

Demystifying Gender Sensitive Teaching on Science Education: Through the Lens of LGBTQIA+ Teachers

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ABSTRACT

Poor practice of gender-sensitive teaching in science education is alarming. I explored the concepts of gender-sensitive teaching in Science Education. Using qualitative-descriptive approach, purposive sampling, in-depth interview and thematic analysis, I found that LGBTQIA+ teachers viewed gender-sensitive teaching in science education as a dynamic and inclusive practice shaped by personal experiences, social interactions, institutional influences, and everyday classroom behaviors. The study may serve as a guide for educators, institutions, policymakers, and curriculum developers in promoting inclusive and gender-sensitive practices in science education. Future research may further explore gender-sensitive teaching through diverse perspectives, mixed methods, and institutional and cultural contexts to promote inclusive science education.

Keywords: Gender-sensitive teaching, science education, LGBTQIA+ teachers

INTRODUCTION

Globally, gender-sensitive teaching in science education is still inconsistently practiced, as many science classrooms continue to reflect limited recognition of diverse gender identities and uneven application of inclusive pedagogies (UNESCO, 2023). From LGBTQIA+ teachers' perspectives, this remains a continuing concern within science education systems where inclusive classroom practices are not yet fully embedded in everyday instructional experiences (OECD, 2023).

In various national contexts—including the United States, India, and South Africa—similar perceptions have been noted among LGBTQIA+ educators. In these settings, gender-sensitive teaching in science education is still not consistently reflected in classroom interactions, learning materials, or pedagogical approaches (UNESCO, 2023). Across these settings, LGBTQIA+ teachers continue to observe that inclusive practices in science instruction are not uniformly experienced by learners within educational environments (OECD, 2023).

In the Philippine context, LGBTQIA+ science teachers similarly perceived that gender-sensitive teaching is not yet fully integrated into science education practices across many schools, particularly in classroom discourse, instructional strategies, and learning environments (UNESCO, 2023). Their experiences reflect continuing concerns regarding how inclusivity is represented and enacted within science teaching practices in the country (OECD, 2023).

Consequently, the poor implementation of gender-sensitive teaching in science education undermines science learning environments' ability to foster inclusive participation, equitable engagement, and respectful representation of diverse identities. This, in turn, diminishes the overall inclusivity of classroom experiences (UNESCO, 2023). Hence, I conducted this study to address these documented gaps.

Significance of the Study

This study holds significant value in contributing to the global goals of inclusive and equitable education as

outlined in the United Nations Sustainable Development Goals (SDGs). Specifically aligned with SDG 4 (Quality Education), the research advocates for inclusive pedagogical practices that recognize and affirm diverse gender identities in science classrooms, promoting equitable learning opportunities for all students. By highlighting the lived experiences of LGBTQIA+ educators, the study also supports SDG 5 (Gender Equality) and SDG 10 (Reduced Inequalities) by challenging gender norms, addressing discrimination, and advocating for equal representation and participation in education systems. Furthermore, it resonates with SDG 16 (Peace, Justice, and Strong Institutions) by providing evidence that can strengthen inclusive school policies and local governance frameworks, such as Gender and Development (GAD) programs. Finally, the study encourages multi-sectoral collaboration among educators, institutions, and LGBTQIA+ organizations, contributing to SDG 17 (Partnerships for the Goals) through the co-creation of inclusive educational strategies. Overall, this study not only addresses gaps in Philippine science education but also advances the global agenda of building just, inclusive, and responsive education systems.

Research Questions

In this study, I explored the concepts of gender-sensitive teaching in Science Education. Specifically, I sought answers to the following questions:

1. What are the perceptions of LGBTQ+ teachers on gender-sensitive teaching in science education?
2. What shaped the perceptions of LGBTQ+ teachers on gender-sensitive teaching in science education?
3. What are the roles played by institution and culture in persuading the perceptions of LGBTQ+ teachers on gender-sensitive teaching in science education?

Assumptions

In this study, I assumed that gender and sexuality are not directly shaped by social construct, fluidity, and performativity. Rather, gender and sexuality depend on the perception of the type of human behavior shaped by those three constructs. I further assumed that perception is persuaded or impelled by other factors than those mentioned.

Theoretical Lens

I anchored this study on Queer Theory of Butler and Sedgwick (1990) stating that gender and sexuality are not natural, fixed, or biologically determined realities; rather, they are historically contingent (fluid), socially constructed, and produced through discourse and repeated performance (performative) within systems of power.

Conceptual Paradigm

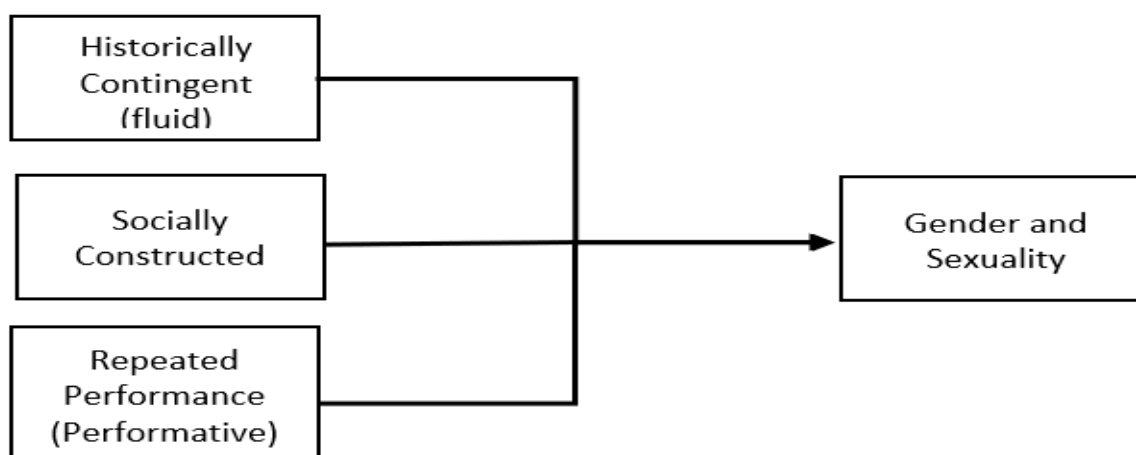


Figure 1. Conceptual Paradigm of the Study

METHOD

In this study, I employed qualitative–descriptive research design to describe and interpret the perspectives of LGBTQIA+ teachers regarding gender-sensitive teaching in science education. This design was utilized to systematically capture and present participants’ accounts of gender-based notions, classroom experiences, and inclusive teaching practices without aiming to generate theory or focus solely on the essence of lived experiences. Through this qualitative–descriptive approach, the study sought to provide a clear, contextualized, and comprehensive understanding of how LGBTQIA+ science teachers perceive and practice gender-sensitive teaching in ways that promote inclusive, equitable, and supportive classroom environments. According to Bhandari (2023), qualitative research involves the in-depth analysis of non-numerical data through open-ended inquiry to better understand participants’ concepts, opinions, and experiences. Furthermore, Fossey et al. (2002), as cited by Eze et al. (2023), emphasized that qualitative research aims to develop a rich and holistic understanding of social phenomena within their natural settings.

To obtain detailed accounts of participants’ perceptions and experiences, I utilized In-Depth Interviews (IDIs) as the primary data-gathering method. This approach enabled participants to openly express their viewpoints, teaching practices, and challenges related to gender-sensitive teaching in science education while allowing flexibility for probing and clarification during the interview process. Prior to data collection, interview questions were prepared and validated to ensure alignment with the objectives of the study. The interviews were conducted individually in a confidential and comfortable setting, either within the participants’ schools or through mutually agreed arrangements, to encourage openness and honest responses. Each interview lasted approximately 30 to 60 minutes and was audio-recorded with participants’ consent to ensure accurate transcription and documentation of responses. Field notes were also taken during the interviews to capture non-verbal cues, contextual observations, and reflective insights that supported data interpretation.

The study was conducted in selected public secondary schools in Davao City within the basic education sector. These schools were purposively selected because they provided relevant contexts for examining gender-sensitive teaching practices in science education. The participants of the study consisted of five LGBTQIA+ science teachers who had at least three years of teaching experience in public secondary schools. The participants varied in teaching experience, gender identities, and classroom contexts, allowing the study to gather diverse yet relevant perspectives regarding inclusive teaching practices. Purposive sampling was employed to deliberately select participants who possessed the necessary experiences, knowledge, and willingness to contribute meaningful insights to the study. According to Nikolopoulou (2022), purposive sampling is a non-probability sampling technique in which participants are intentionally selected because they possess characteristics relevant to the phenomenon being investigated. Green et al. (2013) further emphasized that participants’ knowledge, experience, availability, and ability to articulate their perspectives are essential in qualitative participant selection.

For data analysis, I utilized thematic analysis as the primary analytical technique. Braun and Clarke (2006) described thematic analysis as a qualitative method used to identify, analyze, organize, and interpret recurring patterns or themes within a dataset. Following the completion of the interviews, audio recordings were transcribed verbatim to ensure accuracy and familiarity with the data. The transcripts were repeatedly reviewed to gain a deeper understanding of participants’ narratives. Initial codes were then generated by identifying significant statements, recurring ideas, and meaningful patterns related to gender-sensitive teaching practices. Similar codes were grouped into broader categories, from which themes and subthemes emerged. These themes were continuously reviewed, refined, and interpreted to ensure that they accurately reflected the participants’ experiences and perspectives. To strengthen the credibility and trustworthiness of the analysis, thematic interpretations were carefully compared across participants’ responses, and direct participant quotations were incorporated to support the identified themes and provide richer interpretive depth. According to Nowell et al. (2017), thematic analysis provides a flexible yet systematic approach that allows researchers to generate detailed, transparent, and credible interpretations of qualitative data.

Ethical principles were strictly observed throughout the conduct of the study. In accordance with the ethical guidelines of the Society for Moral Integrity and Legal Ethics (SMILE) of the Holy Cross of Davao College, participants were informed about the purpose of the study, the voluntary nature of their participation, and their

right to withdraw at any stage of the research process without penalty. Informed consent was secured prior to the interviews, and participants' anonymity and confidentiality were protected through the use of pseudonyms and confidential coding. Audio recordings, transcripts, and research documents were securely stored and accessed only by the researcher. Furthermore, data integrity was maintained through accurate transcription, careful analysis, and faithful representation of participants' responses without alteration or misinterpretation. By clearly documenting the research procedures, participant selection, interview process, and thematic coding procedures, the study ensured transparency, credibility, and trustworthiness in the conduct of the research.

RESULTS AND FINDINGS

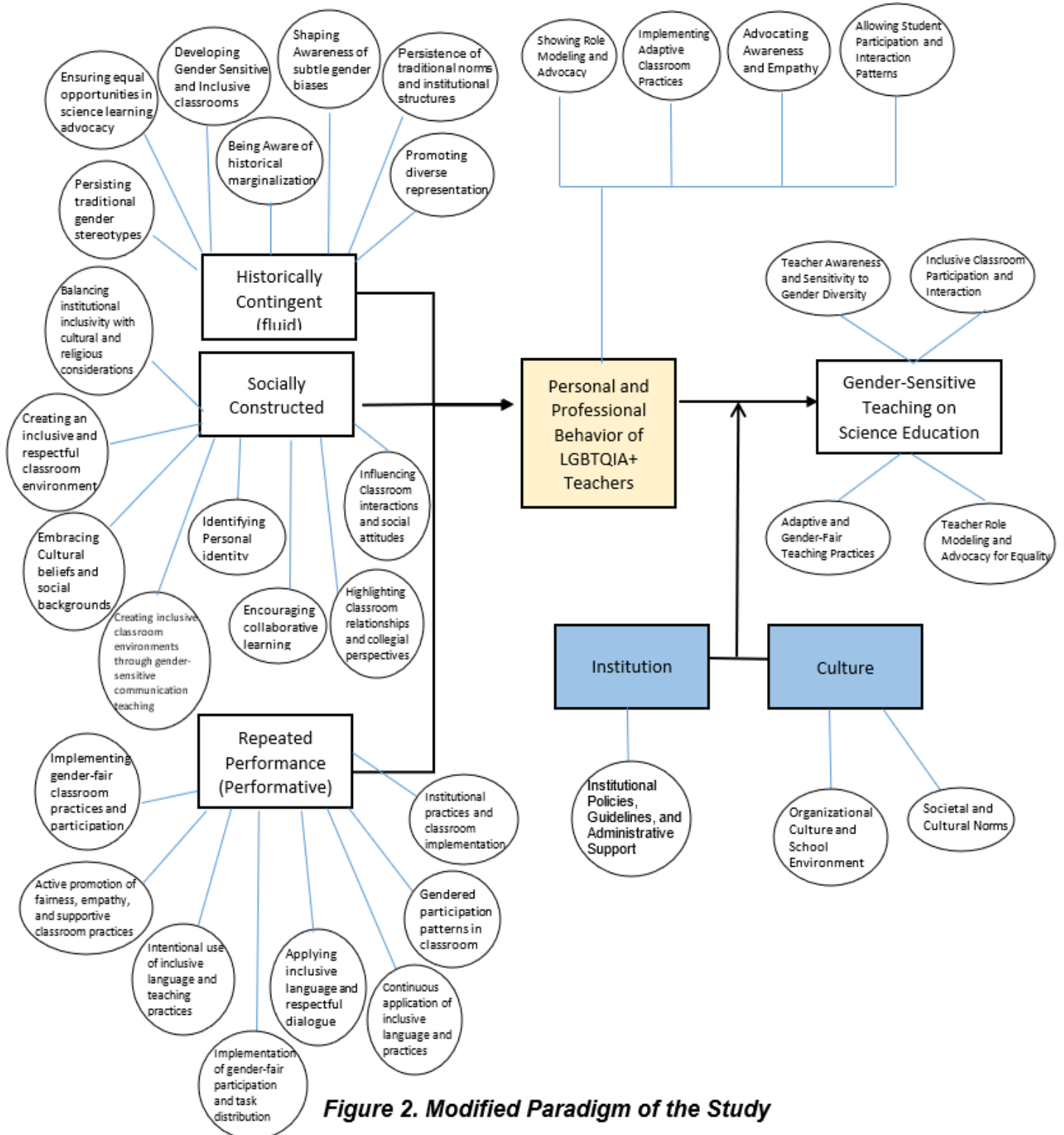


Figure 2. Modified Paradigm of the Study

Personal and Professional Behavior of LGBTQIA+ Teachers toward Gender-Sensitive Teaching in Science Education

In exploring the paradigm of this study, several emerging themes became evident. One major theme identified was personal and professional behavior of LGBTQIA+ Teachers, which consisted of four subthemes derived from the participants' narratives: teacher awareness and empathy, student participation and interaction patterns, teacher role modeling and advocacy, and adaptive classroom practices.

On Teacher Awareness and Empathy. From the interviews that I conducted, I identified one of the significant themes in which responses of the participants revealed that teacher awareness and empathy are central expressions of LGBTQIA+ teachers' behavior as human behavior in the context of gender-sensitive teaching in science education. These behaviors are manifested through conscious actions, emotional responsiveness, and reflective communication practices shaped by both personal identity and professional experience. One participant emphasized this behavioral dimension by stating that gender-sensitive teaching means:

being aware of addressing the different interests, needs, and experiences of all genders in the classroom (IDI, P1, p1 L3-4)

This reflects intentional attentiveness and adaptive classroom behavior that considers learner diversity. In the same manner, another participant highlighted how identity influences behavioral orientation in teaching, sharing that:

as an LGBTQIA+ individual, my identity deepens my understanding of gender sensitivity in teaching by fostering empathy and awareness of diverse experiences (IDI, P2, p2 L75-76)

This indicates that lived identity translates into empathetic pedagogical behavior. This behavioral sensitivity is further demonstrated by noting that:

I've experienced what it feels like to be different or misunderstood, so I'm more careful with my words and examples (IDI, P5, p2 L85-86)

This shows self-regulation and cautious communication as a response shaped by prior social experiences. Moreover, participant one added that:

I am more intentional about using inclusive language to ensure that all voices are heard (IDI, P1, p1 L42-43)

This reflects deliberate behavioral choices aimed at fostering inclusion and equity in classroom interactions. Collectively, these responses illustrate that teacher awareness and empathy are not only cognitive understandings but are enacted as observable human behaviors such as inclusivity, emotional sensitivity, and communicative care through which LGBTQIA+ science teachers actively construct a gender-sensitive learning environment.

On Student Participation and Interaction Patterns. Another significant theme that I identified from the interview is the student participation and interaction patterns. As highlighted by the participants, student participation and interaction patterns in science classrooms are influenced by gender norms, which are closely linked to LGBTQIA+ teachers' behavior as human behavior in managing inclusive learning environments. As participant shared that:

I observe some gender stereotypes about unequal participation in discussions and who is 'good' at science (IDI, P1, p1 L25-26)

This indicates awareness of how bias shapes classroom interaction. Similarly, another participant noted that:

Boys often dominating discussions about male and female reproductive lessons, while girls tend to be less confident in sharing their ideas (IDI, P2, p1 L28-29)

This reflects uneven participation patterns that teachers must actively address. Another participant further emphasized that:

Sometimes I see boys taking over experiments while girls do the writing or assisting. There are also students who might be questioning their identity but don't feel safe to speak up (IDI, P5, p1 L35-38)

This shows both gendered task distribution and the presence of marginalized identities in classroom spaces. All together, these observations demonstrate that LGBTQIA+ teachers' behavioral responses such as monitoring participation, recognizing inequality, and being sensitive to student identities are crucial human behaviors that shape more equitable and inclusive classroom interactions in science education.

On Teacher Role Modeling and Advocacy. This was also one of the significant themes that I discovered from the interviews I conducted. The responses of the participants revealed that teacher role modeling and advocacy reflect the emerging theme of LGBTQIA+ teachers' behavior as human behavior through their actions, values, and support for inclusivity in science education. One stated that:

This strengthens my commitment to advocacy by becoming a model of inclusivity and a support system (IDI, P1, p4 L153-154)

This demonstrates how teachers intentionally embody inclusive behavior for their students. Likewise, another participant shared that:

Visibility as an openly LGBTQIA+ teacher shows students it's okay to be themselves. I mentor younger teachers and students quietly through teaching (IDI, P5, p4 L161-162)

This highlights advocacy through representation and mentorship. A different participant also emphasized that:

Being part of the LGBTQIA+ community gives me understanding of gender identity spectrum; allows recognition of biases and advocacy (IDI, P4, p4 L159-160)

This shows how personal experiences influence empathetic and advocacy-driven teaching behaviors. Together, these responses indicate that LGBTQIA+ teachers express human behavior through role modeling, mentorship, and advocacy that promote acceptance, inclusion, and awareness in the classroom.

On Adaptive Classroom Practices. As I had interviewed, it was evident through the findings that adaptive classroom practices mirror the emerging theme of LGBTQIA+ teachers' behavior as human behavior, demonstrated through intentional instructional adjustments in response to classroom diversity and sociocultural context. One participant explained that:

I use gender-sensitive teaching strategies such as assigning mixed-gender group activities to promote equal participation ... tasks are distributed fairly, regardless of gender (IDI, P2, p2 L90-93)

This shows deliberate behavioral strategies to ensure equity in learning participation. Correspondingly, another participant emphasized inclusive management of group work by stating that:

When I assign group work, I make sure roles are rotated so everyone gets to lead and speak (IDI, P5, p3 L101-102)

This reflects flexible and equitable classroom behavior that encourages student voice. However, a different participant also noted contextual sensitivity, explaining that:

Conservative settings require caution when discussing gender inclusivity (IDI, P5, p4 L171-172)

This demonstrates adaptive behavior shaped by cultural awareness and situational responsiveness. Collectively, these responses illustrate that LGBTQIA+ teachers enact adaptive human behaviors through inclusive strategies, equitable task distribution, and contextual sensitivity to create a balanced and respectful learning environment.

Additionally, two other emerging themes were identified: institutional factors and cultural factors. The institutional factor included the subtheme of institutional policies, guidelines, and administrative support. Meanwhile, the cultural factor encompassed the subthemes of organizational culture and school environment, as well as societal and cultural norms.

Institutional Factors on Gender-Sensitive Teaching in Science Education

On institutional Policies, Guidelines, and Administrative Support. The responses of the participants showed that institutional policies, guidelines, and administrative support as an institutional factor significantly shaped LGBTQIA+ teachers' behavior in gender-sensitive teaching in science education. As participant emphasized this influence by stating that:

I am mindful of school guidelines while promoting inclusivity, creating respectful conversations and aligning lessons with gender-sensitivity and educational principles (IDI, P1, p3 L136-138)

This reflects how institutional rules guide inclusive teaching behavior. In a similar manner, another participant shared that:

I align my teaching practices with official guidelines on inclusivity while respecting students' religion and cultural backgrounds (IDI, P2, p3 L139-140)

This shows adaptive behavior that balances inclusivity with cultural sensitivity. As participant highlighted strict adherence to institutional expectations, stating that:

I strictly follow institutional policies and cultural norms. Lessons are factual and direct; teaching science related to gender-sensitivity is not an issue (IDI, P3, p4 L142-143)

This indicates a more compliance-oriented teaching behavior. A different participant further noted that:

I ensure I am familiar with school guidelines on gender, anti-discrimination, and inclusivity. This helps align my teaching with institutional acceptance to create a safe learning environment (IDI, P4, p4 L144-146)

This demonstrates proactive behavior grounded in policy awareness. Meanwhile, another participant pointed out contextual constraints, explaining that:

Curriculum gaps, societal silence on LGBTQIA+ issues, and conservative settings require caution when discussing gender inclusivity (IDI, P5, p4 L171-172)

This reflects cautious and situationally adaptive teaching behavior. Collectively, these responses showed that institutional structures shaped how LGBTQIA+ teachers enact human behavior in the classroom, influencing how they balance inclusivity, compliance, and cultural sensitivity in gender-sensitive science teaching.

Cultural Factors on Gender-Sensitive Teaching in Science Education

On Organizational Culture and the School Environment. Most of the participants' responses show that organizational culture and the school environment as cultural factors influence LGBTQIA+ teachers' human behavior in practicing gender-sensitive teaching in science education. As I interviewed one of the participants, he stated that:

This strengthens my commitment to advocacy by becoming a model of inclusivity and a support system (IDI, P1, p4 L153-154)

This shows how a supportive environment encourages advocacy-oriented behavior. Similarly, another participant shared that:

My identity as an LGBTQIA+ teacher makes me more attuned to equity, representation, and inclusivity (IDI, P2, p4 L155-156)

This reflects heightened awareness and inclusive behavioral practices shaped by both identity and school culture. Another participant also explained that:

Being part of the LGBTQIA+ community gives me understanding of gender identity spectrum; allows recognition of biases and advocacy (IDI, P4, p4 L159-160)

This demonstrates how cultural experiences influence empathetic and advocacy-driven behavior. In the same way, participant expressed that:

Visibility as an openly LGBTQIA+ teacher shows students it's okay to be themselves. I mentor younger teachers and students quietly through teaching (IDI, P5, p4 L161-162)

This highlights supportive and role-modeling behaviors within the school environment. Furthermore, another participant noted that:

I use gender-sensitive teaching strategies such as assigning mixed-gender group activities to promote equal participation (IDI, P2, p2 L90-91)

showing how inclusive school values translate into adaptive classroom practices. Collectively, these responses show that organizational culture and the school environment shape LGBTQIA+ teachers' behaviors by encouraging inclusivity, advocacy, mentorship, and equitable teaching practices in science education.

On Societal and Cultural Norms. The responses of the participants show that societal and cultural norms as cultural factors influence LGBTQIA+ teachers' human behavior in implementing gender-sensitive teaching in science education. As one participant stated that:

Students' religion, cultural background, and socioeconomic status are some of the barriers that hinder implementation of gender-sensitive science teaching (IDI, P2, p3 L123-124)

This indicates that social and cultural differences affect how teachers adapt their teaching behavior. Likewise, another participant explained that:

Curriculum gaps, societal silence on LGBTQIA+ issues, and conservative settings require caution when discussing gender inclusivity (IDI, P5, p4 L171-172)

This shows how restrictive cultural environments lead teachers to become more careful and selective in classroom discussions. Another participant also emphasized that:

One of the main challenges I've encountered is the persistence of traditional norms that don't always value gender-sensitive approaches (IDI, P1, p3 L120-121)

This reflects how traditional beliefs shape teachers' responses and practices. In the same way, another participant also noted that

Policy gaps and pre-existing stereotypes affect inclusivity; some students feel uncomfortable discussing gender topics," (IDI, P4, p4 L169-170)

This demonstrates how societal perceptions influence classroom interaction and teacher behavior. Collectively, these responses show that societal and cultural norms shape LGBTQIA+ teachers' human behavior by influencing how they balance inclusivity, caution, and sensitivity in gender-sensitive science teaching.

Collectively, the narratives revealed how awareness, empathy, advocacy, inclusivity, and adaptive teaching practices were not merely abstract concepts but were reflected in the participants' actual classroom experiences

and professional interactions. Through these thematic accounts, the findings highlighted the complex ways personal identity, institutional structures, and sociocultural contexts shaped the enactment of gender-sensitive teaching practices in science education.

SUMMARY OF FINDINGS

The findings revealed that LGBTQIA+ teachers perceive gender-sensitive teaching in science education as a dynamic, inclusive, and context-sensitive practice shaped by personal experiences, social interactions, institutional influences, and continuous classroom behaviors. Viewed through the lenses of historically contingent (fluid), socially constructed, and repeated performance (performative) perspectives, participants emphasized that experiences of marginalization, cultural and institutional norms, and everyday teaching practices influenced their understanding and implementation of gender-sensitive teaching. Their perceptions were further shaped by personal and professional behaviors such as empathy, advocacy, adaptive classroom practices, and awareness of student participation and interaction patterns, which strengthened their commitment to inclusivity, gender fairness, and respectful learning environments. Moreover, institutional policies, administrative support, organizational culture, and societal norms played important roles in guiding how LGBTQIA+ teachers balanced inclusivity, professionalism, cultural sensitivity, and advocacy in science education.

DISCUSSIONS

Perceptions of LGBTQ+ Teachers on Gender-Sensitive Teaching in Science Education

My study's finding revealed that LGBTQIA+ teachers perceived gender-sensitive teaching in science education as a dynamic and inclusive practice shaped by personal experiences, social interactions, and classroom behaviors. I found that participants' experiences of marginalization and sensitivity to diversity influenced how they communicated, encouraged participation, and created inclusive learning environments, which supported Butler's (1990) concept of performativity in Queer Theory, where repeated inclusive actions challenged dominant gender norms. The findings also aligned with Jagose (1996), Meyer (2010), and Airton (2013), who emphasized that gender identities were fluid and socially constructed, and that educators' awareness of gender diversity contributed to more equitable and affirming educational practices.

Furthermore, the finding showed that gender-sensitive teaching was socially constructed through institutional expectations, cultural influences, and classroom relationships. Participants recognized that school contexts and societal norms shaped how inclusivity was practiced in science education, supporting the argument of Ferfolja and Stavrou (2017) that LGBTQIA+ educators continuously navigated institutional structures while promoting equity and inclusion. Similarly, UNESCO (2020) highlighted that gender-sensitive approaches in science education encouraged equal participation, respectful dialogue, and inclusive engagement, affirming the relevance of Queer Theory in understanding how LGBTQIA+ teachers negotiated their identities and professional roles to foster inclusive science learning environments.

Personal and Professional Behaviors Shaped the Perceptions of LGBTQ+ Teachers on Gender-Sensitive Teaching in Science Education

The finding of my study revealed that LGBTQIA+ teachers' perceptions of gender-sensitive teaching in science education were shaped by empathy, advocacy, adaptive classroom practices, and awareness of students' diverse experiences. I found that participants demonstrated inclusive behaviors that promoted equal participation, respectful communication, and supportive learning environments, which aligned with Meyer (2010) and Jennings and Greenberg (2009), who emphasized that teachers' empathy and awareness of gender diversity strengthened inclusive educational practices and positive classroom relationships. Furthermore, LGBTQIA+ teachers viewed themselves as advocates and role models who promoted acceptance and inclusivity, supporting the findings of Ferfolja and Stavrou (2017) and Airton (2013) regarding the role of LGBTQIA+ educators in challenging discrimination and fostering affirming educational spaces.

The finding also showed that participants adjusted their teaching strategies to address unequal participation, gender stereotypes, and marginalized student experiences, which supported UNESCO (2020) and Sadker and Zittleman (2009) on the importance of equitable and gender-sensitive classroom practices in science education. These behaviors reflected the principles of Queer Theory, particularly Butler's (1990) concept of performativity and Jagose's (1996) idea of fluid identities, as participants continuously practiced inclusive behaviors that challenged traditional gender norms and promoted equitable science learning environments.

Institutional and Cultural Roles Shaped the Perceptions of LGBTQ+ Teachers on Gender-Sensitive Teaching in Science Education

My study's finding showed that institutional and cultural factors significantly shaped LGBTQIA+ teachers' perceptions of gender-sensitive teaching in science education. Institutional policies, administrative support, school guidelines, organizational culture, and societal norms influenced how teachers balanced inclusivity, professionalism, empathy, advocacy, and caution in discussing gender-related topics. This finding aligned with Meyer (2010) and Ferfolja and Stavrou (2017), who emphasized that school policies and institutional expectations played important roles in shaping inclusive educational practices, while UNESCO (2020) highlighted those cultural and social contexts influenced the implementation of gender-sensitive teaching in education.

Furthermore, the findings reflected Queer Theory, particularly Butler's (1990) concept that gender and identity were socially constructed and shaped through institutional and cultural systems. Participants' adaptive and context-sensitive teaching practices demonstrated how LGBTQIA+ teachers negotiated dominant norms and expectations while continuously promoting inclusivity and equity in science education. Overall, the findings revealed that LGBTQIA+ teachers continuously adjusted their practices to foster respectful, equitable, and inclusive science learning environments despite institutional and societal challenges.

Future Directions

Based on the findings of my study, future research may further explore gender-sensitive teaching in science education by involving participants from diverse educational levels, disciplines, and cultural backgrounds, as well as examining the perspectives of students, administrators, parents, non-LGBTQIA+ educators, and other educational stakeholders to provide a more comprehensive understanding of inclusive teaching practices. Future researchers may also employ quantitative and mixed-method research designs to investigate the relationship between gender-sensitive teaching, student engagement, academic performance, participation, and inclusivity, while gaining deeper insights into the lived experiences of LGBTQIA+ teachers and students. Additionally, studies may evaluate institutional policies, teacher training programs, curriculum frameworks, and comparisons across different school settings to better understand how cultural and institutional contexts shape inclusive and equitable science education practices.

Implication for Practice

The findings of my study implied that gender-sensitive teaching in science education should be strengthened through inclusive classroom practices, institutional support, and culturally responsive approaches that recognize the diverse experiences of learners and teachers. The study emphasized the importance of empathy, advocacy, adaptive teaching strategies, and supportive educational environments in promoting equitable and inclusive science learning experiences. Furthermore, the findings may benefit science teachers, school administrators, curriculum developers, policymakers, and future researchers by providing insights that support the development of inclusive policies, teacher training programs, gender-sensitive curricula, and further research on LGBTQIA+ educators and inclusive teaching practices in various educational contexts.

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