International Journal of Social Policy and Education
Vol. 3, No. 11; November, 2021. pp 33-48
ISSN 2689-4998 (print), 2689-5013 (online)

Published by International Center for Promoting Knowledge

# Curriculum Inquiry: Untangle, Include, & Start Early
# Stop Reifying and Start Reshaping Elementary School Curriculum

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## Abstract

*For LGBTQ+ students to find success in schools, curriculum must be intentionally designed and implemented. In this position paper, we first highlight how curriculum serves as the mechanism by which schools ultimately shape and cement ideas about the world. Next, we showcase how when curriculum is both designed and implemented using what we have defined as curriculum inquiry – a model of curriculum design that shifts essential questions and analyses beyond mere inclusion – LGBTQ+ students are more likely to find success in school. We call for a three-step process of untangling and then including sexuality and gender across multiple disciplines. By starting this process early in elementary school, students are asked to think critically about how gender minority roles are built, defined, and fulfilled by social and cultural norms. Our three-step process implores students to examine how gender minority roles vary from culture to culture and how gender and sexuality (and their intersection with ethnicity, race, and socioeconomic class) affect the way we are perceived and expected to behave in society. Lastly, we provide educators with practical examples of how they can use curriculum inquiry to repair damaged or incorrect student beliefs that reinforce a strictly binary system so schools and classrooms can become a place where children are free to express themselves confidently, appreciate others, and live harmoniously.*

***Keywords:*** LGBTQ, sexuality, gender, curriculum, elementary school

## *Introduction*

Public schools typically serve as a representation of society (Dewey, 2016), sometimes reifying and sometimes reshaping the social order (Bickmore, 1999; Goodman, Kuzmic, & Wu, 1992; Hauver, 2019). Schools have become one of the most powerful systems and institutions because they often serve as the authority on which ideas are discussed, which stories are conveyed, and which issues are examined. Curriculum serves as the mechanism by which schools define the rhetoric, determine whose stories are told, and ultimately shape and cement ideas about the world (Molapo& Pillay, 2018). Therefore, as Dewey (2016) acknowledged, it is critical that curriculum be designed in a manner that reflects the democratic society in which we live. Curriculum should act to enrich students' minds, refine their sensibilities, and help develop an efficient, practical application of what is learned to the world in which they live (Bobbitt, 1918). For the world to become a place where children are free to express themselves confidently, appreciate others, and live harmoniously, curriculum must be representative of all students.

Schools must help break down the stereotypes that fuel discrimination and harassment, across all aspects of identity. In addition to race and class, both sexuality and gender need to be at the forefront of teaching and learning (Shlasko, 2005; Smith & Payne, 2016). This can be done when educators liberate their students' curiosity and allow students to discuss sex, gender, and sexuality (Gunckel, 2019). Normative gender roles and heteronormativity are being formed at early ages (Epstein & Johnson, 1998; Renold, 2005; Thorne, 1986), but curriculum used to explicitly and discretely teach about sexuality and gender to elementary children is often not utilized until the prototypical sex ed unit in seventh grade (California Department of Education [CDE], 2020). Instead of learning from intentionally constructed curriculum plans supplied toeducators, students continue to gain information about gender and sexuality from the media and their peers, leaving them vulnerable to misinformation and bigotry (Bickmore, 1999; Robinson, 2013).

In actuality, the lack of sex and gender curriculum employed by schools keeps elementary school children in the dark about an integral component of human development (Britzman, 2000; Gunckel, 2019). However, when schools teach LGBTQ-inclusive curriculum and create inclusive environments, all students, including heterosexual, LGBTQ, and gender non-conforming students (Toomey, McGuire, & Russell, 2012) feel safer, experience less victimization, report hearing fewer homophobic slurs (Kosciw, Greytak, Diaz, &Bartkiewicz, 2010; Kosciw, Greytak, Bartkiewicz, Boesen, & Palmer, 2012; O'Shaughnessy, Russell, Heck, Calhoun, & Lamb, 2004), and experience greater peer acceptance (Kosciw et al., 2012). Thus, schools across the world, albeit slowly, are taking notice and seeking innovative and meaningful ways to address this growth in understanding.
While law and policy are important and integral components in transforming the experience of gender minorities[1] in schools, it is curriculum reform that has true potential to dismantle gender stereotypes and create space for gender minority youth to thrive. Elementary school students can be taught to question traditional gender roles and stereotypes, to question oppressive and exclusionary gender systems, and contribute to classroom environments and spaces where they understand that gender is complicated (Ryan, Patraw, & Bednar, 2013). When teachers scaffold curriculum thoughtfully, environments can be constructed where students are more comfortable and accepting of gender minority youth. In the same way that the history,identity, and experiences of sexual minorities should be included in elementary school (Hartman, 2018; Souto-Manning & Lanza, 2019), curriculum must be intentionally designed so children examine how gender roles have historically been built, defined, and fulfilled by social and cultural norms in context. Gender and sexual diversity can be taught like any other social issue being discussed or learned in elementary school (Ryan et al., 2013). Students must be exposed to curriculum that rebukes historical gender stereotypes and works to help students better understand differences between terms such as gender non-conforming, transgender, non-binary, and gender fluid that are rarely explicitly taught outside of Gender Studies classes. Students need to learn how historically gendered roles were constructed and be given opportunities to evaluate how gender might play a role in the future.

Curriculum has the power to transform schools, and therefore society. The following discussion includes illuminating historical steps at curriculum reform and uncovers the two-steps-forward-three-steps-back reality of addressing gender and sexuality across disciplines in elementary school. This heretofore failed attempt(s) at curriculum revolution leads us to our suggested three-step plan needed to highlight the tenets of a gender minority-inclusive curriculum, across disciplines, in elementary school. In this way, elementary schools can meet the goal of becoming places where children – all children – are formed as democratic citizens and be true forums that have the power to transform the social order.

## *Curriculum Revolution – Why Not?*

Society continues to evolve into a more complex and nuanced space. Schools have become more diverse than ever, flooded with never-before-seen racial and gender diversity. For instance, terms to identify the over 150,000 school-aged children in the United States that identify as transgender (Flores, Herman, Brown, Wilson, &Conron, 2017) are changingregularly. In some of the largest school districts, as many as 75% of the students identify as Latino (Los Angeles Regional Education Consortium [LARAEC], 2018). As a result of the changing landscape, educational leaders have sought to standardize curriculum to create learning environments that are equitable and inclusive for all.

[1] In thisdiscussionweutilizethetermgenderminorityyouth (GMY) to describe thecollectivetermtoreference LGBTQ youth, oranyyouththatidentifiesoutside a standard binary, including, butnotlimitedto, individualswhoidentify as lesbian, gay, bisexual, trans*, genderqueer, bigender, agender, orgender fluid.

Educational leaders have worked to reform curriculum in an effort to create opportunities for students of all backgrounds and identities. Beginning in 2010, the National Governors Association Center for Best Practices (NGA) and the Council of Chief State School Officers (CCSSO), developed the Common Core State Standards (CCSS) for both English/Language Arts (ELA) and mathematics. This reformed curriculum prioritizes the importance of independent thinking, academic achievement, and college readiness. In ELA, students are now required to read texts through a more critical lens, use language effectively to explain phenomena across various content areas, and use evidence-based reasoning to support their thinking (CCSS, 2021).

In addition to a focus on ELA, math curriculum is now designed, organized, and structured to better prepare students for college and career readiness. Curriculum goals are aimed at encouraging students to learn math in an effort to keep the American economy strong, forge ahead in the competitive world marketplace, and maintain capitalistic American ideals (Rands, 2019). According to the Council of Chief State School Officers [CCSSO] (2021), American math education needed to prepare learners for the global economic workplace. Since its inception, over forty states have committed to using these new math common core standards (CCSS, 2021) creating a national narrative that has shaped education for hundreds of thousands of young people.

While the CCSS prioritizes college readiness and long-term fiscal success, educational reformers also noticed how social studies classrooms across the nation were now populated bystudents with diverse gender and sexual identities, as well as more intersectional racial backgrounds. These leaders understood the American school system had become an amalgam of different experiences and ideas. Social studies classrooms could no longer be a place where content mastery was the only learning goal. In fact, research posits that the many students of color that occupy these social studies classrooms feel a lack of support or acceptance from their peers (Van Ryzin, Roseth, &McLure, 2020) and racial slurs and prejudice continued to be heard throughout schools (Miller & Sessions, 2005; Van Ryzin et al., 2020). In addition, most gender minority students believe there are no allies or supportive figures (Kosciw et. al 2018) at school and also believe that faculty are indifferent to bullying (Jones et al., 2016; Kosciw et al., 2018).

Agencies such as the National Council for the Social Studies (NCSS) began to reform social studies curriculum so educators could employ instructional material that unites these 21st century multicultural classrooms and fosters mutual respect. This revised curriculum framework was devised in a manner that positioned multicultural education at the center of a democratic education, aiming to help children see the interconnectedness of their identities, hoping this would foster civic responsibility and mutual respect (National Council for the Social Studies [NCSS], 2013). The latest iteration of the social studies curriculum revolution, the C3 Social Studies Framework (College, Career, and Civic Life), cemented the importance of social studies curriculum being designed to support underrepresented students. The C3 Framework implores students to learn how to apply civic virtues, cooperate, and be attentive to multiple perspectives (NCSS, 2013), so that children would not only be prepared for careers and economic success, but to also better understand each other.

Educational policy also took note of this changing world. States across the country began to implement laws that would require curriculum to include the stories of marginalized groupsand underrepresented groups. For example, in January 2012, the FAIR Education Act was enacted in California, requiring the addition of curriculum that demonstrates the economic, political, and social contributions of LGBTQ individuals to the development of California and the United States (Knotts, 2012; Leno, 2013). This legislation also requires governing bodies to use curriculum that includes how bisexual and transgender Americans, persons with disabilities, and members of other ethnic and cultural groups helped in the development of California and the United States.

## *Reality of the Revolution*

Despite these kinds of monumental steps taken by curriculum developers and policy makers in creating equitable and inclusive space in schools for all, it has done little to help those estimated 150,000 children in the United States between the ages of 13-17 now identifying as transgender (Flores et al., 2017). In fact, as recently as 2017, the Trump administration rescinded the rights of transgender students to be identified by their chosen gender identity forcing individual states to develop their own guidelines for educating transgender and gender nonconforming youth (e.g., Massachusetts Department of Elementary & Secondary Education, 2017; Whalen & Esquith, 2016). Some parents and religious leaders have also not received policies such as the FAIR Act with open arms. Reverend Louis Sheldon, of the Traditional Values Coalition, encouraged the people of California to

decide if they want pro-homosexual content in their child's textbooks (CNN, 2011). Moreover, supportive LGBTQ policy often overlooked the intersectionality of other identities creating more questions than answers (Marquez &Brockenbrough, 2013).

Despite the attempted curriculum revolution, the lack of institutional or systemic support has resulted in over half of students (54%) who were out or perceived as transgender in K–12 reporting being verbally harassed, nearly one-quarter (24%) reported being physically attacked,and 13% reported being sexually assaulted because of being transgender (James, Herman, Keisling, Mottet, & Anafi, 2019). Discriminatory practices range from being prohibited from discussing LGBTQ topics for school assignments or being prevented from attending a school function with someone from the same gender, and often lead to high levels of victimization, lower levels of self-esteem, high levels of depression, and rarely having the sense of school belonging (Kosciw et al., 2018). These hostile school climates result in severe peer-victimization based on gender expression; GMY report both letter grades and grade point averages (GPAs) that are considerably lower than students who experience lower levels of victimization (Aragon, Poteat, Espelage, & Koenig, 2014; James et al., 2019). Research has also noted that hostile school climates that include severe harassment based on gender expression greatly reduce the educational aspirations of GMY and decrease the desire for post-secondary education (James et al., 2019; Kosciw et al., 2018).

### *Failed Revolution*

Despite living in a world where there is heightened representation and consciousness about gender identity, the curriculum revolution clearly did not foster the desired civic virtues nor career readiness it was intended to produce. In fact, scholarship has argued that the revolutionized math curriculum, in particular, was alienating GMY more than they already were. By using curriculum that could be seen as neutral, or absent of the social and cultural influences of other disciplines (Dubbs, 2016; Kumashiro, 2004; Rands, 2009, 2013), the reformed curriculum was actually strengthening the binary and silencing the other. When GMY were being exposed to curriculum that was meant to be void of subjectivity and based in proof and evidence (Dubbs, 2016; Rands, 2009, 2013), their experiences were not affirmed. When mathematical theories that cement phenomena were designed in spaces fueled with rigidexpectations around gender and sexuality identity, many LGBTQ individuals were not interested in pursuing careers in STEM[2] (Aramati, King, Atadero, & Fuselier, 2020; Freeman, 2020; Yoder &Matthies, 2016).

To further illustrate why the curriculum revolution failed GMY, one can simply look at how agencies such as the CCSS designed curriculum that was meant to support career readiness but did not take into account that the global workplace that they were preparing children for had become more diverse than ever. With just under 5% of the population identifying as LGBTQ (The National LGBTQ Workers Center, 2021) the need to incorporate curriculum that explicitly shares the stories of LGBTQ individuals is more paramount than ever. Yet, the reformed C3 Framework rarely explicitly discusses LGBTQ content and standards tend to omit representation and recognition of LGBTQ content (Camicia& Zhu, 2019; Schmidt, 2010); LGBTQ issues or injustices experienced by LGBTQ individuals are never directly addressed (Schmidt, 2010).

With the latest curriculum revolution failing to provide explicit and well-designed curriculum that would support GMY and create affirming and inclusive classrooms, teachers have been forced to decide when and how (if at all) to implement LGBTQ content into classrooms (Schmidt, 2010). This lack of intentionally-designed, inclusive curriculum provided for teachers to guide their instruction conflicts with well-documented research that posits elementary schools serve as gendered spaces and play a key role in gender socialization and construction of sexuality (Epstein & Johnson, 1998; Renold, 2005; Thorne, 1986). In fact, the American educational system still provides teachers with neutered curricula aimed at upholding the innocence of children (Epstein & Johnson, 1998; Renold, 2005; Robinson, 2008). For example, in 2020, The California Department of Education (CDE) developed new health andsexual education standards that mandated all students must be taught sexual education starting in seventh grade with no mention of gender or sexuality instruction in elementary education. The most cutting-edge, innovative curriculum was designed in a manner where teachers, still often viewed as non-sexual, virtuous mother figures whose job it is to keep children from the dangers of sex and sexual knowledge (Epstein & Johnson, 1998;

[2]Anacronymusedto describe thefieldsofscience, technology, engineering, and math.

Renold, 2005; Robinson, 2008), had to determine when and how to teach these complex ideas to children. Not only was this unfair to teachers, the children do not get what they need.

## *Gender Inclusive Curriculum*

To truly transform the landscape of education where children's true selves can grow and schools reflect what is happening in the world (Goodman, Kuzmic, & Wu, 1992), curriculum design must be developed using the theoretical framework known as Queer Theory. Defined by Block (2020), teaching queerly is using curriculum that embodies fluid and authentic lesson plans, objectives, and standards that challenge thinking that categorizes people and demands exploring taken-for-granted assumptions about diversity (Letts & Sears, 1999). Moreover, gender-inclusive curriculum must use affirming language that has no bias and does not normalize a binary in gender expression in children (Surtees, 2005). Since schools often teach both values and content that is never openly discussed or acknowledged (Apple, 1990), gender-inclusive curriculum must also have LGBTQ content concretely and intentionally built into lessons so that students and teachers alike can acknowledge the struggles of gender minority youth and hopefully empathize (Blackburn, 2005). Gender-inclusive education cannot be left to the teacher to determine when and what is appropriate to teach.

**Curricular in-queery.** While representation of LGBTQ content can serve as a great start to dismantling, changing, and transforming norms (Rands, 2009), it has been noted thatrepresentation alone does little to alter and break down the heteronormative and cisnormative narratives that plague classrooms (Gunckel 2009; Rands 2009, 2019). When representation is solely done in an "Add Queer and Stir Method" that simply layers LGBTQ content on pre-existing topics it leaves dominant notions of heteronormativity intact (Rands, 2009, 2019; Waid, 2020). Teachers hoping to break down the boy/girl binary or challenge norms of typical family structures cannot just change the family to have two moms or simply remove gender altogether (Waid, 2020). Nor, can a teacher just use queer symbols such as the Pride Flag or the Transgender Flag to discuss fraction concepts or lines of symmetry (Rands, 2009) to truly queer mathematics, for instance. Teachers must use a more dynamic strategy known as mathematical in-queery.

Coined by Rands (2009) mathematical in-queery is defined by pushing beyond binaries, questioning the (selective) tradition in the world of mathematics, as well as using mathematics to pose questions about the world and imagine new possibilities. It means to move beyond inclusion and means to interrogate normativity and is a model of instruction that begins to examine the intersectionality of math and social issues such as gender in greater detail while challenging the normative notion of identity (Dubbs, 2016). Queering math means moving beyond binaries and encouraging students to use mathematics in a manner that questions the traditional sense of math and seeks out meaning and new possibilities for the world (Rands, 2009). We suggest adopting this in-queery model for all curriculum.

To truly employ curricular inqueery, teachers must ask students to dive deeper and move past basic computation or acceptance of texts and rote historical "fact" as de-contextualized. Students need to evaluate problems, content, and subject matter and examine typically taken-for-granted norms. One example educators can use to better represent LGBTQ students is Waid and Turner's(2021) six cross-disciplinary questions of interrogative math, which could be applied in multiple disciplines. This process begins by asking students to critically analyze the problem that is given by asking students to first take note of what they notice and what they wonder. The process continues by requiring students to identify the context of the problem and identifying what genders are being represented. The interrogation also requires students to note how the genders are being represented and who is included in the representation. The students must also ask themselves who is being excluded, intentionally or not. The process then moves students to ask themselves what other genders there are and what would adding other gender identities that are outside the wo/man binary do to their understanding of the context or the problem. Using this as a cross-disciplinary approach allows the teacher to gain a better understanding of whether students are internalizing concepts such as gender fluidity as well as gives teachers an opportunity to further dismantle the norms or broaden a student's conception of gender.

Rands (2019) provides examples that prove more effective than strictly representation, one of which suggests students could investigate straight and queer representations in books in their school library. To begin, the teacher could ask the students to identify what fractions of books mention LGBTQ content. Students could analyze the

difference in picture books and chapter books. Moreover, students could continue their analysis comparing the numerical differences to those of their own classroom library or the public library. Next, the teacher could have students build on their data collection and use their findings to write letters or invite parents and other members of the community to a meeting where the need for acquiring more LGBTQ literature is discussed.

This queering and critical inquiry of the questioning process moves students in developmentally appropriate and discipline-specific ways toward a broader understanding ofboth gender and sexuality. This in-queery process prompts our three-step guide to a more inclusive curriculum.

**Step 1: Untangle Sexuality and Gender.** To better understand the need for a more systemic, structured curriculum design that truly supports and affirms students who identify outside the binary, we can look back almost sixty years as both scholarship and popular culture began to develop a growing understanding about sexuality and gender. Due to the changing social climate resulting from the Civil Rights movements in the 1960s, the landscape of American education began to shift. Scholarship began to take note of the need to create a more dynamic and inclusive curriculum that would meet the needs of various ethnic and marginalized groups by exploring their needs, aspirations, cultures, and histories (Banks & Banks, 1993). In what would quickly become known as multicultural education, this framework promoted educational equity and social change (Nieto, 2010). Grant (2014) suggested that when multicultural education took form it was meant to challenge the oppressive systems that were in place, not just take old or existing ideas and rebrand them. Multicultural education had the potential to empower students of diverse backgrounds to enact significant and meaningful social reform (Sleeter, 1991).

Despite this monumental step in increased awareness of the complexity of race, and the added scrutiny on gender and eventually the need to introduce LGBTQ experiences into the classroom, multicultural education systems still viewed gender through the dichotomous lens of masculine/feminine, leaving no space for anybody who identified outside this binary. It was not until the emergence of Queer Theory that the space for gender minorities grew. Initially, Queer Theory questioned, displaced, and reframed the conceptual paradigms around sex (Case & de Lauretis, 1991). By challenging the heterosexist underpinnings of sexual pleasure and desire thatis pervasive in academia it opened the door for transgender studies and non-normative expression (Halperin, 2003). Queer Theory began to push educators to examine their own practice and identify where and how they reinforce gender or support traditional notions of heterosexuality (Meyer, 2011). Queer Theory also shed light on the need for all sexualities and genders to be brought into the discourse, not limited to gays and lesbians (Butler, 1990). Curriculum must address these emerging understandings and help craft developmentally appropriate use of ever-growing terminology and sociocultural changes involving sexuality and gender.

**Step II: Include Sexuality & Gender!** With sex and gender already present in children's lives, any curriculum aimed at protecting children's innocence is outdated at best because children's sexual knowledge and curiosity cannot be kept from children even if curriculum is intentionally built to do just that (Bickmore, 1999). Many developmental psychologists agree that between the ages of two and three children's core gender identity develops for both transgender and cisgender children (Martin & Ruble, 2014; Olson, Key, & Eaton, 2015). Additionally, it has been extensively documented that by the age of three, children are well-aware of gender stereotypes, strong enforcers of these stereotypes, and demonstrate strong same-gender preferences (Martin &Fabes, 2001; Martin & Ruble, 2014; Trautner, Ruble, Cyphers, Kirsten, Behrendt, & Hartmann, 2005). Moreover, research has posited that children between the ages of three and twelve use gender-type, not assigned sex at birth, as the driving force in social interaction. For example, girls prefer socially-transitioned girls (natal boys) to boys and boys preferred socially-transitioned boys (natal girls) to girls. Furthermore, research suggests that transgender children have a pattern of gender development associated with the identified gender, not their sex at birth (Gülgöz, Gomez, DeMeules, Olson, & Butler, 2019; Gülgöz, Glazier,Enright, Alonso, Durwood, Fast, Lowe, Chonghu, Heer, Martin, & Olson, 2019). Curriculum must actively include, address, and integrate diverse examples of gender and sexuality across a variety of contexts.

**Step III: Begin Early.** When is the right time for curriculum to address the intersectionality of gender and sexuality and the world? According to Vygotsky (1978), upper elementary students are in the midst of middle childhood development where social behaviors are best learned at school. In these formative years, elementary students still rely heavily on their teachers as their moral compass (Kohlberg, 1971) and learn primarily from the modeling and observations around them (Bandura, 1977; Vygotsky, 1978).

During this stage of cognitive development, children have emerged from their ego-centric state and are beginning to understand how others might experience an event and are more aware of external events and situations that do not necessarily involve them (Piaget, 1972). But if students across the developmental trajectory of elementary school grades saw representation and learned accurate terminology about gender minorities in their classroom, they would be more likely to embrace these ideas than children who waited until seventh grade. Thus, the curriculum in elementary school is an optimal place to begin discussing gender and sexuality (Goldman, 2011; Hartman, 2018; Venketsamy&Kinear, 2020).

### *Practical Application of Gender Inclusive Curriculum*

Now that the basic requirements of gender- and sexuality-inclusive curriculum have been addressed broadly, this section will highlight how discipline-specific curriculum can be developed and implemented so the binary is dismantled, and affirming and inclusive spaces are created for all learners in the multiple disciplines of an elementary classroom.

**Inclusive ELA.** Literacy classrooms ask students to foster a comprehensive set of skills that includes reading, writing, listening, and speaking. Classroom teachers are tasked with implementing curriculum that requires students to be open-minded yet discerning and to question an author's or speaker's assumptions and premises (CCSS, 2021). Yet, under 40% of students saw positive representations of LGBTQ-related topics in their English classes (Kosciw et al., 2018) even when ELA instruction has the potential to disrupt the dominant narrative and give students space to explore gender identity (Kedley, 2015). In a 2005 study by Blackburn and Buckley where 600 schools were analyzed for representation of LGBTQ content, under 10% of schools provided students the opportunities for these skills as they relate to the experiences of people who identify as LGBTQ in ELA classrooms. As a result, Blackburn (2005) stated that due to the heterosexist nature of schools, the literacy skills of LGBTQ are impeded.

Reading, and the power of story, is about building tools for communication and change (Ryan & Hermann-Wilmarth, 2018). Thus, inclusive ELA curriculum can offer students a variety of experiences to learn about varying characters and narrators who define themselves or are identified as LGBTQ as well as help children better understand identity (Blackburn & Buckley, 2005; Kedley, 2015). This can begin as early as the primary grades with teachers using picture books that embrace marginalized individuals and groups, including non-traditional families and LGBTQ characters (Knoblauch, 2016). Older children can be introduced to chapter books that have LGBTQ characters and start to explore the issues of power (Hermann-Wilmarth, Lannen, & Ryan, 2017). The characters in the stories help normalize the experience of LGBTQ youth, thus affirming their experience (Knoblauch, 2016). Engaging in critical reading of LGBTQ content also helps students garner complete control of the English language (Bryce, 2019). Research has also noted that literature gives space for instruction around key terms that relate to LGBTQ content such as cisgender and transgender (Hermann-Wilmarth et al., 2017). In conjunction with the CCSS that want students to approach language as a matter of craft, students will have the chance to learn more accurate and informed terminology to communicate about LGBTQ content.

ELA curriculum traditionally offers writing in response to reading as a means to create gender-inclusive ELA classrooms. Literature offers readers opportunities to reflect on attitudes, values, principles, and assumptions (Moller, 2002). However, there are multiple more dynamic and engaging strategies that have been noted to successfully support gender minorities in ELA. Bryce (2019) discussed an exercise done in an urban fourth-grade class where students had the opportunity to learn about various forms of oppression as they relate to LGBTQ life through literature, then engage in debates and exchanges about social movement(s) and freedom. Using writing, students engaged in LGBTQ content.

To further illustrate, in a 2017 study, Hermann-Wilmarth et al. discuss how writing about LGBTQ content can transform the student experience. After learning about the experience of transgender characters in a story, fourth-grade students were informed about how an adult in their teacher's graduate classwork spoke out against Obama's law supporting people who identify as transgender. They were appalled and determined to make change. They wrote public service announcements that were hung around the college their teacher attended, visited credible transgender-affiliated websites to learn more, and took an active role in their learning. Thus, as a direct result of inclusive ELA practice, an authentic assessment was created using language, various writing techniques, and high levels of engagement all centered around transgender topics.

Scholarship has noted that read-aloud has an incredible value for children (Lennox, 2013; Sipe, 2008). Understanding the power of read-aloud, Ryan and Hermann-Wilmarth (2019) note how read-aloud can be used for building space for transgender minorities. Read-alouds that include LGBTQ content allow teachers to model their values by demonstrating to their students that LGBTQ content is important enough to address in the curriculum. For young students, this modeling can be long-lasting because it is done at a time in their life when teachers have great power in informing children's perceptions (Vygotsky, 1978). When read-aloud is teacher mediated, the teacher can point to any important topics and clarify questions in real time. These authentic discussions provide the necessary scaffolding for students to understand the occasionally complex ideas (Ryan & Hermann-Wilwarth, 2019).

**Inclusive Social Studies.** Social studies education notes that students must "begin to interact with other students, some of whom are like the student and some are different" (NCSS, 1994, p. 21). The C3 Framework highlights the importance of social studies helping students know the past and act in ways that promote the common good as well as asks students to learn about significant events and different individuals and groups from the past. Yet, according to Snapp, McGuire, Sinclair, Gabrion, and Russell (2015), almost 75% of students who participated in the 2008 Preventing School Harassment Survey stated there was a lack visibility of LGBTQ content in social studies. Camicia and Zhu (2019) posit that when standards do not explicitly require inclusion of LGBTQ content, it creates the context for exclusionary and undemocratic curriculum design. Thus, social studies curriculum is a necessary piece in creating a more accurate reading of the world in which students live their lives today (Maguth& Taylor, 2014). Sheppard and Mayo (2013) argue it is the job of the social studies curriculum to shed light on the assumptions that embody American beliefs about gender and sexuality.

To create inclusive social studies education, educators must use a dynamic, multi-faceted approach that provides students permission to learn from historic figures, events, movements,and lets LGBTQ-identified students know they are not alone (Maguth& Taylor, 2014). However, according to Loutzenheiser (2006) this cannot be an "Add and Stir Method" that simply layers LGBTQ content on pre-existing topics, but must be done in a manner with thoughtful pedagogy that shifts essential questions and analyses. Inclusive curriculum must tell LGBTQ students the truth about both the historic and current struggle for LBGTQ rights (Maguth& Taylor, 2014). For example, when social movements are discussed, The LGBTQ Movement and the difficulties Harvey Milk experienced could be analyzed (Snapp et al., 2015). Block (2020) suggests that when teaching European history, students could examine Single Party Rulers, genocide of LGBTQ humans, or past and present rulers with LGBTQ relationships. When LGBTQ students, as well as any other marginalized group, feels more represented in classrooms, they are considerably more likely to have a stronger sense of well-being as well as higher achievement (Snapp et al., 2015)

Gender-inclusive social studies curriculum should be designed in a manner where students have the opportunity to explore the relationships between social norms and political identities (Schmidt, 2010). Gender-inclusive social studies curriculum should allow students the opportunity to reflect on their own identities, including gender identity and expression, and the types of relationships they may want to build (*Gender Inclusivity, n.d*). The social studies classroom gives students the opportunity to recognize and explore the volume of factors that play a role in sex and gender (Schmidt, 2010). This discussion of gender as a social construct could include discussing European history and how rulers maintained same-sex relationships (Block, 2020) or how many different Indigenous tribes see/saw gender and sexuality in different ways (Sheppard & Mayo, 2013).

Supporting students as they participate in critical democratic education (Camicia& Zhu, 2019) where they consider issues of gender, sexuality, culture, and power to better understand and develop conceptions of citizenship (Sheppard & Mayo, 2013) is also a necessary aspect of any gender-inclusive social studies curriculum. Teaching students that citizens take concrete actions to make things better instead of hoping it gets better (Maguth& Taylor, 2014) is at the core of a gender-inclusive social studies classroom. According to Crocco (2001) when students are analyzing social problems such as gender socialization or homophobia, they should take on the perspective of both males and females or heterosexuals and homosexuals. Students should also have the opportunity to engage with LGBTQ current events as well as evaluate the different perspective of national and state rights as they pertain to LGBTQ issues (Block, 2020). Students must also engage in discourse about what their role might be as an LGBTQ citizen (Schmidt, 2010).

**Inclusive Science.** In today's world, scientists are well-respected, well liked, and believed to be a key to the continued economic prosperity and quality of life in our country (Miller, 2004; PEW Research Center, 2009). Scientific data is rarely up for debate or open to interpretation. If science is the ruling agency for facts, school, or more specifically science curriculum, is often the mechanism by which these immutable "facts" are delivered and ultimately cemented. But, at present the social sciences and the hard sciences are in discord with one another, making the presentation of these "facts" to literal-minded children very difficult. For example, uninformative and stigmatizing sex education curriculum commonly discusses sexually transmitted infections (STI) only as they relate to heterosexuals and cisgender couples silencing the experience of gender minorities (Gowen &Winges-Yanez, 2014; Hobaica, Schofield, & Kwon, 2017).

Furthermore, discussions around sex-safe sexual health, and various forms of sexual pleasure aretaught through a cisgender lens. There is rarely any discussion on the sexual experience of homosexual or transgender students and sexual resources are narrowly focused and neglect to highlight opportunities to learn more about transition (Haley, Tordoff, Kantor, Crouch, & Ahrens, 2019; Hobaica et al., 2019; Kosciw et al., 2018).

Life science often reinforces both a binary gender system as well as gender stereotypes. For example, when teachers are instructing about mammalian fertilization, they often demonstrate the egg as a passive participant in the process while highlighting the active role of the sperm. While unintentional, this subtle message reinforces the idea that women's roles are also passive (Norton, 2009). Further illustrating this point, students often learn that males produce sperm and females produce eggs instead of the more inclusive language that states testes produce sperm and ovaries produce eggs (Long et al., n.d.). When topics such as pregnancy are discussed, rarely does instruction include any discussion of surrogacy or other forms of pregnancy (Gowen &Winges-Yanez, 2014; Hobaica, et al., 2019). Life science can also be exclusionary when there is any discussion of gene distribution. Many educators will explain to students that one set of genes comes from mom and the other set from dad instead of stating that you get a mixed set of genes from the sperm and the egg (Long et al., n.d.). As a result, science educators very often create strict boundaries around gender.

However, when science educators eliminate the strict boundaries and dichotomization of gender by using more accurate curriculum, they create more inclusive classrooms. For example, instead of teaching the more binary aspects of the natural world, educators could highlight the incredible non-binary life that occupies it. In her 2013 book, *Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and People*, Joan Roughgarden discusses many insects that blend the binary as males and females and look exactly the same. To further illustrate her pointthat the natural world is filled with non-binary life, Roughgarden (2013) describes reptiles whose sex is determined by their environment; hamlet fish and barnacles who are both hermaphrodites, and the clownfish who is born male but has the ability to switch permanently to female during life. When educators work to repair damaged or incorrect scientific knowledge that reinforces a binary gender system, they begin to create a space where gender minorities feel included (Gunckel, 2019).

Sex education curriculum reform would also create space for transgender students. A lack of comprehensive sex education curriculum is keeping children's curiosity controlled and their sexuality managed, thus, educational leaders must bring gender and sexuality back into the curriculum in concrete ways rather than an unstated, de facto presence. For example, when students are observing life forms, curriculum should avoid guiding inquiry (i.e. what do you notice about how fast the life form is going?, What color is the life form?, etc.) and invite students to make whatever observations they would like. Students should have permission to inquire about sex, sexuality, or gender (Gunckel, 2019). A comprehensive inclusive sexual education curriculum must include explanations of scientific processes such as organ functionality and hormone treatments (Haley et al., 2019; Long et al., n.d.). Developmentally appropriate inclusive sexual education curriculum should also include discussion of non-medical gender affirming interventions such as standing to pee devices, tucking, and bras that empower gender minorities; as well as resources and discussion about medical intervention such as pubertal blockers. Moreover, inclusive sexual education curriculum should include STI prevention, and contraception and fertility issues and language specific to gender minorities (Haley et al., 2019; Hobaica, Schofield, & Kwon, 2019).

**Inclusive Math.** Mathematics is thought to be a discipline that will help students think clearly (Schoenfeld, 1989) and is an indicator of their intellectual abilities or wisdom (Markovits&Forgasz, 2017). Yet, math instruction frequently leaves out critical social issues or reinforces the gender binary through problems that only include traditional family structures and heterosexual characters (Rands, 2009, 2019). Additionally, many math textbooks unintentionally concretize social issues such as sexism, heterosexism, classism, and consumerism (Bright, 2017).

Like the hard sciences, at present, the social sciences and mathematics are also in discord with one another, making the presentation of discrete "facts" to literal-minded children very challenging. Therefore, it is vital that math classrooms become a place where educators do not shy away from the responsibility to teach fundamental lessons to all students that are relevant, meaningful, and potentially liberating for LGBTQ youth. Math curriculum that represents the diverse world in which students live is a necessary piece in creating a more accurate reading of the world.

Inclusive math education uses dynamic, multi-faceted curriculum designed and implemented with the intention to pivot away from ideas such as there is a lack of intersectionality between math and society (Dubbs, 2016). Inclusive math education is a framework where educators create an environment that represents LGBTQ students and creates both an opening and reflector for students across the gender spectrum. Furthermore, when there is positive representation of LGBTQ content it helps students feel more included and can create a stronger association with learning (Kosciw et al., 2014; Snapp et al., 2015). Since classrooms with LGBTQ representation give LGBTQ students permission to learn from historic figures, events, movements, and experiences (Waid, 2020), when LGBTQ mathematicians arerepresented, it demonstrates that math is being used to solve problems for members of their own community.

The intersectionality of non-traditional family structures, various gender identities, and differing communities in today's world makes it more important than ever to bring LGBTQ content into the math classroom (Yeh & Rubel, 2020). For example, elementary math teachers tasked with solving word problems involving equal groups could highlight diverse family structures. This subtle change in wording creates space for students from various family structures and forces students to think more critically about how individuals express gender. To illustrate further, when students are analyzing data to better understand statistics, the GLSEN Survey could be used. By exposing students to info graphics, executive summaries, and different subject samples, a more critical lens is needed to understand the complex world in which students live (GLSEN, 2021).

### *Summary*

When educators eliminate the strict boundaries and dichotomization of gender and sexuality by using more accurate and varied pedagogy like curricular inqueery, they create more inclusive classrooms. When educators work to repair damaged or incorrect knowledge that reinforces a strictly binary system, they begin to create a space where gender minorities feel included (Gunckel, 2019) and are designed in a manner that uses thoughtful pedagogy that shifts essential questions and analyses beyond mere inclusion. In mathematics, teaching queerly has become recognized as mathematical inqueery (Rands, 2009), but we suggest this inqueery model can be applied across the elementary curriculum. Scholarship has noted that children are ready to both learn and un-learn gender at an early age (Ryan et al., 2013; Ryan & Hermann-Wilmarth, 2018). In a diverse society that has also well-documented research that cooperative learning, forinstance, has the power to break down barriers and gender- and sexuality-inclusive curriculum can be built in English/language arts (ELA), social studies, mathematics, and science, it is time to build on the research to determine what curriculum is most effective.

In addition to deep investigations and adequate representation in the classroom, for any curricular area to be truly inclusive, educational researchers must challenge the ideals that discipline-specific content is protected by its lack of subjectivity. Dubbs (2016) posits that scholarship must begin to note and analyze with a much greater lens the intersection between the issues that plague our society such as homophobia and genderism and classroom content. Educational researchers must challenge both hetero and cisnormative narratives that reinforce binaries and norms of identity. If the methods that scholarship maintains do not change, and the foci of educational research continues to be solely on topics such as the gender gap, GMY will never find success.

Thus, we suggest a three-step process of untangling and then including sexuality and gender, and starting this process early in elementary school, so students are asked to think critically about how gender minority roles are built, defined, and fulfilled by social and cultural norms. This curricular inqueery process implores students to examine how gender minority roles vary from culture to culture and how gender and sexuality (and their intersection with ethnicity, race, and socioeconomic class) affect the way we are perceived and expected to behave in society. Curricular inqueery encourages students to analyze the important work of gender minorities in shaping history and why these monumental accomplishments are often overlooked or simply not discussed. Educational leaders should practice curricular inqueery by following our suggested three-step structure in order to provide a gender minority-inclusive curriculum, acrossdisciplines, in elementary school so that all children can be

formed as democratic citizens and elementary schools can claim their place as spaces of power to transform the social order.

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