin et al. (2018) concluded that "the creative problem-solving learning model can be used to improve students' mathematical adaptive reasoning abilities, so it can be used as an alternative learning model that can be used by teachers in mathematics learning" (p.6). Currently, there are many different variations of the CPS process which revolve around four main stages. In the first stage, the problem is identified in the form of a question and information is gathered to help clarify the problem. Next, divergent thinking skills are used to brainstorm several different ideas that could potentially address the problem. These ideas are then evaluated to determine the best one. Finally, the accepted idea will be used to formulate a plan to find a solution to the initial problem.

Problem-Based Learning Model

The Problem-Based Learning (PBL) model is designed to engage students in meaningful real-life situations where collaboration is used to help collaborative group develop their own solutions to problems. This process was popularized at McMaster University in Ontario, Canada as an instructional method for medical students. Darwani et al. (2020) were able to show that "learning with the PBL model can foster the ability of adaptive reasoning" in mathematics instruction (p. 4). PBL units can last weeks or even months, but this process should initially be taught with a simple problem and direct instruction on how to navigate that problem. This model follows a similar course as the CPS model where first a problem is presented, and information is gathered. Then, brainstorming occurs to think of multiple potential solutions to the problem. Those potential solutions are discussed, and a final solution is reported on. Throughout this process, the teacher acts as a facilitator to groups of students who actively construct their own knowledge. Key differences between the PBL and CPS model include the PBL model's emphasis on collaboration and the reporting of solutions.

Conclusion

All educators of young students of mathematics should understand the importance of the development of adaptive reasoning in their students and be equipped with a variety of instructional strategies to promote these important skills. The strategies discussed in this paper are not new pedagogical revelations, but each can be incorporated and adapted in the mathematics classroom to enhance students' abilities to discover and justify solutions. Educators who decide to use any of these strategies also need to make sure to fully develop their own understanding of them, and how to successfully implement them in their own classrooms. The development of adaptive reasoning in young students of mathematics will create mathematically proficient students who experience continued engagement and success in the classroom.

References

Battista, M. (2017). *Mathematical Reasoning and Sense Making. Reasoning and Sense Making in the Mathematics Classroom Grades: 3-5* (pp. 1-22). National Council of Teachers of Mathematics.

Darwani, Zubainur, C. M., & Saminan. (2020). Adaptive reasoning and strategic competence through problem-based learning model in middle school. J*ournal of Physics: Conference Series, 1460*(1), 012019. https://doi.org/10.1088/1742-6596/1460/1/012019

Gersten, R., Chard, D. J., Jayanthi, M., Baker, S. K., Morphy, P., & Flojo, J. (2009). Mathematics instruction for students with learning disabilities: A meta-analysis of instructional components. *Review of Educational Research, 79*(3), 1202–1242. https://doi.org/10.3102/0034654309334431

Montague M. (1992). The effects of cognitive and metacognitive strategy instruction on the mathematical problem solving of middle school students with learning disabilities. *Journal of learning disabilities, 25*(4), 230–248. https://doi.org/10.1177/002221949202500404

Montague, M., & Dietz, S. (2009). Evaluating the evidence base for cognitive strategy instruction and mathematical problem solving. *Exceptional Children, 75*, 285–302. https://doi.org/10.1177/001440290907500302

Muin, A., Hanifah, S. H., & Diwidian, F. (2018). The effect of creative problem solving on students' mathematical adaptive reasoning. *Journal of Physics: Conference Series, 948*, 012001. https://doi.org/10.1088/1742-6596/948/1/012001

National Research Council. (2001). *Adding it up: Helping children learn mathematics*. National Academy Press.

Powell, S. R., & Fuchs, L. S. (2018). Effective word-problem instruction: Using schemas to facilitate mathematical reasoning. *TEACHING Exceptional Children, 51*(1), 31–42. https://doi.org/10.1177/0040059918777250

Pulles, S. M., & Burns, M. K. (2022). Alignment of K-8 mathematics interventions with strands of mathematical proficiency in meta-analytic research. *Psychology in the Schools*, 1– 17. https://doi.org/10.1002/pits.22676

Rumsey, C. & Langrall, C. (2016). Promoting Mathematical Argumentation. *Teaching Children Mathematics, 22*(7), 413–419.

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Science

The Importance and Usefulness to Incorporating Argumentation in Science Education to Prepare Students to Interact with Science in their Daily Lives

Lauren Filippidis

Abstract: Argumentation is a language of science that promotes critical thinking and reasoning skills. While it is a vital form of discourse used within the scientific community, it is also essential in preparing students to interact with science in their daily lives. Incorporating argumentation skills into the science classroom holds a usefulness in preparing students to be able to engage in socio-scientific issues they will face and in promoting scientific literacy. Science educators becoming aware of the importance of including argumentation will benefit students by encouraging critical thinking, reasoning, and communication. It will give students the skills necessary to be able to engage in discussions about issues faced in their lives and back their discussion with evidence.

Introduction

The everyday person may not think they interact with science in their daily lives, especially those who have not pursued a career or higher education in STEM. What people, especially students, do not realize, however, is that every one of them interacts with science daily, even outside of the classroom. This interaction with science outside of the classroom includes a variety of contexts, from social to political. For example, almost every person has heard of climate change or an environmental crisis. That is a socio-scientific issue that most people have an opinion about, one way or another. Nonetheless, even though people hold strong opinions about socio-scientific issues such as climate change, I cannot guarantee that everyone is able to back their opinion with credible evidence and partake in an argument with peers about their stance through proper informal reasoning and critical thinking skills. That is why incorporating argumentative skills in science education is important.

Scientific argumentation is an important language of science. It has a usefulness to students both inside and outside of the classroom. Argumentation promotes skills that students will use in their daily lives. It is important for educators to understand these skills and become aware of including it in science education. Facing everyday issues affects every person and they need to be able to interact and interpret these issues. Argumentation is a means to becoming scientifically literate. According to the National Science Education Standards (1996), "Scientific literacy entails being able to read with understanding articles about science in the popular press and to engage in social conversation about the validity of the conclusions" (p. 22). Students being underprepared and lacking the skills to understand and participate in science in their daily lives when encountering issues begins with understanding and addressing what we know as science educators and incorporating argumentation into the classroom.

Argumentation in Science

Argumentation is a vital form of discourse in the scientific community. According to Erduran and Jiménez-Aleixandre (2008), argumentation plays a central role in the building of explanations, models, and theories in science. Scientists use arguments to relate the evidence they select to the claims they reach through use of warrants and backings (Erduran & Jiménez-Aleixandre, 2008). Argumentation is a language of science that provides the necessary skills that will allow students to think critically about an issue encountered in their lives and be able to take an informed stance. The role of argumentation is essential to scientific inquiry. Without this skill, students would be unable to propose explanations based on evidence or critique credibility of information in a source. It allows the ability to make a claim supported by evidence and reasoning.

Unlike arguments faced in daily life, scientific argumentation involves development, evaluation, and validation of scientific knowledge and knowledge construction (Faize et al., 2017). When people hear the term "arguing" they most likely think of it as a fight or disagreement. Proper argumentation is more than that and it can be utilized in daily life outside of the classroom. Scientific argumentation is not fighting, based on opinions only, or experienced only in the classroom. Scientific argumentation is making a claim supported by evidence, a way to explain findings justified with reasoning, and is encountered in everyday life through media, advertising, politics, the environment, etc. This breakdown is important for educators and students to understand, as it is more than just an opinion and can be experienced in numerous circumstances.

As a science educator, I believe argumentation skills need to be incorporated into the science classroom. It has many benefits in science education. These benefits include developing critical skills, prompting spirit of enquiry, enhancing conceptual understanding, and improving academic performance of students (Faize et al., 2017). In my encounters with students and young adolescents, they are underprepared to engage in science not only in the classroom but also in their daily lives. Students need to be taught how to back reasoning with evidence and how to take an educated stance on a position. Enhancing argumentation skills in the classroom can be done by leading by example as educators, by including more open discussions in class, and by incorporating more evidence-based labs. This inclusion in the classroom will benefit students and teach those skills.

Argumentation Interventions Promote Scientific Literacy

Student participation in argument develops communication skills, metacognitive awareness, critical thinking, an understanding of the culture and practice of science, and scientific literacy (Cavagnetto, 2010). It promotes the achievement of scientific literacy and students talking and writing science. Becoming scientifically literate represents the ability to use evidence and data to evaluate the quality of the information and arguments presented by science, the mass media, and to have the necessary scientific knowledge base to make informed decisions in life (Dragos & Mih, 2015). Arguments can be used to explore societal issues that influence science. These issues include moral, ethical, and political issues that provide authentic context for science

instruction (Cavagnetto, 2010). Students will not achieve this ability to interpret and criticize societal issues without the ability and knowledge to apply what is learned in the classroom to their everyday lives.

Argumentation Instructional Models in Socio-Scientific Contexts

Scientific argumentation is about preparing future citizens to make personal and collective decisions on socio-scientific issues (Dawson & Venville, 2009). Dawson and Venville (2009) describe socio-scientific issues as those that are "based on scientific concepts or problems, controversial in nature, discussed in public outlets and frequently subject to political and social influence" (p. 1422). Informal reasoning and argumentation are important in making decisions on issues faced. These issues are faced on an individual and societal stance. Argumentation skills in science education can be implemented individually or in a group setting. These skills can be used when science students share with others their scientific knowledge in a form of discourse to come to a group decision about a socio-scientific issue or an individual student can utilize argumentation skills to answer a question and justify their opinion (Dawson & Venville, 2009).

Generating an Argument is an instructional model that provides small groups of students practice in scientific argumentation in the classroom. Generating an Argument requires students to develop a claim that answers a research question based on a supplied data set (Sampson & Schleigh, 2013). Small groups of students make a claim that answers a research question based on available data. According to Sampson and Schleigh (2013), in this process groups create a tentative argument that provides this claim and the evidence that supports it, using a medium that can be viewed by others. Each group has an opportunity to share their ideas during an argumentation session. These sessions are designed to create a need for students to discuss the validity or acceptability of the various arguments based on the available information (Sampson & Schleigh, 2013). Students are able to refine their claims based on discussions and better describe the phenomenon they are investigating. Each student then writes a final argument to submit to their teacher. To conclude this instructional model, the teacher leads a whole-class reflective discussion and encourages students to consider what they learned about the content and nature of science (Sampson & Schleigh, 2013)., The Generate an Argument model allows students to participate in argumentation and allows the teacher to incorporate argumentative skills in relation to current phenomenon students face. This could be utilized with any phenomenon to fit the teacher's curriculum. For example, a unit on renewable energy. A teacher may utilize generate an argument to present students with data on renewable energy implications in society.

Research done in science education further supports the claim that students are underprepared to participate in science when it comes to real world issues. Wu and Tsai (2007) investigated the significance of science educators and school science instruction building a foundation for better informal reasoning and decision-making on socio-scientific issues. This study focused on high school learners' informal reasoning on the socio-scientific issue of nuclear energy. The study analyzed seventy-one grade ten students' informal reasoning about nuclear energy. An open-ended questionnaire was developed and used to collect qualitative and quantitative data.

Wu and Tsai (2007) found that high school students did not have the sufficient abilities to make connections between what they learned in the classroom and the socio-scientific issue they encountered. Almost one-quarter of the students in the study made their decision on nuclear power usage intuitively. This study also showed that the students who did make evidence-based decisions were significantly more oriented to change their information after reading a summary about the issue, without noting the credibility of the summary. This study shows that science educators need to pay more attention and learn more about teaching students to apply their knowledge learned in the classroom to taking a stance on or solving real-world problems.

Additional research also supports this claim. Dawson and Venville's (2009) research with high school students demonstrates the importance of argumentation in science education and the lack of discourse skills in students. They obtained data through interviews with ten 12-13 year olds, fourteen 14-15 year olds, and six 16-17 year olds. The aim of their research was to explore high-school students' argumentation and informal reasoning about biotechnology. The notion of scientific literacy was used as the basis of the theoretical framework to examine their data. Dawson and Venville (2009) found that most students used no data or only simple data to justify their claims. Overall, rational informal reasoning was expressed in about one-quarter of the students and the majority of students used intuitive and emotive informal reasoning rather than rationale to justify their viewpoint (Dawson & Venville, 2009). The students in the study lacked the discourse skills needed to make informed decisions and instead based decisions on feelings rather than reasoning to express their views on biotechnology.

Students' Needs in the Development of Scientific Literacy

Science education contributes to the development of the ability to understand the most effective way to use science in daily life and social responsibility (Dragos & Mih, 2015). Students need support in achieving scientific literacy through argumentation and encouragement to talk and write science. This support is achieved through classroom instruction. For example, this support and focus on engaging students in scientific argumentation will require teachers to place more emphasis on "how we know" in science (how new knowledge is generated and validated) in addition to "what we know" (theories, laws, concepts) (Sampson & Schleigh, 2013). This focus on learning to talk and write science can be achieved through certain instructional strategies to support the needs of students. Science teachers will need to implement instructional strategies that give students an opportunity to learn how to generate explanations from data, identify and judge the relevance or sufficiency of evidence, articulate and support an explanation in an argument, respond to questions or counterarguments, and revise a claim (or argument) based on the feedback they receive or in light of new evidence (Sampson & Schleigh, 2013).

Students must practice and participate in argumentation and other communication in the classroom, along with analyzing sources and practice critical reading of a text to determine credibility of information. Accomplishing these skills in the classroom will give students the necessary tools and abilities to then apply these skills to their life outside of the classroom. Students can utilize persuasion and argumentation to evaluate a socio-scientific issue and engage in discussion with others with

proper information and evidence to back their claim. Executing these skills first in the classroom will give students what they need to become active and responsible citizens through the development of the necessary knowledge and understanding of the problems faced by mankind (Dragos & Mih, 2015).

Argumentation is a form of discourse that needs to be appropriated by students and explicitly taught through suitable instruction, task structuring and modeling (Erduran & Jiménez-Aleixandre, 2008). Students' knowledge acquired in the science classroom can serve as tools for their informal reasoning and decision-making on controversial issues (Wu & Tsai, 2007). These issues include a variety of contexts such as climate change, politics, pollution, energy usage, biotechnology, and so on. Students will encounter these issues and need to be prepared to properly analyze them and defend their stance. Social media has become a major part of young adolescents' lives and information received through social media platforms is not always from a reliable source. It is vital to encourage argumentation in science education so students know when they are receiving credible information. Preparing students for this can be accomplished by including argumentation skills in the classroom. That can be done in different ways including instructional models such as generate an argument as mentioned earlier. Another way I have successfully incorporated practicing this skill in my experience with secondary science students is through discussions and labs. I begin instruction by posing questions and asking students what they think might happen in an experiment. Opening this type of dialogue and then completing an experiment where students can then back their discussions with evidence is one good way to incorporate argumentation practice into the classroom.

Conclusion

Scientific argumentation is one of the most important skills and should be strengthened by students, as students who are scientifically literate will be able to apply the knowledge learned to solve problems in everyday life (Jufrida et al., 2019). Incorporating argumentative discourse is vital in preparing students to achieve becoming scientifically literate which will lead to students having the ability and skills necessary to make evidence-based claims and determine credibility of sources. Scientists use arguments to relate the evidence they select to claims they reach through use of warrants and backings (Erduran & Jiménez-Aleixandre, 2008). Students have the right and responsibility to participate in science and properly examine information and research to make a claim and take a stance that is backed up by evidence. Argumentation in science education will provide students with the ability to approach issues in authentic and meaningful ways.

References

Cavagnetto, A. R. (2010). Argument to foster scientific literacy. *Review of Educational Research, 80*(3), 336–371. https://doi.org/10.3102/0034654310376953

Dawson, V., & Venville, G. J. (2009). High-school students' informal reasoning and argumentation about biotechnology: An indicator of scientific literacy? *International Journal of Science Education, 31*(11), 1421–1445. https://doi.org/10.1080/09500690801992870

Dragoş, V., & Mih, V. (2015). Scientific literacy in school. *Procedia - Social and Behavioral Sciences, 209*, 167–172. https://doi.org/10.1016/j.sbspro.2015.11.273

Erduran, S., & Jiménez-Aleixandre, M. P. (2008). Argumentation in Science Education: An Overview. In *Argumentation in science education: Perspectives from classroom-based research* (pp. 3–10). essay, Springer.

Faize, F. A., Husain, W., & Nisar, F. (2017). A critical review of scientific argumentation in science education. *EURASIA Journal of Mathematics, Science and Technology Education, 14*(1), 475–483. https://doi.org/10.12973/ejmste/80353

Jufrida, J., Basuki, F. R., Kurniawan, W., Pangestu, M. D., & Fitaloka, O. (2019). Scientific Literacy and Science Learning Achievement at junior high school. *International Journal of Evaluation and Research in Education (IJERE), 8*(4), 630–636. https://doi.org/10.11591/ijere.v8i4.20312

National Academies of Sciences, Engineering, and Medicine. (1996). Chapter 2 Principles and Definitions. *National Science Education Standards*. Washington, DC: The National Academies Press. https://doi.org/10.17226/4962

Sampson, V., & Schleigh, S. (2013). *Scientific argumentation in biology: 30 classroom activities*. NSTA Press.

Wu, Y. T., & Tsai, C. C. (2007). High school students' informal reasoning on a socio-scientific issue: Qualitative and quantitative analyses. *International Journal of Science Education, 29*(9), 1163–1187. https://doi.org/10.1080/09500690601083375

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Argumentation in The Science Classroom

Emma Grumney

Abstract: Proper argumentation in the science classroom promotes conceptual understanding of complex phenomena, while also giving learners the ability to participate in authentic scientific reasoning. This methodical process that is often skipped in science classrooms gives students a chance to practice testing claims, refining their positions, and effectively communicating evidenced-based ideas to their peers. These methods of investigation teach proper scientific reasoning and communication skills that will simultaneously promote higher-order student thinking. The current studies suggest an increasing need for teachers to support their students in creating and enriching concept schemas through modeling questions/proper arguments, providing prompts, eliciting prior knowledge, guiding investigation, and encouraging reflective discussions.

Introduction

To promote optimal student learning and improve the educational experience for students, teachers need to design lesson plans that offer students the opportunity to explore and strengthen scientific skills, such as argumentation: the ability to evaluate and use evidence to construct an explanation (Developing scientific arguments and discussions, 2019). This skill allows students to ask questions and engage in critical evaluation of evidence and ideas. Doing so not only promotes conceptual understanding of complex phenomena, but also equips learners with the ability to participate in authentic scientific reasoning that will help them interpret the natural systems of the world around them. Lambert and Bleicher (2017) suggested that argumentation can lead to more integration of higher order thinking and reasoning into many peoples' lives. Allowing students to reflect on these fundamental skills that science is built on promotes problem-solving skills that will translate to other subject areas, as well as life outside of school.

Proper Argumentation

Proper scientific argumentation involves the ability to present evidence-based scientific ideas that support claims. Evidence for an idea being presented could be in support or against a certain explanation that has been formed through observation, experimentation, and/or investigation. Being able to effectively argue requires the ability to properly communicate and reason to establish and prove why the gathered evidence confirms the claim being made. Clear reasoning in science involves the use of scientific ideas, theories, or principles to make logical connections to show evidence in support of a claim. This fundamental process is used every day to uncover truth and solve conflict. Without these fundamental skills, researchers would not be able to share their discoveries with their peers or with the public; thus, individuals would not be able to benefit from their scientific findings and advancements.

Students would benefit greatly if teachers taught them how to defend their way of thinking with evidence and reasoning while also staying open-minded to other

ideas. Doing so would teach them how to converse and interact as a professional in science. Having the ability to participate in a conversation about the critique of scientific ideas, discoveries, phenomena, etc. allows the opportunity for both students to reflect on their true understanding of the ideas while also helping them find gaps in their own reasoning/argument. Accepting claims, ideas, or points blindly ignores the opportunity to practice critiquing ideas, creating claims, gathering evidence and linking that evidence to make an argument. This methodical process that is often skipped in science classrooms gives students a chance to practice testing claims, refining their positions, and effectively communicating evidenced-based ideas to their peers. These methods of investigation teach proper scientific reasoning and communication skills that will simultaneously promote higher-order student thinking – a critical mental process that is essential for true learning.

Effects of Argumentation in The Classroom

Questioning and Critiquing Concepts

To address the importance of incorporating argumentation and the ability to engage in critique within the science curriculum, Osborne (2014) discusses the significance of giving students the opportunity to engage in argumentation and questioning to "not only help build students' understanding of science but also develop their ability to reason scientifically" (p. 53). The need to influence students to ask questions, critique others, gather evidence, and build arguments is important because it forces the individual to cognitively engage in defending their own position. By doing this they are engaging in a practice that real scientists do every day. Osborne (2014) mentions that these scientific skills and processes are the core of scientific practice itself and without them, there would not be the construction of reliable knowledge. Knowledge and facts that we know and accept today, such as "the fact that we live at the bottom of a deep gravity well, on the surface of a gas-covered planet going around a nuclear fireball 90 million miles away," (Osborne, 2014, p. 61) has been questioned by scientists for a very long time. And it is statements like these that seem difficult to believe but are often accepted without question by a lot of people today, including students. Osborne (2014) mentions that ideas and theories like these are worthy of discussion.

To operationalize Osborne's idea that argumentation has the potential to promote critical thinking, reflection, and the construction of conceptual knowledge, teachers need to encourage critique and argumentation in science. However, to successfully argue, students need to ask questions. Therefore, it is the teacher's responsibility to provide opportunities for students to do so. Osborne (2014) states that teachers should "ask students to pose questions via a learning journal, establish a question corner in the classroom to supply 'questions of the week,' [and] include question-asking in evaluation" (p. 60). Allowing students to ask questions allows them to practice explaining what they observe and, in turn, forming ideas they can defend and argue. This research illustrates how science critique and argumentation can not only increase student learning in the classroom but also help them build skills that allow them to reason scientifically.

Conceptual Understanding

To see how this concept holds up in a practical setting, there were many research studies done in classrooms around the world. One study was conducted in a public high school in the province of Çankırı, Turkey (Gültepe, 2021). The researchers wanted to see the effectiveness of an argumentation-based teaching approach in developing students' conceptual understanding of scientific material (Gültepe, 2021). Chemistry teacher, Eskişehir Osmangaz, performed this study with 52 of his 12th-grade students. The study involved the conceptual understanding of hydrogen bonding. To establish how much each of the students knew about the topic before the argumentative instruction was put in place, there was a pre-test given. The same concept test was also administered as a post-test. The student answers were evaluated by a rubric created by the researcher to compare the differences (Gültepe, 2021). The chemistry teacher "focused on scaffolding by argumentation to increase the comprehension of the students and their ability to employ and communicate with representations about hydrogen bonding in chemistry" (Gültepe, 2021, p. 199). There were both quantitative and qualitative analyses conducted. For example, the students were tested on whether or not they knew the definition of hydrogen bonding, as well as if they understood how to draw and explain what a hydrogen bond looked like. The quantitative data consisted of the mean, median, and standard deviations of the students' scores based on their answers before and after instruction. The qualitative data was discussed and scored by both the chemistry teacher and researcher (Gültepe, 2021). The data revealed that there were improvements observed in students' understanding of the material after the argumentation-based teaching. This showed that scientific argumentation contributed to a higher understanding and comprehension of "concept schemas" (Gültepe, 2021, p. 206) related to hydrogen bonding.

Science Process Skills

Another study was done in support of the claim that states, by "developing argumentation skills one could also develop science process skills together with science content learning" (Ping et al., 2020, p. 277). The authors argued that it is not only imperative for students to possess science process skills such as scientific argumentation because it is a crucial process of scientific inquiry, but also because it will help students become scientifically literate in a country where being able to "critically evaluate scientific findings would become a valuable asset to the country" (Ping et al., 2020, p. 277). The focus of this research study was on the formation of argumentative skills such as the ability to critique, reason, provide evidence-based claims, and ultimately communicate these ideas through practical-based inquiry activities. The researchers were specifically testing three different teaching approaches that involved varying levels of argumentative discourse-based intervention, and the resulting scores of students' argumentation skills, science process skills, and conceptual understanding of the material.

The study involved an 8-week intervention of 112 10th-grade biology students who were learning about diffusion and osmosis (Ping et al., 2020). The research aimed to examine the effect that teaching and learning activities in the LAB-MADI

module have on students in different groups: the Modified Argument-Driven Inquiry (MADI) group, the Inquiry Without Argumentation (IWA) group, and the Conventional (CON) group (Ping et al., 2020). The teachers who were in charge of the students in the MADI group performed strategies such as, eliciting prior knowledge, helping find research questions, guiding investigation and data collection, helping analyze data and producing arguments, and encouraging reflective discussions. The teachers in charge of the students in the IWA group performed all of the same inquiry-based strategies, however, they did not implement any guidance regarding argumentative-based discussions. They focused strictly on guiding the students in analyzing data and reflecting on experimental results. The teachers in charge of the students in the CON group were only allowed to go as far as introducing the problem statement and providing the procedure for data analysis (Ping et al., 2020). The data was evaluated through a pre-test and post-test that were given during the course of the study. The type of data that was evaluated was based on an "argumentative essay the students wrote which was set under the Argumentation Skills Test (UKH), a written practical test set under the Science Process Skills Test (UKPS) [and a] multiple-choice test under Understanding of Diffusion and Osmosis Concept Test (UKRO)" (Ping et al., 2020, p. 279).

After the course of eight weeks, the researchers analyzed the students' pre-test and post-test scores. They established the three dependent variables as argumentative skills, science process skills, and the understanding of diffusion and osmosis concepts (Ping et al., 2020). Based on these points of evaluation, it was found that the post-test score of the MADI group was higher than the IWA group and the CON group regarding argumentation skills and science process skills. However, the post-test mean score for conceptual learning was a little higher in the IWA group compared to the MADI group, but significantly higher than the CON group (Ping, 2020). Based on the data of the intervention, it was found that the 10th-grade biology students in the Modified Argument-Driven Inquiry group outperformed the other two groups regarding argumentation and science process skills. They were able to create higher-quality arguments compared to the students exposed to the traditional approach. It was also found that the students in the MADI group were able to create clear explanations for claims that included evidence to back them up (Ping, 2020). The data collected from this study shows the level of impact teaching argumentation and inquiry-based strategies have on students' reasoning abilities. The results also show how important it is for teachers to give students the opportunity to work in groups and investigate scientific phenomena by discussing various ideas/claims through evidence-based argumentation. This study emphasizes the need for guided communication and interaction between students and their peers, like in the MADI group, to increase conceptual learning by simultaneously improving their argumentation and science process skills.

A similar study was done to test the effectiveness of the MADI approach. The authors, Antonio and Prudente (2021), introduces the meaning behind the study as an increasing need for individuals to demonstrate proper scientific knowledge in order to participate and understand real-world scientific advances. To read and understand research studies or actively participate in scientific discussions, students are expected to demonstrate skills in explaining scientific phenomena, interpreting data and evidence, and communicating/defending their claims with reason. Students can

acquire these skills in science classrooms when they are given "meaningful opportunities for the cultivation of scientific understanding and argumentation skills" (Antonio & Prudente, 2021, p. 193). Through these opportunities, they can then acquire higher-order thinking skills that not only help them comprehend complex scientific material but also help enable "students to make informed decisions about personal and relevant issues" (Antonio & Prudente, 2021, p. 193).

To dive deeper into this concept, Antonio and Prudente (2021), conducted a research study that required students to conduct an investigation and generate a scientific argument. The approach required the teacher to follow a 7E Instructional Model: "elicitation, engagement, exploration, explanation, elaboration, evaluation, and extension" (Antonio & Prudente, 2021, p. 199). This approach was created to allow students to practice real-life scientific processes by allowing them to participate in argumentative sessions facilitated by the instructor. The teacher would guide the students in the activities by introducing a question to investigate, encouraging them to monitor their discussions/progress, asking students to reflect on their discussions, and providing "metacognitive prompts" such as "Have we reached our goal? What worked? What didn't work? and How should we do things differently next time?" (Antonio & Prudente, 2021, p. 199).

Two tests were created to evaluate the student's conceptual and argumentative skills before and after the intervention. One of the exams consisted of 30 multiple-choice questions testing their content knowledge and the other asked the students to create an argument based on a given question. Students were evaluated on whether or not they provided reasoning that linked evidence to the claim, if they included proper scientific concepts, how well they included evidence to support their argument, and if they made a complete and accurate claim (Antonio & Prudente, 2021).

It was found that after the students were exposed to the MADI approach there was a significant change in the student's conceptual understanding as well as their ability to properly argue. Students in both the MADI and Conventional groups acquired an increase in conceptual knowledge, however, only the students exposed to the Argumentative-Driven Inquiry approach made "significant gains concerning their scientific writing abilities and understanding of the development and nature of scientific knowledge" (Antonio & Prudente, 2021, p. 194). They were able to create higher-quality arguments compared to the students exposed to the traditional approach. The significant data collected from this study shows the level of impact teaching argumentation and inquiry-based strategies have on students' reasoning abilities.

Conclusion

The professional community of science educators collectively encourages teachers to give students the space and opportunity to create, innovate and experiment with argumentation in the construction of scientific knowledge. All of the research studies that tested and implemented argumentative-based strategies in the classroom discovered that students can develop and improve their argumentation skills, science process skills, and understanding of the concepts by being involved in the production of spoken and written arguments. These significant findings went hand in hand with the main ideas mentioned in Osborne's (2014) theory essay in which

he encourages teachers to guide students in asking questions, thinking critically, providing evidence, and critiquing others. Taken as a whole, it appears that teacher guidance and training play a critical role in ensuring students' active participation in class discussions. When students are guided and taught how to properly argue in the science classroom, they ultimately understand complex science concepts and phenomena better. It was found that simply putting students in discussion groups does not do enough to promote effective verbal and/or written scientific conversation. It is agreed that students need to be given the opportunity to construct and develop evidence-based explanations or arguments through inquiry-based practical work.

Accordingly, these research findings highlight the need for teachers to provide students opportunities to discuss and critique content, provide evidence for their claims, and challenge other students' evidence or claims. The current studies suggest an increasing need for teachers to support their students in creating and enriching concept schemas through modeling questions/proper arguments, providing prompts, eliciting prior knowledge, guiding investigation, and encouraging reflective discussions. However, according to Gültepe (2021), additional research must be done with more extensive and long-term studies that include a higher population count. Future research should replicate these findings in settings with a larger sample size to better understand the impact that scientific argumentation has in the classroom.

References

Antonio, R. P., & Prudente, M. S. (2021). Metacognitive argument-driven inquiry in teaching antimicrobial resistance: Effects on students' conceptual understanding and argumentation skills. *Journal of Turkish Science Education, 18*(2), 192–217.

Developing scientific arguments and discussions. Department of Education and Training Victoria. (2019, December 19). Retrieved June 16, 2022, from https://www.education.vic.gov.au/school/teachers/teachingresources/discipline/english/literacy/Pages/argumentsanddiscussions.aspx

Gültepe, N. (2021). Scientific argumentation in teaching hydrogen bonding. *Science Education International, 32*(3), 197–208.

Lambert, J. L., & Bleicher, R. E. (2017). Argumentation as a strategy for increasing preservice teachers' understanding of climate change, a key global socioscientific issue. *International Journal of Education in Mathematics, Science and Technology, 5*(2), 101–112.

Osborne, J. (2014). Perspectives on the science curriculum. Teaching Critical Thinking? *New Directions in Science Education*, 53–62.

Ping, I. L. L., Halim, L., & Osman, K. (2020). Explicit teaching of scientific argumentation as an approach in developing argumentation skills, science process skills and biology understanding. *Journal of Baltic Science Education, 19*(2), 276–288.

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Conceptual Change in Science Teaching and Learning

The Role of Pre-Instructional Conceptions

Andrew Heller

Abstract: Conceptual change, defined as learning that requires the revision of prior knowledge and the acquisition of new concepts, is essential for learning in science. Research has often been framed in the context of misconceptions that need to be corrected. Conceptual change is difficult and essential and should be approached intentionally by recognizing that all learners (including students and teachers) bring pre-instructional conceptions to the classroom. A renewed emphasis for conceptual change research on practical classroom implementation of instructional strategies is necessary for science education to improve. This article builds on the theoretical work done by decades of researchers, while focusing on the real classroom research that has been done on intentional conceptual change.

Introduction

Students come to the science classroom with pre-instructional conceptions about how the natural world works. Many of these commonsense ideas are based on experiences from both outside and in the classroom. However, these experiential preconceptions are often not complete or accurate descriptions of the way the natural world works. Engaging students in scientific education aimed at creating clear and accurate conceptions of natural phenomena is an important outcome of science education. Conceptual change, defined as learning that requires the revision of prior knowledge and the acquisition of new concepts, is essential for learning in science. Conceptual change is difficult and not always long lasting because pre-instructional conceptions are often robust and strongly held.

What research exists on the connection between K-12 science education and the decisions that everyday citizens make around such critical scientific issues as healthcare, climate change, and environmental problems? In science education it is often argued that one way to improve learning is to make the subject matter relevant to students. One of the principal challenges of science education is teaching about phenomena that are not readily observable by students. Creating models of phenomena is often challenging and hindered by preconceptions that students bring to the science classroom.

Perspectives on Conceptual Change

Educational research about learning in the 20th century was dominated by the individual view based on Piaget's theory of equilibration. This view focuses on the individual as the site of learning and the internal mental schema as where conceptual learning takes place. Thus, early research on conceptual change was based on these ideas of the individual brain as the site of learning. Later in the 20th century a shift

towards a social understanding of learning took place based largely on the earlier work of Vygotsky. Leach and Scott (2003) present these two theories of learning that inform the practice of science teaching, the individual and sociocultural views. Leach and Scott present a logical rationale for their construct, and it is important because it attempts to synthesize two broad sets of theories that have often been in conflict. This construct fits with other theories because it draws on well-established research traditions in individual psychology (Piaget) and constructivist learning theory (Vygotsky). The authors place the 'alternative conceptions' literature in the individual view of learning while recognizing that it is useful for improving the effectiveness of science teaching.

Classical Approach to Conceptual Change

In the first stage of research on alternative conceptions, researchers attempted to understand individual pre-instructional conceptions (Taber, 2002). From this point of view, individual mental constructs are logical and reasonable because individuals are rational, and they check their mental constructs against sensory perceptions. According to this view conceptual change can be intentional as teachers introduce new knowledge and concepts which students cannot assimilate (Sinatra & Pintrich, 2003). The goal was to provoke a sense of discomfort so that students will change their schema through accommodation.

The second strand of theory is based on Vygotsky's sociocultural view on the role of internalization and language in learning. While Piaget's learning is active, the focus is still on the individual; for Vygotsky learning is a social process that recognizes that preconceptions are an individual's way of communicating in everyday social language. In science there is a high learning demand because the social languages of everyday life and science are very different.

Multidimensional Perspective on Conceptual Change

Studying preconceptions using a constructivist framework beginning in the 1990s, Duit and his various coauthors have made a large impact on the field of science teaching by proposing a theory based on a multidimensional approach to conceptual change (Duit & Treagust 2003; Duit et al. 2013; Treagust & Duit, 2008). Duit and Treagust (2003) describe the individual approach to preconceptions as the epistemological framework. In this view student learning can be seen as different forms of representation and knowledge where the role of the teacher is to make student preconceptions explicit, introduce new information and knowledge that does not fit their ideas, and create dissatisfaction.

In Duit et al. (2013) the authors contrast the epistemological theory to an ontological approach. Here students' views of science concepts are based on different views of reality so strong that knowledge restructuring is needed. Misconceptions arise when student preconceptions are in different fundamental categories of reality. For example, Chi (2005) explains that some student preconceptions are robust and long lasting because of the ontological distinction between process conceptions and material conceptions. According to Duit et al. (2013), science has a process view that is often at odds with students' material views of the natural world. These examples

illustrate that preconceptions based on ontological distinctions are robust and difficult to change.

Duit and his coauthors also discuss the affective domain of conceptual change, which involves student motivation and interest. Here the sociocultural constructivist perspective from Vygotsky brings attention to the role of social and group learning. Instead of relying on an epistemological approach that assumes students will easily and quickly change their scientific understanding when presented with accurate facts, emotions should be taken into account as well. According to Duit et al. (2013) it is appropriate to be skeptical of the rational epistemological view and open the door for the possibility that teachers who ignore the social and affective domain of student's lives may be impeding conceptual change.

After decades of research, there is agreement that the best approach to understanding learning and preconceptions is a multidimensional perspective that combines cognitive and affective understandings of conceptual change. According to Treagust and Duit (2008) "the complex phenomenon of learning needs pluralistic epistemological frameworks" (p. 302). A multidimensional perspective combines cognitive (epistemological and ontological) and affective domains to address teaching and learning in science. An example of taking a multidimensional perspective on conceptual change, can be found in Brown and Ryoo (2008). In this study the authors took the theoretical approach that teaching science is teaching language, and that beginning with an approach that reduced learning demand by focusing on teaching content using everyday language instead of scientific language would lead to increased learning. If the goal is to reduce preconceptions, then meeting students where they are in their language abilities is one way to apply a theoretical approach that combines epistemological, ontological and affective perspectives on conceptual change.

An Example of Pre-Instructional Conceptions

Taber (2014) calls traditional teaching techniques the Xerox model of teaching. In this model "the process of teaching…is one of transfer or copying of information from the source (the teacher's mind, the textbook) to the learners' mind" (p. 61). For Vosniadou et al. (2001) this traditional teaching model is the empiricist approach that is based on enrichment mechanisms. Both of these sets of authors argue for a constructivist approach to teaching, learning and conceptual change. Learning is a process of change from this naive physics that is slow and gradual and is characterized by fragmentation, misconceptions and the creation of "synthetic models" (Vosniadou 2013). I will apply the framework theory approach, which is one specific multidimensional conceptual change approach, to a number of examples.

Example: Photosynthesis

The process of photosynthesis is a scientific concept that has proven to be difficult for students to understand. Photosynthesis is a chemical process that combines many elements of science learning from the nature of light and energy to the conservation of matter. Synthetic models of photosynthesis in young students often start with analogies to humans and animals around the concepts of eating and

breathing. Young students do not believe that plants breathe and conceptualize that they eat food from an external source much like animals do. This model is based on a psychological framework theory that applies ideas about intentional causality of entities that are analogous to humans and animals in general (Vosniadou, 2013).

As science instruction is introduced, students create synthetic models that incorporate concepts about breathing in plants being separate from feeding (photosynthesis is about the exchange of gases but not related to feeding; plants get their food from the soil through their roots). Finally, students can understand that photosynthesis is a feeding process while continuing to believe that plants feed through their roots as well and that carbon dioxide is involved without an understanding of the chemical nature of photosynthesis (Vosniadou, 2013).

In my student teaching, I used a formative assessment probe that explored plant growth and photosynthesis to investigate students' understanding of the concept of conservation of matter (Keeley, 2016). In this probe students are presented with a thought experiment of a seed planted in a sealed transparent jar with soil and water. No matter can enter or leave the jar. The students are asked to imagine the seed in the soil and then the plant that has grown after a few weeks. Where does the matter that makes up the plant come from? In my class, high school Honors Chemistry, none of the students correctly identified the source of the mass in the new plant growth as the carbon dioxide in the air inside the jar. As in the synthetic models described above, most students identified the soil or water as the source of food and growth for plants. This example illustrates the persistent nature of student pre-instructional conceptions and the difficult task of conceptual change.

Research into Actual Classrooms and Instructional Strategies

If the goal is conceptual change, then more research is needed into instructional strategies that can be implemented in normal classrooms. Much research in the past ten to fifteen years has combined theory and practice to apply theoretical understandings to classroom instructional strategies (e.g., Adadan, 2013; Barthlow and Watson, 2014; McLure et al., 2020; Sadler et al., 2013; Venville & Dawson, 2010; Zhang et al., 2021).

One example of this applied research in the study by Adadan (2013) which questioned whether instructional strategies that used multiple representations (verbal and visual) led to better understanding of the scientific concept of the particle theory of matter than strategies that relied on verbal representations alone. This is important because many students have pre-instructional conceptions of the particle nature of matter that prevents them from having a clear understanding of the states of matter and phase changes. This study was quasi-experimental and involved two introductory chemistry classrooms with the same teacher. One classroom was randomly assigned Instruction with Multiple Representations (IMR) and the other Instruction with Verbal Representations (IVR). The researcher conducted pre, post, and delayed questionnaires of both classrooms along with student interviews. The research findings are that both groups of students began with poor conceptual understanding of the particle nature of matter, and after instruction the IMR group outperformed the IVR group and retained the understanding after three months. One limitation of this research is that it is not longitudinal because it only lasted

three months. In addition, the role of metacognition in student development of scientific conceptual understanding was recognized but not included in the instructional design. According to Adadan (2013), teachers should place more emphasis on the use of multiple levels (macro, submicroscopic, symbolic) and modes (visual, verbal) of representation by students while describing and explaining a target phenomenon during instruction. This study is a specific example of how teachers can intentionally promote conceptual change and eliminate preconceptions through practical

Another study, reviewed in Treagust and Duit (2008), evaluated students' understanding of chemical equilibrium using the instructional strategy of a cognitive apprentice approach. This strategy combines coaching, modeling, scaffolding and exploration and the study compared this approach to a more traditional teaching strategy of direct instruction and demonstrations. The cognitive apprentice group developed more accurate conceptions of the microscopic particulate changes taking place, while both groups demonstrated that matter concepts were more easily understood compared to process concepts based on the random movement of particles in equilibrium.

Conclusion

The nature of pre-instructional conceptions in science learning has been a topic of research for almost fifty years. Starting with cognitive approaches based on the framework of Piaget, research has progressed to a multidimensional perspective influenced by constructivism that incorporates epistemological and affective domains. After decades of research, it is clear that pre-instructional conceptions in science are often robust, long-lasting and resistant to change. Research has moved from trying to understand the nature and origin of preconceptions to an approach that argues for a constructivist theory of conceptual change that can be applied in classroom instruction.

Bridging the theory and practice gap is essential for educational research to remain relevant to teachers. In this article I have summarized the research about the nature of preconceptions and how conceptual change can be encouraged. Yet the answer has often been that teachers need to be aware of their own preconceptions and those of their students. The next step is to determine how to implement change. A full understanding of the cognitive, affective, and ontological underpinnings of pre-instructional conceptions can help researchers and educators recognize the nature of the problem; rigorous research about effective strategies to implement conceptual change is the current challenge in the area of educational research. In this article I have provided the background knowledge about intentional conceptual change that will allow teachers to recognize preconceptions in their students and themselves and plan and implement instructional strategies based on that knowledge

References

Adadan, E. (2013). Using multiple representations to promote grade 11 students' scientific understanding of the particle theory of matter. *Research in Science Education, 43*(3), 1079–1105. https://doi.org/10.1007/s11165-012-9299-9

Barthlow, M. J., & Watson, S. B. (2014). The effectiveness of process-oriented guided inquiry learning to reduce alternative conceptions in secondary chemistry. *School Science and Mathematics, 114*(5), 246–255. https://doi.org/10.1111/ssm.12076

Brown, B. A., & Ryoo, K. (2008). Teaching science as a language: A "content-first" approach to science teaching. *Journal of Research in Science Teaching, 45*(5), 529–553. https://doi.org/10.1002/tea.20255

Chi, M. T. H. (2005). Commonsense conceptions of emergent processes: Why some misconceptions are robust. *Journal of the Learning Sciences, 14*(2), 161–199. https://doi.org/10.1207/s15327809jls1402_1

Duit, R., & Treagust, D. F. (2003). Conceptual change: A powerful framework for improving science teaching and learning. *International Journal of Science Education, 25*(6), 671–688. https://doi.org/10.1080/09500690305016

Duit, R., Treagust, D., & Widodo, A. (2013). Teaching science for conceptual change: Theory and practice. In *International handbook of research on conceptual change*. Routledge Handbooks Online. https://doi.org/10.4324/9780203154472

Keeley, P. (2016). *Science formative assessment, Volume 1: 75 practical strategies for linking assessment, instruction, and learning.* (2nd ed.). NSTA Press.

Leach, J., & Scott, P. (2003). Individual and sociocultural views of learning in science education. *Science & Education, 12*(1), 91–113. https://doi.org/10.1023/A:1022665519862

McLure, F., Won, M., & Treagust, D. F. (2020). A sustained multidimensional conceptual change intervention in grade 9 and 10 science classes. *International Journal of Science Education, 42*(5), 703–721. https://doi.org/10.1080/09500693.2020.1725174

Sadler, P. M., Sonnert, G., Coyle, H. P., Cook-Smith, N., & Miller, J. L. (2013). The influence of teachers' knowledge on student learning in middle school physical science classrooms. *American Educational Research Journal, 50*(5), 1020–1049. https://doi.org/10.3102/0002831213477680

Sinatra, G. M., & Pintrich, P. R. (Eds.). (2003). *Intentional conceptual change* (1st ed.). Routledge. https://doi.org/10.4324/9781410606716

STCSE Students' and teachers' conceptions and science education (2009, March 23). https://archiv.ipn.uni-kiel.de/stcse/

Taber, K. (2002). *Chemical misconceptions. 1: Theoretical background.* Royal Society of Chemistry.

Taber, K. (2014). *Student thinking and learning in science: Perspectives on the nature and development of learners' ideas.* Routledge.

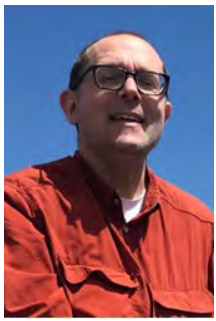
Treagust, D. F., & Duit, R. (2008). Conceptual change: A discussion of theoretical, methodological and practical challenges for science education. *Cultural Studies of Science Education, 3*(2), 297–328. https://doi.org/10.1007/s11422-008-9090-4

Venville, G. J., & Dawson, V. M. (2010). The impact of a classroom intervention on grade 10 students' argumentation skills, informal reasoning, and conceptual understanding of science. *Journal of Research in Science Teaching, 47*(8), 952–977.

Vosniadou, S., Ioannides, C., Dimitrakopoulou, A., & Papademetriou, E. (2001). Designing learning environments to promote conceptual change in science. *Learning and Instruction, 11*(4), 381–419. https://doi.org/10.1016/S0959-4752(00)00038-4

Vosniadou, S. (2013). Conceptual change in learning and instruction: The framework theory approach. In S. Vosniadou (Ed.), *International handbook of research on conceptual change* (2nd ed., pp. 11–30). Routledge.

Zhang, L., Wang, L., & Treagust, D. F. (2021). Discipline-specific cognitive factors that influence grade 9 students' performance in chemistry. *Chemistry Education Research and Practice, 22*(4), 813–841. https://doi.org/10.1039/D0RP00352B



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Social Studies

Using Triangular Texts to Enhance Historical Perspectives in Middle School Social Studies

Brittany N. Donnelly

Abstract: Middle school social studies explores how people, past and present, live together. Oftentimes, teachers accentuate recall of historical facts rather than relationships between humans. Requiring recall over reflection on how people lived through historical events can result in disengaged students. One solution to address the lack of student interest is for teachers to use multiple modes of delivery through triangular texts (tri-texts). This paper provides educators with strategies to insert tri-texts into their curriculum through story, art, poetry, video, and song. These methods complement the textbook to improve the depth and breadth of knowledge about historical events to create benefits for students, including a more rigorous curriculum, higher visual literacy skills, and increased critical thinking combined with interest and curiosity.

Introduction

Imagine you are teaching a class of fifth graders about Westward Expansion in the United States. You begin the lesson by telling a tale about an adventure into the wilderness. The land is previously undiscovered by American settlers and crawling with danger. There are natives in the area, wild animals, treacherous river crossings, and mountain passes so steep it seems like humans could never get through without slipping into the rushing water below! Food is scarce, horses are dying with sickness and hunger, medicine and supplies are low. How will the travelers ever make it to their destination alive? And what will they find when they get there?

Hands go up, students are intrigued.

"What happens next Mrs. D.?"

"Do they make it?"

"What do they find?"

The tale continues with the story of a hero of sorts. They are an interpreter and a scout; someone not afraid to go ahead of the group to check the area for safety. They are a crucial part of the journey, someone who saves important papers, navigational instruments, books, medicine, and even a baby as a boat capsizes! They are miraculously able to find edible plants, berries, and dig for prairie turnips when it seemed that no food was available. When the time comes to negotiate a trade for horses from the nearby Shoshone tribe, the hero speaks the native language, staying calm and allowing the travelers to pass through hostile territory safely.

Again, student hands go up.

"Who is it? I'm dying to know!"

"They sound like Superman; this person can't be real."

"Mrs. D. are you making this up?"

Imagine their surprise when our real-life adventure hero is revealed to be a woman, Sacajawea.

Telling one story in middle school social studies can gain student attention and create interest for the topic being introduced. However, using three intertwined stories can engage students throughout the entire unit. Triangular texts (or tri-texts) are three interconnected texts that focus on the same topic or theme. However, in this article, more than just basic text formats can be considered when implementing tri-text teaching methods. These text formats include picture books, short stories, novels, and poetry, with the additions of maps, art pieces, songs, political cartoons, and videos. The introductory story about Sacajawea is told to peak student interest about Westward Expansion. Teachers may follow with tri-texts that include reading or watching a biography of Sacajawea, examining the original maps made by William Clark, and analyzing journal entries written by Lewis and Clark during early explorations of the Louisiana Purchase. Teaching with varied text formats gives students a more thorough view of historical events while enhancing the factual information presented in a textbook.

The single story, or a textbook in this case, does not always give students a comprehensive view of a person or event. Students may make generalizations, assumptions, and misconceptions that could be avoided by using multiple accounts of the one topic. Michelle H. Martin, the Beverly Cleary Professor for Children and Youth Services at the University of Washington Information School describes the single story as "if you only ever read books by people who look like you and who live like you, that's intellectual poverty because you don't ever see into the life of someone else from their perspective." (Ciecierski, et al., 2021, p. 146). Tri-texts can enhance learning of different historical events through multiple perspectives. They support reading comprehension, strengthen the learning of content and background material, promote critical thinking, enhance classroom conversations, and develop meaningful learning through text-to-text connections (Ciecierski, et al., 2017). This can create a spark of interest in middle school students and could lead to a personal interest in the topics being taught. Ultimately, the goal of a multiple text mentality is for students to read broadly, read deeply, and learn critically and thoughtfully (Bintz and Chaghervand, 2021). Furthermore, tri-texts can combine textbook information with any of the aforementioned modes to contribute to a rigorous curriculum and improve the depth and breadth of knowledge taught to middle school students by inserting additional resources.

Why Use Tri-texts

There has been debate in recent years about how to increase the rigor in the middle school social studies classroom. The Fordham Foundation Publication Where Did Social Studies Go Wrong (Leming et al., 2003) indicated that an increase

in historical content knowledge would increase rigor in the classroom. However, many educators disagree with that conclusion. Overfilling students with more content knowledge does not necessarily make them a better citizen or student. Creating academic rigor does not have to mean more content presented. Rather, teaching for a deeper and more expansive study of major events to include sociology, anthropology, history, geography, and civics. Tri-texts can assist educators in teaching an integrated curriculum that includes historical content knowledge but with focus on critical thinking, comparisons, diverse perspectives, and how to be a thoughtful world citizen.

These additional emphases lead to a definition of rigor to focus on when using tri-texts. Stern (2005) states that rigor is "study that requires students and teachers to pursue knowledge and skills with enough depth and understanding to be able to apply this knowledge and these skills in their daily activities, present and future" (p. 52). Utilizing Stern's definition for rigor can improve educators' understanding that there is more to teaching social studies than rote memorization of facts and dates. Teaching and learning with the multiple modes of tri-texts can still produce a rigorous and inclusive curriculum for middle school students.

Diverse modes of learning can increase the level of rigor desired if students possess a certain level of visual literacy. According to Lopatovska, et al., (2016) visual literacy is the "ability to evaluate, analyze, and interpret an image's compositional elements and cultural meanings" (p. 1198). When using illustrations and art pieces as additional texts, students need to have enough visual literacy to know what to look for when analyzing these types of images. The Association of College and Research Libraries (2018) identifies seven criteria for visual literacy. Standard 3, #2 states that "The visually literate student situates an image in its cultural, social, and historical contexts." Educators can demonstrate this understanding by comparing the cultural relevance at the time of an image's creation with the image's relevance in current culture through the Gradual Release of Responsibility model, or 'I do, we do, you do' as they introduce art as a historical teaching tool. Art and illustration as tri-texts give students more exposure to visual images in a way that allows them to develop their critical thinking and explain their own meanings from personal experiences (Lopatovska, et al., 2016, p. 1201). Illustrations and art can be a captivating method to introduce a topic as they can be interpreted differently and can jumpstart a unit using tri-texts.

Tri-text as Introduction to Topic

When teaching social studies in middle school, there are many ways to introduce tri-texts to enhance existing lessons. One way is by using a "way-in" text. Way-in texts are methods to "Arouse curiosities, inquire, and pursue topics of unexpected interest that hopefully will capture their imagination. It is the one which should be read first because it has the most potential of all the texts to spark motivation and interest" (Ciecierski et al., 2021, p. 149). The story of Sacajawea previously told can be considered a way-in text as it intrigues students through mystery and adventure and arouses curiosity about who Sacajawea is and why she was important to history, which can lead to using tri-texts about Westward Expansion.

Another way-in text that catches the attention of students immediately when using tri-texts to teach the Underground Railroad is Unspoken, by Henry Cole (2012). This story has no words, only simple pencil illustrations. It tells the story of a young girl who finds a runaway slave on her family's farm. The pictures tell an incredible story of the girl's emotions as students make connections with her character through the illustrations. Teaching information about slavery and the Underground Railroad prior to reading this story is helpful as students can see links between the story and the Big Dipper, quilt codes, and the Fugitive Slave Law. This story will also gauge students' levels of visual literacy through these connections. Additional resources which include books, videos, and songs, can assist the use of tri-texts for the unit on slavery and the Underground Railroad. Tri-texts can be beneficial for teaching many other units in middle school social studies as well.

Sample Social Studies Topics and Teaching Strategies

Revolutionary War, Paul Revere

When teaching a unit on the Revolutionary War to middle school students, the Road to Revolution is a common opening topic. Explaining the events from the Boston Tea Party to the famous ride of Paul Revere will have students yelling "The British are coming! The British are coming!" down the hallways for days. When discussing the aspects of Paul Revere's midnight ride, reading Sybil's Night Ride (Winnick, 2010) as a parallel to this event where students can use a graphic organizer to compare Sybil Ludington's ride to Paul Revere's. The famous 1860s poem Paul Revere's Ride (Longfellow & Bing, 2001) can then be added as a tri-text to compare the effects that both rides had on the Revolution. Students could then view a short video featuring William Dawes and Dr. Prescott, other important people involved in Paul Revere's ride who typically do not get mentioned. Additional resources to use as tri-text methods when teaching the events surrounding the ride of Paul Revere could include learning about Sybil Ludington. Instruction and activity could evolve into a student biographical research project of other important women of the Revolutionary War era, such as Phillis Wheatley, Nancy Hart, Ann Bates, and Molly Pitcher.

Women of the Revolution

Additional tri-text methods for the Revolutionary War unit can teach about those who are underrepresented in this historic era, such as women. Studies can include the poetry of Phillis Wheatley, an African American woman who lived in this era and women spies of the Revolution. A poetry excerpt can introduce Wheatley by having students read a few lines of her poem On Imagination (Poetry Foundation, 1773). The meanings of her text can be discussed and explained in small student groups and how her poetry can be relevant to their lives today. Students can then research biographical information about Wheatley, watch a documentary, and read additional poems to learn how her words gave an inspiring voice when she should not have even known how to read or write.

Other unexpected topics of the Revolutionary War era using pictures as tri-texts can introduce female spies. Students can be shown pictures of women such as Lydia Darragh, Ann Bates, and Agent 355 and then be asked to brainstorm what they believe each had in common. This discussion question could start dialogue about students' opinions of gender roles and activate any prior knowledge of the era. Students' perceptions of traditional gender roles can change once learning that each picture is of a female spy. Teachers could add the tri-text methods of watching a video which explains how spies used codes and ciphers in the Revolution and reading Anna Strong: A Spy During the American Revolution (Marsh & Green, 2020) in order for students to compare the effectiveness of spying methods during the war and learn about a fascinating female spy. Students could then decipher codes of their own, applying what they learned through the tri-texts used in the lesson.

War of 1812

Another topic where tri-texts could be especially useful would be the War of 1812. One of the most notable events of the War of 1812 was the creation of the Star-Spangled Banner by Francis Scott Key. Most American students can sing the words of the National Anthem but learning how the original poem was written makes the lyrics meaningful. Tri-texts of the entire four verse poem, listening to the lyrics put to music, and reading a story of the battle at Fort McHenry can all provide additional background knowledge and expand the depth of learning about the War of 1812.

Native Americans

Reading about origin myths through tri-texts would enhance student understanding of Native American history. Native American storytelling was important to their culture and using their own stories to explain how the world was created, why animals have certain features, and explanations of their spiritual beliefs demonstrates that importance to students. By using resources like *The Earth on Turtle's Back,* by Joseph Bruchac and Michael J. Caduto (n.d.) and *Arrow to the Sun,* by Gerald McDermott (2004), for example, students can share in the mythology of Native American cultures as they learn about the features of each tribal region and ways of life. Origin myths as tri-texts can give additional understanding of why these beliefs were essential to that region's culture. Tri-texts allow students to take the additional knowledge gained and lead them to a multitude of activities to show their knowledge and understanding of the social studies units.

Culminating Project: Multi-genre Research Projects

Using tri-text methods in middle school social studies classes can conclude with a project for students to present their independently researched knowledge to their peers. A multi-genre research project uses the methods of tri-texts for students to gather their own information into a culminating project, typically a topic of their interest. Students can gather stories, videos, songs, poems, and art to compare, map out common themes, cite text references, and orally present their full understanding of their chosen topic. Hughes (2009) found that as students explore depth and

breadth of knowledge with their research topics they are learning and mastering material rather than learning superficially. Multi-genre research projects that consider students' interest create a more useful and engaging curriculum. Allowing students to explore an interesting research topic using tri-text methods can give the rigorous curriculum desired in a creative way.

Conclusion

Teaching with triangular texts in middle school social studies can engage students in their study of major historical events by including multiple methods and perspectives. Tri-texts can create many benefits for students, including a more rigorous curriculum, higher visual literacy skills, and increased critical thinking combined with interest and curiosity. Using multiple methods to teach students about one topic, era, or person can help create lifelong learners that textbook information alone cannot. Tri-texts can give students the opportunity to learn with different genres, vocabulary, and text structures along with additional content information, which creates depth and breadth of knowledge. The objective for teachers should be to make learning more engaging for students while incorporating higher level thinking and rigor, and tri-texts can accomplish this goal.

References

Association of College & Research Libraries, Visual Literacy Standards Task Force. (2011, October). *ACRL visual literacy competency standards for higher education*. Association of College & Research Libraries (ACRL). https://www.ala.org/acrl/standards/visualliteracy

Bintz, W., & Chaghervand, S. M. (2021). Using tri-texts to tell under-told stories and celebrate under-celebrated historically significant people. *Ohio Journal of English Language Arts, 61*(1), 49–58

Bruchac, J., & Caduto, M. J. (n.d.). "*The earth on turtle's back" - lessons of our land.* https://www.lessonsofourland.org/wp-content/uploads/2017/08/The-Earth-On-Turtles-Back.pdf

Ciecierski, L. M., & Bintz, W. P. (2017). Tri-Texts: A potential next step for paired texts. *The Reading Teacher, 71*(4), 479–483. https://doi.org/10.1002/trtr.1649

Ciecierski, L. M., Bintz, W. P., & Chaghervand, S. M. (2021). Using diverse youth literature to expand knowledge and consider multiple perspectives through tri-texts. In D. E. Hartsfield (Ed.), *Handbook of Research on Teaching Diverse Youth Literature to Pre-Service Professionals* (pp. 142–162). IGI Global. https://doi.org/10.4018/978-1-7998-7375-4

Cole, H. (2012). *Unspoken: A story from the Underground Railroad*. Scholastic Press.

Hughes, H. (2009). Multigenre research projects. *Middle School Journal, 40*(4), 34–43. https://doi.org/10.1080/00940771.2009.11461679

Leming, J. S., Ellington, L., & Porter, K. (2003). *Where did social studies go wrong?* Thomas B. Fordham Foundation.

Longfellow, W. H., & Bing, C. (2001). *The midnight ride of Paul Revere* (1st ed.). Handprint.

Lopatovska, I., Hatoum, S., Waterstraut, S., Novak, L., & Sheer, S. (2016). Not just a pretty picture: visual literacy education through art for young children. *Journal of Documentation, 72*(6), 1197–1227. https://doi.org/10.1108/JD-02-2016-0017

Marsh, S. G., & Green, S. (2020). *Anna Strong: A spy during the American Revolution* (Illustrated ed.). Harry N. Abrams.

McDermott, G. (2004). *Arrow to the sun*. Amsterdam University Press.

Poetry Foundation. (1773). *On imagination by Phillis Wheatley*. https://www.poetryfoundation.org/poems/52632/on-imagination

Stern, B. S. (2005). Debunking the myth: The social studies and rigor. *International Journal of Social Education, 20*(1), 52–60.

Winnick, K. B. (2010). *Sybil's night ride*. Boyds Mills Press

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The Universal Goals of a Democratic Classroom

Maggie Dziubek

Abstract: The field of social studies education is rooted in citizenship education. With this in mind, social studies teachers should implement to the best of their capabilities a "democratic classroom" as an incubator and laboratory in which students can learn about, practice, and build values as democratic citizens. To do this, teachers should work with students to design and operate within democratic classroom structures, encourage discussion and deliberation, foster self-trust and mutuality, and engage in critical analysis.

Introduction

Classroom teachers across all disciplines are likely familiar with "why" questions: Why do I have to do so much homework? Why do I have to participate in this group project? Why do I have to learn about this topic? These questions from students can be frustrating in their frequency but should not be dismissed as useless complaining. Every teacher and every discipline should be able to confidently answer these "why" questions. Students, parents, and the larger community deserve educational choices that can be justified and defended. In a social studies classroom, the answer to these "why" questions is rooted in the preparation of citizens to manage the demands of democratic society. To do this, social studies teachers must organize their classrooms to teach students not only what democracy is, but also how to participate in democratic life.

What Is Democracy?

Before defining a democratic classroom, it is necessary to establish a definition of democracy. John Dewey proposes a definition that is broader than the context in which this term is most commonly used. For Dewey, democracy extends beyond a "method of conducting government, making laws, and carrying on governmental administration by means of popular suffrage and elected officers," to "something broader and deeper than that," (Dewey et al., 1987, p. 457). In his foundational work, Democracy and Education, Dewey (1916) describes democracy as a "form of social life in which interests are mutually interpenetrating, and where progress, or readjustment, is an important consideration," (p. 100). In democratic societies, members' individual well-being is bound up with the interests of their fellow members. Dewey (1916) says a democratic society "makes provision for participation in its good of all its members on equal terms [and] secures flexible readjustment of its institutions," (p. 115). Thus, a function democracy requires a certain level of flexibility to allow for change as the interests of the society change. Dewey (1916) sees democracy as a social orientation toward mutual interest, community participation, and "the habits of mind which secure social changes without introducing disorder," (p. 115). This inclusion of social change in this definition centers advocacy for social justice as a component of democratic citizenship.

In her 2010 study of democratic practices in Swedish classrooms, Melissa Vinterek divides democracy into three categories: object, skills and stance (p. 369). The democratic object is what democracy "is", including the theoretical concept and formal institutions of democracy. The democratic object is something one can learn "about". Democratic skills are the actions involved in carrying out democracy. These would include participating in elections and community meetings, processing and assessing information, and navigating legal structures, among other skills. One learns how to "do" democratic skills. In contrast, the democracy "stance", according to Vinterek (2010) is "neither a skill, ability nor pure knowledge about the concept. It encompasses a person's attitudes and ways of considering things based on democratic values and as such moral/ethical knowledge," (p. 369). The democracy stance is neither knowing nor doing, but rather a way of being. All three of these subcategories are essential to democracy.

What is a Democratic Classroom?

Education that teaches young people "about democracy," how to "do democracy," and how to "be democratic" people is essential to the functioning of democratic society. According to Sahin and Kılıç (2021), civic education is uniquely essential in democracies because while, "every governmental system aims to raise individuals who will keep themselves alive, societies governed by democracy should also raise individuals who will maintain democracy through democratic education because democratic citizens are the guarantee of democratic order," (p. 182). Therefore, democratic education produces democratic citizens who are capable and willing to continue the work of democratic life. In line with Dewey's definition of democracy as flexible enough to allow for social change, Geneva Gay (1997) defines democratic education as a source of change that involves "more than merely transmitting past experiences, heritages, and contributions to students" (p. 5) Democratic education aims to move beyond this goal to teach students how "prevent past violations of democratic principles, such as racial discriminations and oppressions, from reoccurring in the future," (Gay, 1997, p. 5). Democratic education is concerned not only with the world as it is but also with the world as it could be.

What do Teachers and Students do in a Democratic Classroom?

Having defined a democratic classroom theoretically, it is important to also describe what a democratic classroom is in practice. The following are four essential components of democratic classrooms. In democratic classrooms teachers and students: operate within democratic structures, foster self-trust and mutuality, discuss and deliberate, and engage in critical analysis.

Teachers and Students Operate within Democratic Structures

In the first week of a U.S. Government class students and teachers sit down together to decide upon basic classroom expectations and roles. Students have an opportunity to weigh in on how and when late work is accepted. They discuss the pros and cons of personal cell phone use. A series of small group discussions feed into a full-

class exercise in which students and the teacher build consensus on a list of ten core expectations for all members of the classroom community. Through this activity, teachers and students are operating within democratic structures.

A classroom, like any society, is governed by both formal and informal rules, expectations, and norms. A democratic classroom should be governed by formal and informal rules, expectations, and norms that reflect its democratic aspirations. Sahin and Kılıç (2021) says that a school should be considered a "micro-society," (p. 183) a classroom being a miniature version of society in its entirety. Students and teachers are individuals within this micro-society with different but interdependent and equally significant roles. If this micro-society is to be democratic, the hierarchy between teacher and student should be de-emphasized in favor of applying the "principles and rules of democracy" (p. 183) in classroom decision-making processes. Hess and McAvoy (2015), like Sahin and Kılıç (2021), describe democratic classrooms as democratic not only in their curriculum but in their actual structures. This approach to classroom design and management is student-centered. Hess (2015) says, "when teachers engage students in discussions about what rules ought to be adopted by a class, they are teaching them to think politically," (p. 4). When students help decide on rules for things like late work, group participation, and acceptable or unacceptable behavior, they are engaging with the core democratic question, "How should we live together?" Sahin and Kılıç (2021) explains further that, "People who have a voice in the state administration correspond to students who have a voice in the classroom" (p. 183). In other words, when students are responsible for helping to organize the classroom "micro-society" they are more likely to take ownership of the administration of communities outside of the classroom.

Teachers and Students Foster both Self-trust and Mutuality

Democratic societies are in a constant state of balancing the good of the individual and with that of their community. In a democratic classroom teachers and students must devote attention to both the individual and the community.

A sophomore student is taking a World Geography class as an elective. After learning about the causes and effects of local water access issues, a unit project requires her to design a poster advocating for a solution and to present the poster to her peers. The student is nervous to present her project but feels more confident knowing that the teacher and students in this class have all agreed to standards of respect while presenting. After she presents, the teacher gives affirming and constructive feedback that takes the student's voice seriously. Students who choose to do so are even given the opportunity to share their advocacy poster with the local city council. In a self-assessment, the student says she feels proud of having expressed her perspective on an issue that affects her and her community.

If students are expected to be active participants in a democratic classroom community, they must also be able to envision themselves as capable of democratic participation. Students will not "do" democracy unless they believe they can. Students must have what Swedish scholar Tina Ekman calls "political self-esteem" (as quoted in Vinterek, 2010, p. 370) in order to participate in democratic life. Vinterek (2010) explains that "active citizenship presupposes a trust in the ability of oneself" (p. 370). Teachers can help students cultivate political self-esteem by creating an

"atmosphere of tolerance and respect" and cultivating in students a "willingness and the ability to express one's thoughts as well as a willingness to listen to others" (Vinterek, 2010, p. 371). In a democratic classroom, students are given opportunities to express their opinions and perspectives. As a teacher, it is essential to give students safe opportunities to develop and express their civic voice.

In a sociology classroom, students give and receive feedback not only on their individual performance, but also on their contributions to the good of the group. Students are rewarded for sharing their experience and perspectives with the group, for providing opportunities for their peers to learn from their experience, and for bringing challenging questions to the group for consideration. Through cooperative learning and group projects, students understand that their ability to succeed is contingent on their peers' engagement in learning and vice versa.

Democracy requires individuals to not only see themselves as civic actors but also to see themselves as interdependent members of a larger civic community. Geneva Gay (1997), in her study on the relationship between democratic and multicultural education, asserts that traditionally educational settings put too much emphasis on "individualism and competition," neglecting to cultivate "societies of intimates in which collective identities, shared responsibilities, and interrelated destinies among ethnically, racially, socially, and culturally diverse individuals and groups are normalized, honored, and advocated" (p. 5). Gay advocates for centering community and connection as core classroom values. Ultimately, scholarship on this question would point to the fact that both sides of this coin (individual contributions and community collaboration) need to be valued and cultivated to create what Vinterek calls a culture of democracy in the classroom.

Teachers and Students Discuss and Deliberate

In an economics class students are learning about the federal student loan system. Individual students are assigned to research different aspects of this topic. With all categories represented, students gather in small groups to share their newly-developed area of expertise. Once all individuals have shared their findings with the group, students are given a simple question: What, if anything, should be done to address the growing burden of student debt on young people in the United States? As a group, students must decide and present on an answer to this question. Once each group has presented, the class will deliberate collectively and ultimately vote on the best answer.

Classroom discussion is a very commonly used learning activity in K-12 classrooms. It is a useful and productive exercise in many ways and an important tool in a democratic classroom. However, discussion alone is not sufficient for a democratic classroom. In his book, Teaching Democracy, Walter Parker (2003) draws a distinction between the broad concept of classroom discussion and the more specific practice of deliberation. Parker (2003) says discussion is a "kind of shared inquiry, the desired outcomes of which rely on the expression and consideration of diverse views" (p. 129). The goal of discussion is to engage with ideas that are still "in progress" and work toward a shared understanding. Deliberation is a variety of discussion with the more specific goal of "deciding on a plan of action that will resolve a shared problem" (Parker 2003, p. 129). The general goal of discussion is to clarify,

to deepen, to broaden understanding. Deliberation has a more tangible outcome. As Hess and McAvoy (2015) explain, the central question in a deliberation is usually some version of "What should we do about this?" (p. 5). The intent of deliberation is to arrive at a mutually agreed upon solution or plan of action regarding a question of interest to the community. "Much like John Dewey's view of 'democracy as a way of life' deliberative theorists argue that when the public discusses policy, knowledge is expanded, self-interest is diminished, and the result is a policy that a community or polity can legitimately expect members to follow" (Hess & McAvoy, 2015, p. 5).

Deliberation is an essential part of the final step in Sahin and Kılıç's (2021) 3-part learning model for democratic classrooms. Sahin and Kılıç calls this deliberative process "shura," an Arabic word that translates literally to "consultation." In shura, students are expected to take the cumulative results of the first two learning steps – individual contributions and small-group discussion – and as a larger community deliberate on what the outcomes of the learning process mean to answer the question, "What should we do about it?"

Teachers and Students Engage in Critical Analysis

Students in an introduction to psychology class are expected to learn many of the major players in the initial development of the field of psychology, a list most often primarily populated by white men. As a central part of this unit, students are asked to explore ways in which individual identities of researchers might result in blind spots or biases that impact or skew the results of psychological studies. Students do research on famous examples of scientific racism and share what they have found with their peers. In this unit, students learn the history of the field they are studying while consistently asking questions and applying a critical lens on sources of inequity with an aim to avoid similar outcomes in the future.

Embedded in the definition of democratic education is the practice of constant critique and reassessment of established ways of doing and being. Geneva Gay (1997) says that democratic educators should take an "emancipatory approach [and emphasize] teaching critical, liberatory. and transformative knowledge [instead of] adaptive and conformative ones" (p. 7). This means classroom practices and curriculum address issues like "power, privilege, perspective, hegemony, personal consciousness, and social action at multiple levels (local, regional, national), and in varied domains of human activities (social, cultural, moral, environmental, political, economic." (Gay, 1997, p.7). Gay argues that oppressive and hegemonic practices like those often imposed upon marginalized minorities by the European American majority in the United States are "violations of the letter and spirit of democracy" (Gay, 1997, p. 5). Therefore, a democratic classroom should necessarily encounter and seek to dismantle these kinds of oppressive power structures.

Conclusion

Students who learn democratically, live democratically. As social studies educators who are invested the continuous transformation of society to suit people's constantly changing needs, it is essential to design classrooms where students experience democratic life and form democratic identities. This can be achieved when teachers

and students operate within democratic structures, foster self-trust and mutuality, deliberate on issues, and engage in critical analysis. Armed with these skills, students leave the classroom prepared to take on the complex challenges of contemporary democracy.

References

Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. New York: Macmillan.

Dewey, J., Boydston, J. A., & McDermott, J. J. (1987). *John Dewey: The later works, 1925-1953*. Southern Illinois University Press.

Gay, G. (1997). The relationship between multicultural and democratic Education. *The Social Studies, 88*(1), 5–11. https://doi.org/10.1080/00377999709603738

Hess, D. E., & McAvoy, P. (2015). *The political classroom: Evidence and ethics in democratic education.* Routledge.

Parker, W. C. (2003). *Teaching democracy: Unity and diversity in public life*. Teachers College.

Şahin, Ş., & Kılıç, A. (2021). Learning model based on democratic Life. *Journal of Educational Research and Practice, 11*(1). https://doi.org/10.5590/jerap.2021.11.1.13

Vinterek, M. (2010). How to live democracy in the classroom. *Education Inquiry, 1*(4), 367–380. https://doi.org/10.3402/edui.v1i4.21951

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Academic Benefits of an Inclusive and Diverse Social Studies Curriculum

Cait Leow

Abstract: Discussions about racism and the history of systemic oppression of minority populations in the United States is being legislated out of classrooms in many states. The purpose of this manuscript is to argue there are academic benefits for students who are exposed to learning about racism and diversity in the classroom. The studies examined follow outcomes from ethnic studies classes and are limited in their sample size and scope. The existing research is minimal, and this manuscript makes a case for continued research of the impacts of ethnic studies classes and classrooms that address racism and systemic oppression. The research presented about students exposed to information about racism and diversity, shows promising results of academic and civic participation benefits for all students.

Introduction

Social Studies education is under attack. So far in 2022, twenty-eight states have enacted legislation or have bills circulating in their congresses limiting teaching about the issue of racism and systemic oppression of people of color, otherwise labeled by the bills as prohibited concepts. While the language in many of these bills is vague, the restrictions would not only apply to curriculum, but also to professional development. Social studies teachers cannot be expected to accurately instruct students on history, civics, geography, and the social sciences while omitting systemic oppression certain populations have faced. Student learning will be incomplete. As a woman who felt excluded from the social studies curriculum in her own schooling and as a teaching intern at a school with a multicultural student population, I became curious about the academic benefits of an inclusive social studies curriculum that considers the history of racism in the United States and how racism has affected large portions of Americans. Unfortunately, despite all the political conversations around teaching about racism in the classroom, there is paltry research on how discussions about race academically benefit or harm students. This manuscript will address a few small studies that have promising results and hopes to encourage further research.

Defining Social Studies Curriculum

The National Council for the Social Studies (NCSS) defines social studies as, "the integrated study of the social sciences and humanities to promote civic competence, [and declares] The primary purpose of social studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world" (NCSS, 2022, para. 2). In agreement, E. Wayne Ross of The University of British Columbia describes social studies in Chapter 1 of his book, The Social Studies Curriculum. "Social studies in the broadest sense, that is, the preparation of young people so

that they possess the knowledge, skills, and values necessary for active participation in society…" (Ross, 2006, p.18). In this chapter, Ross includes thoughts from Dr. Susan E. Noffke (2000), saying she:

> argues that debates over social studies have failed to acknowledge the widening gap between haves and have-nots and the racialized and gendered patterns of privilege and oppression, which to a large degree form the basis of U.S. economic and cultural life, are also not addressed in contemporary proposals for curriculum reforms. (Ross, 2006, p. 20)

People like Noffke believe that social studies curriculum should be reconstructed constantly to stay relevant with current issues presented in our culture and society. One can take a conservative view that social studies should teach "content, behaviors and values that reflect views accepted by the traditional dominant society," (Ross, 2006, p. 21). or the liberal view that teaches "content, behaviors, and values that question and critique standard views accepted by the dominant society" (Ross, 2006, p. 21). The debate over the "correct way" to develop social studies curriculum will continue beyond this manuscript, but the following will present what research and theory have to say about the academic benefits for all students by including the study of racism into said social studies curriculum.

Ethnic Studies

Ethnic studies is the most relevant facet of social studies regarding teaching about racism in the classroom. Not all schools offer ethnic studies programs, but social studies and English language arts teachers can frame their teachings around similar themes that fit state standards. By examining a definition of ethnic studies, middle grades and secondary social studies and English teachers can review their curriculum and align it with ethnic studies themes. There are many definitions of ethnic studies given in the literature; the simplest may be Harvard's ethnic studies major that, "emphasizes histories of racial formations within and beyond the United States" (Harvard, 2022, para.1). Dr. Christine E. Sleeter of California State University, Monterey Bay, gives a thorough explanation of ethnic studies in her 2011 research review on the topic. Ethnic studies courses typically include:

> 1) explicit identification of the point of view from which knowledge emanates, and the relationship between social location and perspective; 2) examination of U.S. colonialism historically, as well as how relations of colonialism continue to play out; 3) examination of the historical construction of race and institutional racism, how people navigate racism, and struggles for liberation; 4) probing meanings of collective or communal identities that people hold; and 5) studying one's community's creative and intellectual products, both historic and contemporary. (Sleeter, 2011, p. 3)

Sleeter's review (2021) also summarizes that evidence gathered up to that point shows that white students and students of color academically benefit from a mindful, well-prepared ethnic studies class, taught by a qualified teacher. There is a positive impact on democracy, civic outcomes, and cross-group interaction as well as the courses specifically encouraging a higher level of critical thinking.

Benefits of Ethnic Studies Classes

In an article by Thandeka K. Chapman and colleagues, the authors sought to replace white-centered ethnic studies curriculum with a social justice curriculum that centered people of color, their stories, and their experiences. They found that a program that focuses on developing self-efficacy, critical consciousness, and academic skills catered to the educational needs of students of color (Chapman et al., 2020). The study involved ninth grade students in the San Diego Unified School District (SDUSD) made up of Southeast Asian American, African American and Latine participants. "The curriculum integrates district requirements, state and national standards, college requirements, and past and present ethnic studies curricula. Each component of the course was chosen to help students gain academic skills and develop their critical consciousness" (Chapman et al., 2020, p. 574). The study was conducted with pre/post tests that measured vocabulary, text analysis, and content recall. The data revealed that students were learning, but the assignments were not developing writing skills or critical thinking. Teachers went back to the drawing board and added long- and short-form writing assignments and tied in films and guest speakers that the students reflected on regularly. In a follow-up study in 2018, the data was more promising, and the students showed a deeper understanding, increased self-efficacy, critical thinking, and academic skills (Chapman et al., 2020, p. 578-579). While this study does not solely address the teaching of the history of racism or systemic oppression, the 2018 data does show promising results for students by an intentional decentering of whiteness in curriculum, which included discussions about "issues of institutional and structural oppression" (Chapman et al., 2020, p. 576).

Dee and Penner (2017) conducted another study of the benefits of an ethnic studies program at the San Francisco Unified School District (SFUSD) High School with 1,405 ninth grade students. The research measured "causal" academic outcomes like attendance, grade point average (GPA) and credits earned, and predicted a rise in high school persistence (Dee & Penner, 2017, p. 2). Participation was required for students who had less than a 2.0 GPA in eighth grade and thus labeled as at-risk for dropping out of high school by SFUSD. Because the students were assigned to the class, rather than entering on a voluntary basis, that adds credibility to the measurement of causal effects as the students were "randomized" (Dee & Penner, 2017, p. 3). The results were very promising. Student attendance increased 21 percent, the cumulative ninth grade GPA raised 1.4 grade points, and students earned 23 more credits than before (Dee & Penner, 2017). The student's grades went up in classes like math and science as well. The researchers admit that scaling this curriculum to fit a much larger group would pose serious challenges, but it shows that ethnic studies classes are academically beneficial for the participating students.

In Arizona, a Mexican American Studies (MAS) program at Tucson Unified School District (TUSD) was dismantled when the state legislature passed House Bill 2281. A study of academic impact of the MAS program was done by the University of Arizona after it was eliminated by the state superintendent and conducted over 6 weeks of research (Cabrera et. al., 2014). The researchers analyzing data from graduating classes from 2008-2011, took great care to consider the lack of random-

ization due to the class being voluntary, mitigated variable bias by including known covariates in the model, and acknowledged the limits of administrative data. The results of this study are also promising with indications that teachings about racism and systemic oppression increases academic success of participating students. Prior to taking any Mexican American Studies classes, eventual MAS students had significantly lower GPAs and lower rates of passing scores on Arizona's Instrument to Measure Standards (AIMS) test, than their non-MAS peers. After participating in at least one MAS course, students had significantly higher graduation rates and passing AIMS scores compared to their non-MAS participating peers (Cabrera et. al., 2014). Over the four cohorts analyzed between 2008-2011, MAS students were on average 8.4 percent more likely to graduate with the largest increase seen in 2008 of 15.9 percent more likely. On average MAS students were 4.7 percent more likely to receive passing scores on their AIMS test with the greatest increase seen again in 2008 of 11.1 percent (Cabrera et. al., 2014). Across all four years, 84.8 percent of the students participating in the MAS classes were Latine, showing that classes focusing on racial disparities can help close the racial achievement gap (Cabrera et. al., 2014). There is no reason any type of social studies class, especially history, cannot take on aspects of an ethnic studies course and strive to increase graduation rates and state standardized test scores of all students.

Diversity in the Classroom

Although this manuscript focuses on social studies curriculum, addressing the benefits for students by being involved in a multicultural classroom setting should not be overlooked. Jeffery Milem of University of Maryland (2003) examined the educational benefits of diversity in colleges and universities. Diversity as defined in this study is two-pronged; as the representation of different races and ethnic groups on a campus, and by "diverse interactions" (p. 4) with new ideas, information, and exchanges with people outside of their culture. These benefits can be applied in a secondary education setting and should be used as a model because not everyone in America is able to attend higher education. Milem (2003) used "a three-dimensional framework that considers the ways in which diversity benefits: (1) individuals, (2) institutions, and (3) our society" (p.3). This manuscript will focus on the individual educational benefits. "Individual benefits refer to the ways in which the educational experiences and outcomes of individual students are enhanced by the presence of diversity on campus" (Milem, 2003, p. 3). Milem drew on research in several fields and found evidence which "suggests that diversity enhances student growth and development in the cognitive, affective, and interpersonal domains" (Milem, 2003, p. 4). He reported on three specific outcomes: learning outcomes, democratic outcomes–how the student engages as a citizen post education–and ability outcomes. Ability outcomes refer to the "ability of students to live and work effectively in a diverse society" (Milem, 2003, p. 5). The outcomes of the study were that students who learned in diverse environments had a mastery of critical thinking, levels of ethnocentrism declined, and their ability to distinguish between poverty and ethnicity as developmental risk factors increased (Milem, 2003). In white students, who tend to have the least interactions with other races, cultural acceptance and civic responsibility increased (Milem, 2003, p. 9). Social studies education emphasizes

learning outcomes like critical thinking and democratic outcomes like involvement in promoting racial understanding. These are goals that social studies teachers want their students to achieve in a secondary education setting. Milem's (2003) collection of research shows that interactions with people of other races and ethnicities increase educational benefits in white students and students of color.

Preservice and current teachers need to learn how to include diversity in their classrooms considering that seventy-nine percent of public school teachers in the United States are white (Spiegelman, 2020) and teachers do not decide the racial identities of their students. The Southern Poverty Law Center and Learning for Justice are two of numerous online resources for teachers. In addition, Boudreau's (2021) article for Harvard's education publication, Usable Knowledge, provided five tips for teaching hard history:

> 1. Create a classroom culture that recognizes and values the students' identities and provides windows into diverse histories and cultures…2. Use primary sources when possible…3. Ensure content is developmentally appropriate, and recognize that space and support to process emotions is necessary…4. Highlight the stories of resistance and resilience alongside hard histories…5. Remember this work takes a whole school. (Boudreau, 2021, paras. 3-10)

These tips were developed by Adrienne Stang, Cambridge Public Schools K–12 history and social studies coordinator, and Harvard professor, Dr. Danielle Allen, and are more easily listed than implemented. This is barely the beginning of learning to become a culturally competent educator but should be a goal for every teacher.

Conclusion

Social studies teachers have the duty to prepare students to be responsible and active participants in our democracy by teaching them history, civics, geography and the social sciences. Traditionally, curriculum has focused on the dominant white culture in our society with little inclusion of voices of people of color. Raising up every student in the classroom through culturally competent teachers, diverse classroom settings, and inclusive curriculum, will academically benefit every student. Not only will every student benefit academically, but they will also be more prepared to be responsible citizens of the United States.

The studies examined in this manuscript barely scratch the surface and are not comprehensive. Teachers need the training to effectively implement aspects of ethnic studies into their curriculum. There are surprisingly few studies compiling data about academic benefits for students that learn about racism and systemic oppression in a K-12 setting; and the gaps in that research deserve to be filled. The existing literature reveals that in providing an education that includes the voices of every American, the next generation will be more well-rounded and empathetic. An inclusive curriculum will provide young Americans an advantage in a multicultural society and on the world stage. Consolidating the evidence helps teachers become more active and informed advocates for inclusive education in public education facilities across America. Lawmakers are overlooking academic benefits when forming bills like House Bill 322 and House Bill 327 in the Ohio House of Representatives. If they prioritize student achievement through the inclusion of topics concerning

racism and systemic oppression in the curriculum, then a more unified nation can emerge. A nation where everyone's voice is recognized and students can graduate from a K-12 education with a fuller understanding of what the United States of America is and what we can become.

References

Boudreau, E. (2021, February 22). *Teaching the hard histories of racism*. Usable Knowledge: Relevant research for today's educators. Retrieved June 16, 2022, from https://www.gse.harvard.edu/news/uk/21/02/teaching-hard-histories-racism

Cabrera, N. L., Milem, J. F., Jaquette, O., & Marx, R. W. (2014). Missing the (student achievement) forest for all the (political) trees: Empiricism and the Mexican American studies controversy in Tucson. *American Educational Research Journal, 51*(6), 1084-1118.

Chapman, T. K., Jones, M., Stephens, R., Lopez, D., Rogers, K. D., & Crawford, J. (2020). A necessary pairing: Using academic outcomes and critical consciousness to dismantle curriculum as the property of whiteness in K-12 ethnic studies. *Equity & Excellence in Education, 53*(4), 569–582. https://doi.org/10.1080/10665684.2020.1791767

Dee, T. S., & Penner, E. K. (2017). The causal effects of cultural relevance: Evidence from an ethnic studies curriculum. *American Educational Research Journal, 54*(1), 127-166.

Harvard University. (2022). *Ethnic studies. Committee on Degrees in History & Literature*. Retrieved June 2, 2022, from https://histlit.fas.harvard.edu/ethnic-studies

Milem, J. F. (2003). The educational benefits of diversity: Evidence from multiple sectors. In M. Chang, D. Witt, J. Jones, & K. Hakuta (Eds.), *Compelling interest: Examining the evidence on racial dynamics in higher education* (pp. 126-169). Stanford Education.

National Council for the Social Studies (NCSS). (2022). About National Council for the Social Studies. National Council for the Social Studies. Retrieved June 2, 2022, from https://www.socialstudies.org/about

Noffke, S. E. (2000). Identity, community and democracy in the new social order. In D. W. Hursh & E. W. Ross (Eds.), *Democratic social education: Social studies for social change* (pp. 73-83). Routledge.

Ross, E. W. (Ed.). (2006). *The struggle for the social studies curriculum. The social studies curriculum: Purposes, problems, and possibilities* (3rd edition). SUNY Press.

Sleeter, C. E. (2011). The academic and social value of ethnic studies: A research review. *National Education Review,* 1-38.

Spiegelman, M. (2020, September). *Race and Ethnicity of Public School Teachers and Their Students*. National Center for Educational Statistics. Retrieved June 16, 2022, from https://nces.ed.gov/pubs2020/2020103/index.asp

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The Case for Media Literacy Implementation in the Social Studies Curriculum

Casey Mackay

Abstract: Media literacy is a subject that is worthwhile for implementation in social studies classrooms for students in the internet-age. Because of the wealth of information available at any given time, there is a serious need for the education of students on how to find reputable information throughout all the messaging that is spread throughout the media environment. It is now more difficult than ever to procure media information that is not laden with bias, so students need to be informed on how to consume and create media responsibly. Students must be given structure in how they can effectively sift through information that they both consume and propagate as creators, especially in the realm of social media.

Introduction

An overarching task of social studies educators is to guide their students in the process of decision making and the means by which these decisions are made. Most individuals will make decisions based on the information presented to them, whether it be word of mouth or messaging put forth in the media. Within this process, students are thrust into reasoning with the information that they are given which can be a challenging task at times, with the immense amount of messaging and information available at any given time. In today's internet-age there is a plethora of media and information that just about everyone is able to access. Inquiry and curiosity on just about any topic can be quenched in minutes with just a few clicks of a mouse. Rather than relying on newspapers and nightly news broadcasts on major networks, there is a 24-hour news cycle that is accessible through various on-air news networks and a plethora of digital sources. Within these different avenues of consumption there is an exorbitant level of conflicting messages as well as content that is strictly driven to promote economic participation or spending beneficial to corporations. Thus, it is vitally important for social studies educators to present opportunities within the curriculum to help prepare students to reason with the mass of available information that is at their fingertips at any given time. Students must be taught the need for multiple sources of information, to false news and misinformation, as well as have an understanding that they are not only consumers but also producers of messaging in the media stratosphere.

Most students in the United States have access to the internet and social media and are exposed to various messages that influence their everyday lives. Hence, it is vital in this ocean of information and media content for students to be able to process and think critically about the messaging they are consuming and engaging with to make sound decisions and formulate well-informed opinions or arguments on topics therein. Within recent years there has been a substantial polarization of ideas and information presented in the media in which all students are exposed to in some form. With the fundamental shift from print media to digital media, there is cause for education and coaching on how students are able to decipher between

factual information and misinformation. Students are tasked with decoding these messages through the "Five W's" of who, what, where, when, and why to determine whether the information that they are consuming is both relevant and objective. Not only that, but the pace in which media is disseminated is higher than ever before. Many news articles on internet sites and social media typically only focus on quick notes and commentary and not always by experts. Social media is a main source for information for many students in today's world. For students and users of the internet alike, "Social media is becoming increasingly important as a means to gain information about the world, competing with traditional media sources" (Valtonen et al, 2019, p. 21). This shift from traditional media sources like nightly news broadcasts and daily newspapers has made information more accessible and transferable than ever. Thus, considering the veracity and accuracy of sources and their intentions has become both more difficult and worthwhile than ever before. Students in social studies classrooms are tasked with thinking critically about civics and community in the society in which they live, so it becomes that much more important for them to be able to understand the media messages they consume which effects their perceptions of the information laden within.

Media Literacy Education

With many students' propensity to be exposed to social media daily, they must be made aware and grow conscious of how their media information is presented, as well as take the onus of responsibility in what messaging they share amongst their peers. In fact, according to Mason et al., (2018), "In 2017, two-thirds of Americans reported receiving at least some of their news via social media" (p. 4). Within social media, and the internet at large, there are algorithms and technology used to filter what content is presented to individual users. When looking at where most of the information comes from, it is typically most prudent to follow the money or the ad revenue that comes with the attention of the masses. This shift has given credence to, "less in-depth reporting," as well as "passing along public relations material as news without thoroughly vetting it for bias or inaccuracies" (Mason et al, 2018, p. 4). This creates a bias in terms of which information is put in front of students as their clicks are tracked and the information that is presented to them is based on what the software determines to be "most relevant" to them and typically that is driven by their consumerism or confirmation bias. The more swayed to one side or another, the more information that confirms this sway will be displayed. Thus, the knowledge of information attained becomes more self-serving, promote only half-truths, or be only part of the total picture. Furthermore, through these biases students are thrust into an "echo-chamber" through which they can find multiple sources that corroborate ideas that may be false or misleading which can cause harm to both them and the society in which they live. Media messaging, especially through the internet and social media has taken the form of "targeted media", tracking users' preference data, and using it to present and gather information specifically tailored to them. The article by Valtonen et al. (2019), they contend, "The mechanisms of media have changed, and instead of offering the same news for everyone, produced by the editors, reporters, and fact checkers, with today's technology media and news can be targeted for certain groups of people for certain purposes" (p. 22). By hav-

ing "targeted" information fed to students in their media consumption, there is the possibility for the information presented to be slanted or presented in a way in which the consumer is comfortable or echoes their preconceived sentiments. Consequently, without proper education on determination of the validity of sources of information or its purpose, there lies the possibility of toxic and unhealthy decisions being made as well as propagation of misinformation being viewed as absolute truth. This education of media literacy becomes even more vital as students attending schools today will soon become adults and obtain the right to vote. For adolescents and young adults, identifying information that is truthful and objective is essential to become well-informed and be able to carry out their civic duties as functional and contributing members of society. So, part of the teaching of media literacy in social studies classrooms must be rooted in considering the sources of information, and the reason in which the messaging has been created. Within this same sphere, students must be educated in both social studies and English/language arts classrooms alike, on which sources of information can be deemed as trustworthy, and how to effectively interpret the media content between what one wants to know and what one needs to know.

Media Literacy to Supplement Civic Action

In recent years, especially from 2019 to the present, there have been a huge number of world, national, and local events that have sparked debate and, in some cases, resulted in violent and problematic actions. The topic of media literacy is worthwhile in the sense that in order for meaningful change to be brought to the forefront by the youth and future adults that are our students, they must learn to be better informed. Issues like the fight for social justice, the Covid-19 pandemic, and the floundering economy are all huge pieces of the media machine currently. Students need to be able to sift through various sources to determine the purpose of the messages in which they receive. With determining the purpose of the information students will be better prepared to make determinations on what can be trusted and how to cut through the noise of biased reporting. The concept of media literacy is discussed by Cappello (2017) who said, as "To be media literate today means to be able to cope efficiently with the flood of information in contemporary highly mediated societies and act as critical, creative and responsible digital citizens" (p. 31). The skills and strategies of new-age media literacy can help students with their current schoolwork as well, for example, in writing informational or persuasive essays, checking the reliability of sources can be pivotal to crafting an effective argument or conveying a sound representation of the topics being covered. Beyond that, as students progress through their scholastic careers, and begin transitioning toward adulthood, media literacy becomes paramount as they enter higher education or start their careers. This calls for educated reasoning and guidance in deciding which information is suitable to use as fact and formulation of contention, which is important for both educators and students alike.

Responsibility as Consumers and Producers

Students must be taught to interact with this information responsibly, as they are able to immediately share and disseminate the information across the various social media platforms that they use. Lin et al. (2013) noted that students must have the basic skills of finding valuable information as well as how to understand and analyze the material that is found. This analysis involves, "that individuals should not simply perceive media contents as neutral conveyors of reality, but recognize the construction of media messages as a subjective and social process" (Lin et al, 2013, p. 164). These skills can be categorized as both "Consuming" and "Prosuming" skills, as students are both consumers and creators of media messages (Lin et al, 2013). Having a working and objective understanding and knowledge of the interpretation of the media messages so readily available to students will give them the tools needed to become sound decision makers and members of the society at large. Within this understanding, students must come to terms with the notion that they are not only consumers of media but also creators of media. Capello concurs, "Media literacy is also about producing and sharing media content in a responsible manner through the innumerable platforms and services of the cyberspace" (Capello, 2017, p. 36). This comes from the use of social media and its sharing functionality, in which students or individuals in general can propagate any messaging that they choose with simply the click of a button. So, it is vital for educators to give their students a working understanding of the implications and consequences of sharing misinformation and the need to fact-check any information that is brought into their specter. Accordingly, we as educators need to stress the importance and consequences associated with dissemination of information. Students understanding their role in the messaging and information within the media is a critical part of their media literacy.

Conclusion

Students are bombarded with media messaging daily, specifically through their use of the internet. That is why it is vitally important that there be media literacy strategies and education implemented within the curriculum of social studies education. Such education must be vested within the ideology of having multiple sources to corroborate information as fact, students understanding their role as media content producers/creators, and the identification and subsequent mitigation of false news presented as factual and reputable information. Therefore, there must be education and guidance for our students in situations where there are contradictory elements and that pairs closely with the dis/misinformation brought forth by "fake news" in the current media landscape within social media platforms. These platforms are at the forefront of our students view and typically used regularly and discussed throughout peer to peer. Furthermore, this flux of incorrect or misleading information characterized as "fake news" is a threat to students and society. So, it is further critical for educators to teach their students to question and contemplate multiple sources before sharing out media information to which they are exposed. Teaching responsibility in what information is propagated, as well as emphasizing taking ownership of messaging that is disseminated from the students themselves must be a cornerstone of contemporary media literacy education. It is paramount that

students be educated on the current state and environment of media, the sense and reasoning involved with vetting sources and identifying misinformation and taking responsibility while being accountable for the media that is distributed from their own accounts across platforms in the online world.

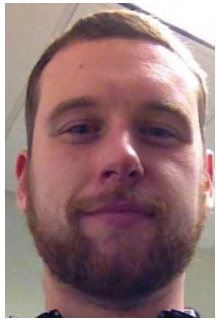
References

Cappello, G. (2017). Literacy, media literacy and social change. Where do we go from now? I*talian Journal of Sociology of Education, 9*(1), 31-44. doi: 10.14658/pupj-ijse-2017-1-3.

Lin, T.-B., Li, J.-Y., Deng, F., & Lee, L. (2013, October). Understanding new media literacy: An explorative theoretical framework. *Journal of Educational Technology & Society, 16*(4), 160-170. https://www.jstor.org/stable/jeductechsoci.16.4.160

Mason, L. E., Krutka, D., & Stoddard, J. (2018). Media literacy, democracy, and the challenge of fake News. *Journal of Media Literacy Education, 10*(2), 1-10. https://doi.org/10.23860/JMLE-2018-10-2-1.

Valtonen, T., Tedre, M., Mäkitalo, K. A., & Vartiainen, H. (2019). Media literacy education in the age of machine learning. *Journal of Media Literacy Education, 11*(2), 20-36. https://doi.org/10.23860/jmle-2019-11-2-2



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Explicitly Teaching Empathy in Social Studies Content to Support a Humanitarian Worldview

Andrea Rodriguez

Abstract: Empathy is the ability to view, feel, or understand what another person is or has experienced from their perspective or frame of reference. While this is not a new concept, the impact that teaching empathy, specifically in social studies content, has on a student's worldview may be underestimated. Utilizing empathy-based teaching strategies to learn social studies content can result in a more humanitarian worldview which benefits everyone in society. In a society with such divisive cultural and political issues, mutual understandings are few and far between. If our goal as social studies teachers is for our students to understand how these social issues affect people differently, explicitly teaching them how to use empathy is a critical component.

Introduction

As social studies teachers, we are in a unique position to positively influence our students to have a more humanitarian worldview by utilizing empathy-based teaching strategies. The content that is taught in social studies is currently under great scrutiny by our nation as it faces significant social issues including the Covid-19 pandemic, the War in Ukraine, political divides, systemic racism, debates on Critical Race Theory, mental health issues and the stigmatization of them, and gun violence that is unique to the United States. If we are to prepare students for engagement in a world filled with such highly charged social tensions, we need to utilize an empathy-based pedagogy that results in empathy and advocacy for all human beings. Explicit utilization of empathy while learning social studies content is necessary if we are to positively influence our students to engage in and think critically about these social issues that are likely already affecting them and to support a more humanitarian worldview.

Why Should We Utilize Empathy-Based Teaching Methods?

The utilization of empathy in social studies is not a new concept. In fact, the use of historical empathy to understand figures and events of the past has been well-researched and demonstrates many positive benefits. Endacott and Brooks (2013) suggest that students will benefit from being able to place themselves in the shoes of historical figures and events not just cognitively, but emotionally as well. By utilizing affective connections when considering the results or outcomes that occurred because of these historical figures and their actions, students can develop a better understanding of how and why the events unfolded as they did. The authors also suggest that to effectively utilize historical empathy, we must include historical context, perspective taking, and affective connection (Endacott & Brooks, 2013). Additionally, Gehlbach (2004) argues that historical empathy, along with conflict resolution and social studies grades, is one of the three critical components of the

relationship between social perspective taking and student success. Social perspective taking requires the use of empathy as it relates to the inclusion of all people's perspectives. Gehlbach (2004) argues that social perspective-taking facilitates interpersonal interactions more than any other human capacity. Foster (1999) claims that using historical empathy can excite students to learn and increase engagement.

The use of historical empathy appears to be well-researched, however, utilizing empathy in general to learn content, including current events, and the positive social benefits that can be produced is less examined. Utilizing empathy in all social studies content, historical or not, can positively influence a student to cultivate a more humanitarian worldview. It is the connection that the student makes or idea that resonates with them that allows them to tap into their own perspective with which they view the world. To help students both learn the content and make personal connections, the use of empathy should be explicitly taught. According to Bulut and Asan (2019), empathy is a necessary social skill to view and understand the perspective of others. It is also a skill needed to communicate with others in a way that develops mutual understanding.

Whether it is including culturally responsive material, utilizing historical empathy, or using global or humanitarian perspective-taking, empathy-based pedagogy will have a positive impact on students and their ability to problem solve and think critically about society and the issues it faces. These empathy-based methods all require one to place themselves in the shoes of other people to make that human connection. The implementation of empathy-based pedagogy should be considered when developing social studies curriculum, instructional strategies, and classroom discussions.

Models & Methods

Research shows that there are already many instructional models and frameworks that can be used to facilitate empathy-based learning. One example of this is the use of historical empathy. Suggestions for the definition of, instructional models to use, and the benefits of historical empathy are evident (Endacott & Brooks, 2013). These benefits include making better sense of historical situations and decisions or actions by historical figures. The effectiveness of cultivating empathy by modeling the ability to place oneself in another person's shoes is also demonstrated in the use of cultural responsiveness in the classroom (Gay, 2018). The dynamics of teaching culturally responsive social studies content often involves personal stories that allow the learner to make critical human connections to people who share relatable hopes, dreams, struggles, and social issues. Teachers must model the use of empathy if students are to learn how to incorporate it into their thinking. Givens (2021) indicated that empathy isn't really something we are but rather it is something we do or practice.

While completing student teaching amid the social tensions of 2021-2022, I was preparing a lesson to teach my fourth-grade social studies class this year about civic participation in our government unit. Rather than using traditional teaching methods such as guided readings from a textbook, I gave the students a diagnostic assessment asking them if they thought that their voices mattered and if, as elementary school children, they were able to make real changes in the world. Many

students responded that they were just kids and could not have any type of impact because they could not vote, and adults made all the decisions. I showed them a video where they learned about students their age from Oklahoma who in 1958 took a trip to New York and saw an integrated city, returned home to the segregated south, and wondered why they had to live this way. They felt their community was set up wrong. They felt it was unfair that white Americans had more rights than black Americans. The students thought that it was unfair that they could not eat at the same restaurants. So, when they returned home, 7-year-old Ayanna decided to join other students to participate in peaceful sit-ins at locally segregated restaurants to demonstrate that they felt it was unfair to not allow them to eat there simply because of their skin color. We discussed how it must have taken great courage to engage in a sit-in, despite how important it was, knowing that the students would be scared, some people would be angry and disagree, and the students may possibly face physical violence. The students that participated in these sit-ins were met with much resistance but ultimately, they were successful in their efforts. They were eventually served and allowed to eat there and the changes in segregation laws ultimately followed suit. I asked my students after the video if they would have been afraid. What would they have done? I then asked them if there were issues in their communities that they felt were unfair or needed to be changed and what actions they could take to make an impact. Students shared some of the concerns that they felt were unfair such as bullying, dress codes, and freedom of expression for the LGBTQ community, to name a few.

The use of this video and our discussions before and after, is an example of empathy-based learning that will have many positive benefits and provide an empathy-based perspective to learn about civic participation. It allowed the students in my class to put themselves in the shoes of Ayanna and ask themselves how they would feel if they were in that situation. I wanted my students to understand that it was possible to take action and make their voices heard despite being elementary school students. This type of empathy-based teaching is necessary to effectively teach social studies content as well as prepare our students to engage in and cultivate a more empathetic society. Rather than teaching our students to memorize facts and obtain a passing grade, we should be teaching our students how to be more empathetic and view society with a more humanitarian perspective and to do this, empathy-based learning is required. My students learned about civic participation, but this lesson demonstrated how to use empathy to critically think about how things affect all people differently. They were able to use empathy to relate to the struggles of another person and ask themselves what concerns they feel are important to them.

Positive impacts of Utilizing Empathy

There are many indications that support the claim that positive benefits occur as a result of utilizing empathy in education. Increased engagement and participation in learning social studies content has been demonstrated while using historical empathy (Foster, 1999). The students relate on a personal level, so engagement is increased. Utilizing empathy-based teaching methods promotes prosocial behavior and reduces the propensity for school violence. (Kwon, 2013). The use of global perspective-taking is required in higher learning development of preservice teach-

ers. If we are to prepare our students for a more humanitarian worldview, we must prepare their teachers (Rock et al., 2016). Teacher candidates' capacity to develop higher levels of global content into their planning is recommended and plans of action have been researched to assist in this preparation. If the teacher is not prepared to demonstrate these skills, the students cannot reap these positive benefits. In the social studies classroom, each of these empathy-based strategies would positively enhance and support deeper learning of the topics that are covered.

General Empathetic Results

According to Sohravadi et al. (2015), explicitly teaching empathy using training programs, had a positive effect on promoting prosocial behavior and social competence. Sohravadi et al., (2015) evaluated the effect of empathy teaching on aggression and compatibility in sixth-grade students. The empathy training in this study included 15 sessions that focused on topics such as cognitive learning of physiological feelings, recognition of self-knowledge, awareness of situations that lead to negative and positive feelings, identifying personal goals, defining empathy, and what skills are required to engage in it. They concluded that using the training programs to develop empathy had a positive effect on the increase in empathy, reduction of aggression, and social adjustment (Sohravadi et al., 2015). If we want the students in all our content areas to be more empathetic in general and to be socially competent to handle the types of aggression being seen in society today, we need to seriously consider this a priority in our classrooms, particularly social studies classrooms.

Conclusion

The collective outcomes of the evidence demonstrated in this argument imply the benefits to our society would be immense if we include empathy-based pedagogy in our social studies content. The implications are, it could help decrease cultural division, reduce bullying, school violence, and encourage students to understand society from a human, global, and personal perspective (Lee et al., 2018). Engaging in the practice of empathy positively influences the students' view of the world as a whole. Social studies teachers need to be prepared to model this practice for their students. All the methods discussed are important components to include in this instruction. Utilizing empathy in our curriculum, instructional strategies, and discourse is critical for teachers to prepare our students to better understand each other. In the words of Neil deGrasse Tyson, "Part of our formal education should be training in empathy. Imagine how different the world would be if, in fact, it were 'reading, writing, arithmetic, empathy" (The Chalkboard, n.d. para. 1).

References

Bulut, B., & Aslan, S. (2019). The effect of communication and immigration activities in 7th Grade Social Studies course on the empathy skills of students. *Journal of Education and Training Studies, 7*(5), 86. https://doi.org/10.11114/jets.v7i5.4224

Endacott, J., & Brooks, S. (2013). An updated theoretical and practical model for promoting historical empathy. *Social Studies Research and Practice, 8*(1), 41–58. https://doi.org/10.1108/ssrp-01-2013-b0003

Foster, S. (1999). Using historical empathy to excite students about the study of history: Can you empathize with Neville Chamberlain? *The Social Studies, 90*(1), 18–24. https://doi.org/10.1080/00377999909602386

Gay, G., (2018). *Culturally responsive teaching: Theory, research, and practice.* (3rd ed.). Teachers College Press.

Gehlbach, H. (2004). Social perspective taking: A facilitating aptitude for conflict resolution, historical empathy, and Social Studies Achievement. *Theory & Research in Social Education, 32*(1), 39–55. https://doi.org/10.1080/00933104.2004.10473242

Givens, T. E. (2021). *Radical empathy: Finding a path to bridging racial divides*. Bristol University Press. https://doi.org/10.46692/9781447357278

Kwon, S. H. (2013). School violence and empathy. *Humanities Research, 38*, 507–527.

Lee, J., Lee, Y., & Kim, M. H. (2018). Effects of empathy-based learning in Elementary Social Studies. *The Asia-Pacific Education Researcher, 27*(6), 509–521. Https://doi.org/10.1007/s40299-018-0413-2

Rock, T. C., Polly, D., & Handler, L. (2016). Preparing elementary teacher candidates to use global content: An action research study. *Social Studies Research and Practice, 11*(3), 31–44. https://doi.org/10.1108/ssrp-03-2016-b0003

Sohravardi, B. B. H., Barzegar Bafrooei, K., & Fallah, M. H. (2015). The effect of empathy training programs on aggression and compatibility students of elementary schools in Yazd, Center of Iran. *International Journal of Pediatrics, 3*(42), 841–851.

The Blackboard. (n.d.). *Teaching empathy: Essential for students' future success*. Waldorf School at Moraine Farm. https://blog.waldorfmoraine.org/2017/10/teaching-empathy-essential-for-students-crucial-for-humanity/

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Andrea Rodriguez received her associate degree as an RN from Owens Community College in 1996, and BSN from Spring Arbor University in 2008. Her passion to teach science led her to the University of Toledo and obtained her Master of Education in Middle Grades science and social studies in 2022.

Project-Based Learning and the Impact it can Make in Social Studies Content

Allyson Shinaver

Abstract: The purpose of this manuscript is to explore the benefits of project-based learning (PBL), specifically regarding the content area of social studies. It is important for teachers to understand the benefits of incorporating this method. When students are active in the learning process, they are more engaged and curious. Incorporating project-based learning into the classroom can help make the experience more memorable and in result, help the students achieve the learning objectives. This manuscript will address the benefits of this method and provide real-world examples to use within a classroom.

Introduction

Walking into school today, Connor was excited for the first time in a long time. Today was the day his class was beginning to present their projects on cultures around the world. His group chose to research Indian culture. Other cultures that were picked to research included the Chinese culture, Peruvian culture, and Ghanaian culture. This all started when Connor's teacher asked the students to think about what influenced their day to day lives and what was important to them. Was their life the same or different from those across the world? She brought up the topic of culture and asked the students to discuss what it meant to them. Then, she asked them to consider what it would be like if they grew up in a different culture. The students were divided into four groups of five students. Each group had to research the important beliefs and values of the culture they chose, what religion they practiced if any, where their culture is represented geographically, and more. Once their research was concluded, they had to pick a popular dish from their culture, design outfits, find music to play during their presentation, and create a decoration that would be commonly found in the household. Connor's group was the first to present. They were all dressed in colorful sashes, made a chicken curry dish, created a model of an elephant as décor, created a soundtrack of popular songs to play, and brought in henna to demonstrate what a henna tattoo looks like. They presented their artifacts as well as the information they found out about their culture. Once they were done presenting, their classmates were open to ask any additional questions they had about that culture to answer. Connor felt like he and his group learned so much by researching and constructing the different elements as a team with little support from the teacher. He was excited to listen and learn about the cultures his classmates chose to research and how they were different from his group.

What is the most memorable experience you had with learning in school? Do you remember the information from a textbook that you had to read? Do you remember the worksheets you had to complete? For some of you, you may remember every detail of your school experience. While for most of you, you may only remember those moments where you were involved in a hands-on activity where you were in charge of your own learning. Personally, I know that my most memorable

moments in school were when I was active in the learning rather than listening to a lecture. Everyone learns in a variety of ways, but when you are engaged and in charge of the process, you will likely take more pride and interest in the work you are doing. Students may thrive in the learning style of visual, auditory, or kinesthetic. In project-based learning, students may be involved in all the learning styles rather than one alone.

There are many students who do not enjoy learning social studies content because it typically means reading a textbook. According to Strauss (2017), a study done in 1982 showed that students were "largely indifferent" or had "negative attitudes" towards social studies (para. 1). She goes on to say that based on what teachers and students say now about social studies, not much has changed (Strauss, 2017). This lack of interest can often lead teachers to let this content area slip through the cracks and focus more on other subjects. It is important for teachers to know that this does not have to be the case. The topic for this paper focuses on project-based learning which allows students to be in charge of the learning, in result creating a more memorable experience and enhancing their learning experience. Knowing how to successfully integrate project-based learning into the classroom can lead to success for not only the teacher, but the students as well. This manuscript will help teachers realize the value of project-based learning as well as how to successfully incorporate it within their own classroom. Project-based learning can be used in all content areas, but for this paper, I will specifically discuss the benefits it can bring regarding the content area of social studies.

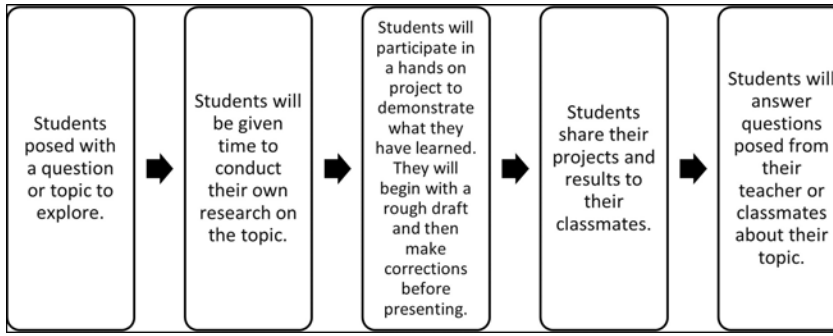
What is Project-Based Learning?

Project-based learning revolves around the students leading their own educational development. Markedly, in an article published by Buck Institute for Education (2022c), they declare that "project-based learning (PBL) is a teaching method in which students learn by actively engaging in real-world and personally meaningful projects" (para. 3). The students are often posed with a question or topic, and then are challenged to think, research, communicate, and present their findings. Unlike traditional projects where students make a PowerPoint or poster at the end, project-based learning involves students creating as they learn. Figure 1 illustrates the process that takes place through project-based learning. The students are in charge, but the teacher is there to offer support or suggestions if needed.

There are several qualities that need to be addressed when students participate in a project-based learning lesson. For instance, Buck Institute for Education (2022) declares there are seven essential project design elements. These seven elements include: a challenging problem or question, sustained inquiry, authenticity, student voice and choice, reflection, critique and revision, and finally, a public product (Buck Institute for Education, 2022b). These elements are crucial to the process, but the main focus should always stay on the students' learning goals. Regarding teaching a project-based learning lesson, there are also seven practices noted. These teaching practices include: designing and planning, aligning to standards, building the culture, managing the activities, scaffolding student learning, assessing student learning, and finally, engaging and coaching (Buck Institute for Education, 2022c). Just like for the students, the main focus for the teaching practices is the students' learning goals.

The teacher is there to offer support but ultimately leave the research and creativity up to the students. Once the students present their project, the teacher can assess whether the students were able to meet their learning objectives by the information presented. Students enjoy participating in project-based learning lessons because they have more engaged hearts and minds, deeper learning, have exposure to adults and their careers, learn success skills, build teacher relationships, and get to be creative and often use technology (Buck Institute for Education, 2022c).

Figure 1
Project Based Learning Process



Why is Project-Based Learning Important?

Project-based learning is beneficial in many aspects. For one, it helps students take charge of their own learning. "Project-Based Learning engages students in learning that is deep and long-lasting and inspires for them a love of learning and personal connection to their academic experience" (Buck Institute for Education, 2022d, para. 1). Students are the ones who are doing the exploring and research to find the unanswered questions they have. By allowing students to do their own research, it builds a sense of pride they feel in their work and encourages them to do their best. Project-based learning can also help children learn and adapt to real life situations.

> PBL can be transformative for students, especially those furthest from educational opportunity. Now more than ever, we need people who are reading, willing, and able to tackle the challenges of their lives and the world they will inherit- and nothing prepares them better than project-based learning. (Buck Institute for Education, 2022d, para. 3).

In many project-based learning lessons, students work together in groups and have to take each other's ideas and opinions into consideration. Not only can it improve their group work skills, but depending on the standard, students can learn life skills such as the importance of money, how one person's actions can change the world, how their vote matters in their government, and more. It enhances the quality of learning because learners are engaged in the process and are using the knowledge they are gaining to make something great out of it. Lastly, it has been shown to increase pass rates. Terada (2021) notes that "in a new gold-standard study of 3,645 students in five school districts, students in project-based learning advanced placement classes outperformed those in traditional advanced placement classes, improv-

ing test pass rates by eight percentage points" (para. 13). This specific article studied the benefits at the AP level. More research would be needed to conclude if it would have the same effects in typical classrooms, but I think the potential is possible.

Real World Examples of Project-Based Learning Lessons

Quilting Your County

For this project, students are in charge of creating a quilt that represents their city, county, or state. Students have to consider geographical concepts of where buildings and landmarks are located in relation to each other. An example of this can be seen in an article written by Nieberding (2017), where students had to make a quilt of their own county. The students were posed with the questions, "What do we know about our surrounding county? What can we learn using online technologies? How can we show what we learned by making a quilt, and what can we learn about quilting along the way?" (para. 1). Students first researched the historical importance of quilts, how they were used, and what they were used for. Then, each student was each given at least one square (some received two), and coordinates within their county to research. If a student was not familiar with the area they were given, they would consult with other classmates, look it up on Google Earth, and some even went to visit their location. Nieberding (2017) concluded that:

> Throughout the course of the project, students negotiated the space between practice-led research and research-led practice. At times they leant toward research as the guiding force-carefully examining the contents of the map squares-and at other times the communal experience of knowledge-building through connecting pieces of fabric guided the learning experience (para. 6).

In other words, this project allowed students to partake in a variety of ways of thinking to construct their quilt. They had to think critically, abstractly, and creatively to create their finished product. Following the essential elements design (Buck Institute for Education, 2017), the students were posed with the question of representing their county, went through the inquiry process of researching how a quilt would qualify for representation, looked up different locations in their county, critiqued their rough draft quilt, and then moved squares to better represent their actual location.

Class Election

Holding a class election can help students better understand how our government works. A teacher can begin this process by asking children what their previous knowledge is of our government, how elections work, and what public figures are in charge of. The teacher will then declare that they will have an election within their own classroom. Students will begin to brainstorm different public figures that they can have within their classroom to help it run more smoothly. For instance, they could elect a fellow classmate to be the class president to help vocalize the students wants, needs, and concerns. Then, students will be asked to nominate themselves for election if they want to run for the office position. Those who volunteer will

have to create their own campaign, including a slogan and ideas on how they would change the classroom. Students in the class who do not want to run for the election will have to pick a participant who is running and help them with their campaign. As a group, they will be in charge of researching what it takes to run and participate in an election and begin their work of posters and advertising. Once the groups have finished up, they will present their campaign to the class. Once each group has presented, there will be an election. Each student will be allowed to vote only once, and the results will be counted by the teacher. When the winner is announced, they will be in charge of holding that elected position in the class for the remainder of the year. The goal of this lesson is to open up discussions about our own government and elections as well as compare our government and election to other countries and leaders.

Starting a Business

The planning that goes into starting a business deals a great deal in the area of economics. Students have to understand how to create a product that others would want to buy, as well as weigh the components of cost, production, and profit. They have to consider who their target audience is, where they are going to sell their product, what kind of money and time they will put into advertising, and the many other aspects that go into creating your own business. Buck Institute for Education (2022) gave an example on how a 5th grade class participated in a lesson just like this. I participated in a lesson very similar to this. In my 7th grade social studies class, we were separated into groups. The goal was to create a business where our product being sold was bracelets. Each group got to choose their colors and design as well as decide on a price we would sell our bracelet for. After each group had made their bracelets, all of the 7th graders set up a "business" table in the cafeteria. We had posters with our business name and colors on it. The 8th grade class was each given five "dollars" to spend on bracelets. The goal for the 7th graders was to sell more bracelets than any other group. So, each group had hoped that they had picked colors and a design that appealed to the public, as well as walk around and advertise better than any other group. The group who sold the most bracelets and made the most money won and was deemed as the best business. This lesson taught real world lessons on the value of money, the work it takes to create a business, and how to work together as a group. This project used several elements from the essential project design elements including "posing a question" and "voice and choice" of a product they would want to buy as a consumer, "sustained inquiry" to learn about the different elements that go into creating a business, and finally producing a "public product" as a result (Buck Institute for Education, 2022a, paras 3-8).

Opposition to Project-Based Learning

Although there are many benefits to project-based learning, there are those who oppose its methods. Lombardi (2018) lists concerns from critics including: students not learning all the required material, a lack of time to complete a project with substance, and a lack of consistency on coursework expectations. In other words, teachers and/or parents may think that the amount of time it takes to complete a

project of this nature may create a hole in the material where the students do not get exposed to all the information required. Further, they may think that since the learning and experience is lead primarily by students, there may be students who take advantage of this and do not put in the amount of effort they are capable of.

Those in Favor of Project-Based Learning

There will never be a one-size-fits-all strategy in teaching. Just like all teaching methods, there will always be room for improvement, however, project-based learning has shown great benefits for learners. Although it is normal for parents and teachers to have concerns about giving students too much freedom, it has been proven how beneficial project-based learning can be within the classroom. Just like every lesson, the questions or topics posed for these assignments and learning standards are picked specifically for the grade level being taught in order to ensure that it is not too difficult for the students to complete. Further, the students may be the one doing the research, but that does not mean the teacher is not there to check their research. If the students misunderstand a concept, the teacher is there to jump in and offer suggestions on how to better represent their data or correct their misinformation. In fact, by allowing students to conduct their own research, they are developing a life skill of double-checking their answers and facts. Also, they are rarely ever conducting these projects independently; they are typically done in a group setting. To diminish the fear of project-based learning, Larmer (2018), declares that "it's important to note that PBL can work for all students; it should not be reserved for those who have higher levels or who are fluent English speakers" (p. 23). Students are capable of achieving more than some people and parents give them credit for. This style of teaching and learning can be achieved by all children because they are the ones who dictate the level of learning achieved. To further emphasize the benefits, Chen and Yang (2019), declare that results of students who participated in project-based learning assignments showed a medium-to-large increase in students achievement scores. With this in mind, I think the benefits of project-based learning outweigh the concerns raised.

Conclusion

Project-based learning can be used in every classroom regardless of the content area being taught. As shown in this essay, the possibilities of project-based learning lessons that students can participate in rather than reading a textbook are endless. These project-based learning activities in social studies allows students to make personal connections to content they may have previously saw as boring and helps enhance their overall learning by being engaged in the process. Project-based learning sets students up for success in more ways than one. It helps the students build real life qualities such as learning to work as a team, learn the value of money, the impact their decisions could have on the world, and more. Students show a desire and motivation to complete their assignments to the best of their ability and enjoy the process while working with classmates to create something they are proud of. Therefore, project-based learning lessons should be integrated into every social studies classroom.

References

Buck Institute for Education (2022a). *Gold standard PBL: Essential project design elements. PBL Works*. https://www.pblworks.org/what-is-pbl/gold-standard-project-design

Buck Institute for Education (2022b). *Gold standard PBL: Project based teaching practices. PBL Works*. https://www.pblworks.org/what-is-pbl/gold-standard-teaching-practices

Buck Institute for Education (2022c). *What is PBL? PBL Works*. https://www.pblworks.org/what-is-pbl

Buck Institute for Education (2022d). *Why PBL? PBL Works*. https://www.pblworks.org/why-project-based-learning

Chen, C., & Yang, Y. (2019). Revisiting the effects of project-based learning on students' academic achievement: A meta-analysis investigating moderators. *Educational Research Review, 26*, 71-81. https://www.sciencedirect.com/science/article/pii/S1747938X19300211

Larmer, J. (2018). Project-based learning in social studies. *Social Education, 82*(1), 20-23. https://www.socialstudies.org/social-education/82/1/project-based-learning-social-studies

Lombardi, P. (2018). *Instructional methods, strategies and technologies to meet the needs of all learners*. PB Pressbooks. https://granite.pressbooks.pub/teachingdiverselearners/

Nieberding, W. (n.d.). *Quilting our County: Fusing Research and Art Making in the Classroom*. Stephen F. Austin University. Retrieved from: https://scholarworks.sfasu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1056&context=brightideas

Strauss, V. (2017, May 17). *Why so many students hate history-and what to do about it*. The Washington Post. Retrieved from: https://www.washingtonpost.com/news/answer-sheet/wp/2017/05/17/why-so-many-students-hate-history-and-what-to-do-about-it/

Terada, Y. (2021). New research makes a powerful case for PBL. *Edutopia*. Retrieved from: https://www.edutopia.org/article/new-research-makes-powerful-case-pbl

About the Author

My name is Allyson Shinaver. I graduated from the University of Toledo in 2019 with a bachelor's degree in criminal justice. I am in the process of getting my master's degree in early childhood education. After graduating, I ideally would like to be in a 3rd or 4th grade classroom.

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