International Journal of Academic and Applied Research (IJAAR)
ISSN: 2643-9603
Vol. 8 Issue 5 May - 2024, Pages: 78-100

Gender Sensitivity Practices Of Science Pre-Service Teachers In Selected Universities In Calabarzon Region IV- A Towards Recommended Policy Action Plan

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Abstract: *This study sought to develop gender sensitivity recommended policy action plans. Specifically, the gender sensitivity practices and challenges encountered of science pre-service teachers in selected Universities in Calabarzon Region IV- A were assessed in this research. A descriptive- evaluative method of research was employed to investigate the posed objectives in this study. Purposive and random sampling techniques were utilized in the selection of the respondents. Guided by the said sampling procedures, one hundred sixty -nine (169) pre-service teachers participated in the study. Data were collected through survey-questionnaire and computed using the weighted mean. Results indicated that gender sensitivity practices in terms of delivery of the subject matter, use of language, classroom management/activities, didactics strategies, learning materials and assessment and evaluation was observed always practiced. However, facilities, security, health, and other student services was observed moderately serious problems in the extent gender sensitivity practices of science pre-service teachers. Based on the results of this study, a gender sensitivity recommended policy action plans was developed to serve as a framework among Universities in Calabarzon Region IV-A in mainstreaming gender sensitivity on their curriculum, policies, programs, projects, and activities (PPAs), and other enabling mechanisms.*

Keywords: *gender sensitivity practices, recommended policy action plan, science pre-service teachers*

INTRODUCTION

Gender issues, such as bias, stereotyping, inequality, gaps, bullying, and discrimination, have directly affected society's workforce, business, and education. Notably, there have been debates about gender equality and equity for over a century (Meinck & Brese, 2019). In academia, it is known that gender is a significant factor within schools worldwide (Nishimura, 2017). Though commonly observed within the school (Hernandez & Cudiamat, 2018), it is still a significant asset for alleviating gender issues (Wigati, 2019). In response, the United Nations Educational Scientific and Cultural Organization (UNESCO) declared gender as one of the most crucial lessons within the educational sector (Meinck & Brese, 2019). Introducing gender in classrooms will minimize gender bias and may serve as a strategic place to address gender equality (Wigati, 2019). An effective way is to integrate gender into the school's curricula and instruction (Galamgam et al., 2021). From this, the goal is achieving gender equality and empowering all women and girls (SDG5) through inclusive and equitable quality education for all (SDG4) by mainstreaming gender equality and human rights at all levels in national education policies, curricula, teacher education, and student assessment (indicator 4.7.1).

Looking forward, over the years, there has been a gradual increase in the gender parity index (GPI), which shows the enrollment ratio between male and female students. It implies that there are more enrolled females than males, indicating an increasing dropout rate among males (Nishimura, 2017). The GPI also shows an increase in gender gaps which may be ascribed to the rise of gender-sensitive policies (Lee, 2021). Nonetheless, despite the surge in the attendance of females, women still need to be as well educated as men (Evans et al., 2020). With the recognition of gender variance, it must be acknowledged that there is the presence of students who identify as lesbian, gay, bisexual, transgender, and queer (LGBTQ) at schools, regardless of their profiles in terms of ethnicity, race, and age (Mitchell & Mitchell, 2019).

Gender issues impact the professionalism of teachers and the students 'perceptions, actions, and achievements (Meinck & Brese, 2019). There is a modest opinion among teachers that women are dependent on men (Toraman & Ozen, 2019). There is an observed increase in the percentage of female teachers compared to males at all levels worldwide (Anderson, 2019). The female teachers' availability may also affect schoolgirls' attendance (Lee, 2021). The non-differentiation of teaching style and instruction between male and female teachers contributes to the students' differences in academic achievement and engagement (Abraha et al., 2019).

Using teaching strategies that promote the inclusion of gender positively affects students' development (Ananga, 2021). The type of training affects how teachers perceive gender (Kollmayer et al., 2020), likewise, using learning materials, including textbooks and online resources, which depict gender stereotypes where more men are portrayed and commonly illustrated as famous characters than women (Lee, 2021).Among the various subjects offered in schools, it is evident that Science education contributes to a nation's prosperity, welfare, and security (Abraha et al., 2021). With equity in education, students are already assured of

equal rights to a quality Science education (Jalak & Nasri, 2019). Though the integration of gender is apparent in instruction, its construct in Science is still ambiguous, creating a challenging atmosphere that surrounds both gender and Science.

No notable studies support the connection between gender and the construction of scientific knowledge (Shayan, 2015). Even with the exponential progress of science and technology, women are still not widely acknowledged owing to gender issues. Women are less frequently portrayed as the one who leads, invents, works, and does science and technology, while males are extensively presented. There is atypical women's participation in handling and conducting science and technology within organizations, including schools (Shayan, 2015). The presence of societal and traditional views of women and the number of schools for girls affect women's educational status (Shayan, 2015). Even with the implementation of Science, Technology, Engineering, and Mathematics (STEM) curricula, there are lingering concerns that it will amplify educational inequalities considering that females are still disadvantaged in the field (Kulakoglu & Kondakci, 2022).

With the numerous studies related to gender in the educational sector, it is apparent that there are gender issues surrounding both teachers and students. Gender-related issues include the disparity among the teachers and their teaching strategies (Ananga, 2021; Barnett-Cooper, 2012; Belal, 2009; Lee, 2021; Toraman & Ozen, 2019), the context of the school, policies, and curricula (Dickey, 2014; Kollmayer et al., 2020; Wigati, 2019), and effects of gender on students' performance (Ananga, 2021; Barnett-Cooper, 2012; Lee, 2021; Meinck & Brese, 2019). However, in Science education, most studies concentrated on the preferences and perceptions of males and females regarding Stem subjects (Kang et al., 2019; Makarova et al., 2019) and their career aspirations (Meinck & Brese, 2019). Therefore, there is still the lingering challenge surrounding the vague relationship between gender and Science teaching.

On the international scale, the lack of teachers' knowledge and training about gender-sensitive teaching can also explain why gender disparities prevail among educational institutions. The study reveals that 25.81% of the teachers surveyed indicated they were unaware of gender-responsive teaching techniques. Thus, teacher preparation, administrative support, and curriculum resources are essential, given how integrating gender-sensitive teaching is raised among teachers, students, and the larger community. Outlining the framework to address gender-sensitive teaching requires preparation for teachers to make teaching and learning processes responsive to the particular interests of girls and boys (Canuto & Espique,2023).

In this context, the report points out, "education can be an area of gender inequality that reinforces discriminatory behaviors and attitudes, or it can be the catalyst or the transformation that follows. opportunities and people's ability to challenge and change attitudes and prejudices. " "Possible" (UNESCO, 2016).

The OECD report on the Humanities ABC of Gender Equality in Education indicated the need for teachers to be gender neutral in the teaching-learning process. This was emphasized by importance of the training given in the educational field - The work and the need of the teachers for sensitivity to gender (OECD, 2015) Based on this data, it is important that the teachers who stand out in different schools and universities introduce gender methods to promote inclusion in their classrooms.

This study has a lot to say about the need for future educators to incorporate gender-sensitive practices in their classrooms to reduce the growing educational gap between girls and boys. With the advent of student-centered education, the incorporation of gender-sensitive policies and practices is critical to creating school environments that are welcoming and empowering equal opportunities for all students. Future educators need training and awareness of the wide range of gender influences affecting society. With all this in mind, the evidence from this study will help inform future efforts by academic institutions at the local and national levels to drive social change in the Philippines. Teachers, especially school administrators, consider concrete solutions and actions to implement ways to eliminate gender inequality and promote the concept of gender in educational institutions.

Making general decisions about teachers is not related to gender awareness and other investigations It is necessary. Therefore, research investigating different perspectives and perspectives on gender sensitivity using diverse datasets would have significant potential. Presenting current trends in teacher training is a method for developing gender policies. This can lead to recommendations for mainstreaming gender issues in teacher education programmed. This study is important because it shows the ability of pre-service science teachers to create a gender-based learning environment as they begin their careers. In this context, the purpose of the study is to assess the gender attitudes of science teachers in training at a state university. The results will serve as a basis for the development of recommended policy action plan for science teacher education.

RESEARCH OBJECTIVES

This study aimed to examine the gender sensitivity practices of science pre-service teachers in the selected Universities in CALABARZON Region VI - A in the School Year 2023 -2024. The results of the study will be basis for development of recommended policy action plan for science teacher education.

Specifically, it seeks to achieve the following objectives:

1. To determine the extent gender sensitivity practices of science pre-service teachers be described as in terms of:
    - 1.1 Delivery of the subject matter,
    - 1.2 Use of Language,
    - 1.3 Classroom Management / Activities,
    - 1.4 Didactics Strategies,
    - 1.5 Learning materials and
    - 1.6 Assessment and Evaluation.

2. To determine the challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of:
    2.1 administration,
    2.2 curriculum,
    2.3 instruction,
    2.4 facilities and
    2.5 security, health, and other student services.
3. To develop a recommended policy action plan based on the findings of the study.

THEORETICAL FRAMEWORK

The following are the theories anchored in the study.

Theory on Gender Equality. Gender Equality is a theory has qualitative and quantitative aspects. The quantitative aspect implies an equal distribution women and men in all areas of society such as education, work, recreation, power, and position. However, the qualitative implies that knowledge and experiences and values of both women and men are given equal rights and used to enrich and direct all social areas and endeavor.

Theory of Constraints. The relationship of this study to the Theory of Constraints is more on the series of decision-making techniques. Secondly, it is applied to production, planning, and control, project management, accounting and performance measurements, particularly in the educational system with the application of cause-and-effect analysis.

Theory on Gender Mainstreaming. The theory on Gender Mainstreaming is also adapted to anchor this study. Gender mainstreaming is a contested concept and practice. It is the re-invention, restructuring, and re-branding of a key part of feminism in the contemporary era. It is both a new form of gendered political and policy practice, and it is a new gendered strategy for theory development. As a practice, gender mainstreaming is intended as a way of improving the effectivity of pair policies by making visible the gendered nature of assumptions, processes, and outcomes.

Theory of Change. The present study also finds its way to consideration of the Theory of Change, which postulates that building blocks in any system is expected to bring about long-term goal. These blocks that also refer to outcomes, results, accomplishments, or preconditions which are depicted on a map known the pathway of change or change framework, are the graphic presentations of the change process.

The study examined the gender sensitivity practices of science pre-service teachers in the selected Universities in CALABARZON Region VI - A in the School Year 2023 -2024. The results of the study will be basis for development of recommended policy action plan for science teacher education. It is assumed further that whatever weaknesses is seen in the process of evaluation is given consideration in recommended policy action plan that could bring about positive change in gender sensitivity practices of science pre-service teachers in selected Universities in Calabarzon Region IV- A

METHODOLOGY

The study employs a descriptive- evaluative research design with template with a questionnaire to explain the gender sensitivity practices of science pre-service teachers in the selected Universities in CALABARZON Region VI - A. It is typically designed to describe the process, impact of the development and implementation of policies, practices, or programs. It aims to provide information for decision makers (policy makers) related to the power or strength of policies, practices, or programs (Samosa and Dantay, 2022). This investigation approach includes the collection of data to address questions related to the status of the gender sensitivity practices of science pre-service teachers in the selected University in CALABARZON Region VI - A. It seeks to identify the essence of the situation as it occurs at the time of the analysis and to examine the causes of the situation.

The researchers use the purposive sampling in the study to secure a controlled data collection as well as interpretation pertaining to the commonalities or differences of answers by said sample population. Relatively, it will be very convenient on the part of the researcher to make sure that the data to be collected are all coming from the same nature or groups. The respondents are carefully chosen in accordance with the criteria who are one hundred sixty -nine (169) pre-service teachers in the selected Universities in CALABARZON Region VI - A.

This was affirmed on the writings of Samosa (2020), wherein it was pointed out that purposive sampling is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research. The sampling method use is highly accurate and relevant in the context of descriptive – evaluative research design.

Taking that aside, the researcher uses the structured questionnaire which will be a researcher made instrument with 4 Likert scale survey which are formulated based on literature and studies. The indicators used in this study were carefully chosen and improved after several consultations and discussions with the adviser. Important points will be chosen that could necessarily represent the essence, substance, and intention of the study. The researcher- made- checklist-survey questionnaire to gather data on the gender sensitivity practices of science pre-service teachers which measures the following components with ten (10) indicators for each variables considered such as delivery of the subject matter, use of language, classroom management/activities, didactics strategies, learning materials and assessment and evaluation. More so, assessment of the challenges encountered of science pre-service teachers

in the extent practices of gender sensitivity in terms of administration, curriculum, instruction, facilities and security, health, and other student services.

To determine the validity of the research instrument. The researchers present to the three (3) experts in the field of science for the necessary correction, modification and to establish its content validity. Samosa et al (2021) said that content validity chiefly targeting on the usefulness, originality, and representativeness of the items of the test to assess the characteristics to look for. This is usually done when a group of experts in the field of interest has inspected rigorously the test items.

Meanwhile, the final instrument use will be the result of the modifications or corrections made according to the suggestions or corrections done by the evaluators. Upon consideration of suggestions and recommendations given on face validity of the instrument, misleading questions will be modified as well. After which, the researcher conducts a dry run or trial among twenty (20) nonrespondents with same characteristics of the subjects of the study for the test of reliability using Cronbach Alpha Test of Validity and Reliability.

All noted discrepancies or vague statements on the instrument were integrated and incorporated in the finalization of the instrument. Cronbach's alpha is a measure of internal consistency that is calculated using sample variance, total scores, and number of items. Cronbach's alpha is used to assess how consistently multiple items in a survey or test assess the same skill or characteristic. Higher values of Cronbach's alpha suggest higher internal consistency (Samosa et al, 2021). All coefficients in both tests were above 0.93, which indicates high reliability.

The researchers wrote a letter to the Campus Administrators for approval to conduct a research study among science pre-service teachers. Upon approval by the Campus Administrators, it will be endorsement to Teacher Education Chairpersons, the researcher was report to the Teacher Education Chairpersons of the subject university for the actual conduct of the study.

The researchers sent google forms to campus administrators and department chairperson. It also ensures observance proper coordination with the Teacher Education Chairpersons shall be arranged prior to the conduct of the said activity. The data gathering procedure must conformed with the policy guidelines on the adherence to ethical research principles and responsibilities in studies involving teaching, teaching-related, non-teaching personnel and learners to safeguard data at the site of data collection, measures to protect the privacy and confidentially of participants, duration/period data will be stored online, measures on how the data transferred and destroy after the study has been completed.

The accomplished questionnaires were sorted, and the responses gathered will be tabulated and tallied using excel. The summary of data was treated for statistical computation. The analyzed data were treated for interpretation and analysis by the researcher in relation to the study conducted.

Data gathered from this study will be subjected to the following statistical treatments. Weighted Mean was used to describe the gender sensitivity practices of science pre-service teachers in terms of delivery of the subject matter, use of language, classroom management/activities, didactics strategies, learning materials and assessment and evaluation. More so, assessment of the challenges encountered of science pre-service teachers in the extent practices of gender sensitivity. This addressed objectives 1 and 2.

Table 1
Likert Scale Interpretation

Rating	Verbal Interpretation	
	Gender Sensitivity Practices	**Challenged Encountered**
1.00 – 1.75	Never Practiced	Not a Problem
1.76 – 2.51	Seldom Practiced	Moderately Serious Problem
2.52 – 3.27	Often Practiced	Serious Problem
3.28 – 4.00	Always Practiced	Very Serious Problem

RESULTS & DISCUSSIONS

This portion discusses the findings obtained from the study on the survey – questionnaires on the gender sensitivity practices of science pre-service teachers in the selected Universities in selected Universities in CALABARZON Region VI - A in the School Year 2023 -2024. Furthermore, it interprets and analyzes data gathered based on survey – questionnaires given to the -respondents. The findings were presented according to the objectives stated.

1. Extent Gender Sensitivity Practices of Science Pre-service Teachers

Presented on the following tables were the evaluation of Science Pre-service Teachers on the extent level of gender sensitivity practices in terms of delivery of the subject matter, use of language, classroom management / activities, didactics strategies, learning materials and assessment and evaluation. A summary of the evaluation was also presented for a holistic discussion of the evaluation of the extent level of gender sensitivity practices of Science Pre-service Teachers.

Table 2
Extent Level of Gender Sensitivity Practices of Science Pre-service Teachers in terms of Delivery of the Subject Matter

No	Delivery of the Subject Matter *As a pre-service science teacher, I can*	WM	Verbal Interpretation
1	carefully select content that will help the learners attain maximum self - sufficiency in learning.	3.29	Always Practiced
2	present the subject matter which can be easily learned through optimal replacement, appropriate organization, and sequencing of contents.	3.78	Always Practiced
3	regularly check and verify the content to determine if it is within the context of the existing reality about the role of male and female in a society and government.	3.88	Always Practiced
4	ensure that both male and female authors and researchers are considered in my references.	3.92	Always Practiced
5	develop lesson objectives considering cultural aspects and gender dimensions.	3.33	Always Practiced
6	make sure that the relation between teaching content and gender is revealed.	3.76	Always Practiced
7	see to it that students reflect about gender -related structural, constraints within their domain, work environment and job market.	3.45	Always Practiced
8	adjust my lesson content taking into consideration my male. and female students' maturity, prior experiences, and social value.	3.88	Always Practiced
9	reinforce my lesson topics with any gender issues (e.g. VAWC, women's rights, etc.).	3.91	Always Practiced
10	detect and counter-act one - sided content and objectives.	3.45	Always Practiced
	Overall Weighted Mean	**3.67**	**Always Practiced**

Reflected on table 2 was the extent level of gender sensitivity practices of science pre-service teachers in terms of delivery of the subject matter with ten (10) indicators considered.

The data presented shows that extent level of gender sensitivity practices of science pre-service teachers in terms of delivery of the subject matter, the science pre-service teacher- respondents' assessment on the factors and indicators set forth posed an overall weighted mean of 3.67 and interpreted to be always practiced.

Meanwhile, indicator 1 "carefully select content that will help the learners attain maximum self -sufficiency in learning" science pre-service teacher – respondents obtained a weighted mean of 3.29 which indicated as always practiced. More so, indicator 2 "present the subject matter which can be easily learned through optimal replacement, appropriate organization, and sequencing of contents", established a weighted mean of 3.78, interpreted as always practiced. Cognizant to, indicator 3 "regularly check and verify the content to determine if it is within the context of the existing reality about the role of male and female in a society and government", got a weighted mean of 3.88, interpreted as always practiced. In quest for indicator 4 "ensure that both male and female authors and researchers are considered in my references", the evaluation was 3.92, interpreted as always practiced. Affirmatively, indicator 5 "develop lesson objectives considering cultural aspects and gender dimensions", measured as 3.33 which indicated as always practiced. Proportionally, indicator 6 "make sure that the relation between teaching content and gender is revealed", the respondents illustrate always practiced based on computed weighted mean of 3.76. Similarly, indicator 7 "see to it that students reflect about gender -related structural. constraints within their domain, work environment and job market" the science pre-service teacher – respondents marked as always practiced based on computed weighted mean of 3.45. Interconnectedly, indicator 8 "adjust my lesson content taking into consideration my male and female students' maturity, prior experiences, and social value", assessed as 3.88 and interpreted as always practiced. Concomitant to indicator 9, "reinforce my lesson topics with any gender issues e.g. VAWC, women's rights, etc." science pre-service teacher – respondents evidently assessed as always practiced based on computed weighted mean of 3.91. Lastly, indicator 10 "detect and counter-act one - sided content and objectives", science pre-service teacher – respondents gathered a weighted mean of 3.45 and interpreted as always practiced.

From this, school is one of the settings where gender concerns are evident, teachers must use gender-sensitive pedagogy to provide students with a gender-responsive education that supports the achievement of their full potential.

So that, in the teaching and learning of different subjects offered in a school, a teacher may consider gender inclusive activities (Gamboa et al, 2020). Integrating a gender-sensitive teaching strategy is vital to foster inclusivity inside the classroom that lessen this growing dilemma in the learning gap between female and male students as the advent of learner-centered teaching, integrating gender-related policies and pedagogical practices is fundamental to honing a school environment that is welcoming and active in providing equal opportunities for every learner (Sebastian, Banate, & Saquin, 2022). It was also supported with the findings of Cagang et al (2023) that students learn best when teaching modality is appropriate to their skills and interests.

Table 3
Extent Level of Gender Sensitivity Practices of Science Pre-service Teachers in terms of Use of Language

No	Use of Language *As a pre-service science teacher, I can*	WM	Verbal Interpretation
1	uses words that show equal treatment of the students regardless of their gender.	3.34	Always Practiced
2	uses words that do not show biases/ partiality to any gender group during classroom discussion.	3.78	Always Practiced
3	doesn't use words that are offensive to both male, female, and LGBTQI group.	3.56	Always Practiced
4	uses words which considers the feelings of the students with regards to their gender.	3.49	Always Practiced
5	shows impartiality biases towards the LGBTQI students.	3.47	Always Practiced
6	do not use harmful terms in giving examples towards the male, female and LGBT students.	3.38	Always Practiced
7	calls the students in appropriate way with regards to their gender.	3.39	Always Practiced
8	speaks and writes using either gender-neutral or male and female forms of words.	3.38	Always Practiced
9	gives instruction in a third person, gender-neutral, point-of-view (e.g. avoidance of using his/her pronoun/s)	3.48	Always Practiced
10	uses non-gender biased words in communicating with the students inside or outside the classroom.	3.54	Always Practiced
	Overall Weighted Mean	**3.48**	**Always Practiced**

Gleaned on table 3 was the extent level of gender sensitivity practices of science pre-service teachers in terms of language used with ten (10) indicators considered.

The data revealed that extent level of gender sensitivity practices of science pre-service teachers in terms of language used, the science pre-service teacher- respondents' measurement on the factors and indicators set forth posed an overall weighted mean of 3.48 and interpreted to be always practiced.

As such, In the analysis of indicator 1 "uses words that show equal treatment of the students regardless of their gender", the science pre-service teachers expressed always practiced as evident in the computed weighted mean of 3.34. Likewise, indicator 2 "uses words that do not show biases/ partiality to any gender group during classroom discussion", assessed as always practiced as apparent to the computed weighted mean of 3.78. Moreover, indicator 3 "doesn't use words that are offensive to both male, female, and LGBTQI group", measured as always practiced noticeable to the computed weighted mean of 3.56. More so, indicator 4 "uses words which consider the feelings of the students with regards to their gender," account as always practiced discernable to the computed weighted mean of 3.56. In juxtaposition, indicator 5 "shows impartiality biases towards the LGBTQI students", guarded as always practiced detectable to the computed weighted mean of 3.47. Connectedly, indicator 6 "do not use harmful terms in giving examples towards the male, female and LGBT students", science pre-service teacher – respondents assessed as always practiced based on computed weighted mean of 3.38. Relatively, indicator 7 "calls the students in appropriate way with regards to their gender", perceptible as always practiced detectable to the computed weighted mean of 3.39. Also, indicator 8 "speaks and writes using either gender-neutral or male and female forms of words", apparently as always practiced distinguish to the computed weighted mean of 3.39. More than that, indicator 9 "gives instruction in a third person, gender-neutral, point-of-view (e.g. avoidance of using his/her pronoun/s)", unmistakable as always practiced discern to the computed weighted mean of 3.48. Lastly, indicator 10 "uses non-gender biased words in communicating with the students inside or outside the classroom", indubitable as always practiced based on the computed weighted mean of 3.54. That is why, schools and teachers have a key role in how children construct and code gender through classroom practices, language, expectations and behaviors, and values system and attitudes. Schools shape/socialize students via the official and hidden curriculum, in other words through behavior codes, classroom organization and the informal pedagogical methods used by teachers (i.e., discipline and punishment methods, etc.). It cannot be considered that teachers are gender-neutral persons separate from the strong cultural and social norms of their society.

As Lomotey (2017) stated, gender fair language becomes successful because there are legal measures to support and implement it. It is important to mention that the gendered class teachers should be very conscious about their language use. They must choose the words, phrases and sentence that are not gender sensitive. This point that teacher not only teach language knowledge, skills, and attitudes, but they also build students' critical awareness of particular values, such as moral values, cultural values, and gender-related values (Widodo et al. 2018). In the study of Yuden, Chuki, and Dorji (2020) revealed that most of the classes observed, girls seemed confident and participated actively. Then, the teacher had a good rapport with students, and classroom interactions appeared casual when the teacher used derogatory words to address boys who were not very active in the class. These words may not imply gender meanings, but it carries the condescending connotation that might affect the particular learner's self-esteem. In line with Malik, Umar, and Nabi, (2023) claimed that teacher-student communication in classroom is an ever-present and integral part of academic world at university level with students of male and female gender in one classroom was assumed that the choice and use of gender sensitive language by the teachers may become biased in the gendered classrooms.

Table 4
Extent Level of Gender Sensitivity Practices of Science Pre-service Teachers in terms of Classroom Management/Activities

No	Classroom Management/Activities *As a pre-service science teacher, I can*	WM	Verbal Interpretation
1	gives equal opportunities to all genders when having a classroom activity. (e.g. prayer, checking of attendance.)	3.33	Always Practiced
2	makes sure that everyone has given an opportunity, be it male or female and LGBT.	3.56	Always Practiced
3	considers both male and female authors/researchers during classroom activities.	3.78	Always Practiced
4	presents male and female persons including LGBTQI in the instructional materials equally.	3.37	Always Practiced
5	provides seating arrangements with no emphasis on their gender	3.29	Always Practiced
6	provides examples and activities in class which reflect experiences and interests of both genders.	3.45	Always Practiced
7	checks the materials which are not friendly for all genders and develop support materials for use.	3.56	Always Practiced
8	ensures fair division of responsibilities.	3.67	Always Practiced
9	ensure that instructional materials are not limited to female or male students.	3.47	Always Practiced
10	gives equal/fair discipline in both genders.	3.88	Always Practiced
	Overall Weighted Mean	**3.54**	**Always Practiced**

Table 4showed the extent level of gender sensitivity practices of science pre-service teachers in terms of classroom management/activities with ten (10) indicators considered.

The data presented shows that extent level of gender sensitivity practices of science pre-service teachers in terms of classroom management/activities, the science pre-service teacher- respondents' measurement on the factors and indicators set forth posed an overall weighted mean of 3.54 and interpreted to be always practiced.

Consequently, indicator 1 "gives equal opportunities to all genders when having a classroom activity. (e.g. prayer, checking of attendance.)" marked as always practiced based on computed weighted mean of 3.33. Looking forward to, indicator 2 "makes sure that everyone has given an opportunity, be it male or female and LGBT", noticeable as always practiced assessment based on computed weighted mean of 3.56. In request for indicator 4 "presents male and female persons including LGBTQI in the instructional materials equally", illustrates as always practiced measurement based on computed weighted mean of 3.37. Taking aside, indicator 5 "provides seating arrangements with no emphasis on their gender", gauged as always practiced distinguishable computed weighted mean of 3.29. Looking forward to indicator 6 "provides examples and activities in class which reflect experiences and interests of both genders", estimated a computed weighted mean of 3.45, interpreted as always practiced. Behaviorally, indicator 7 "checks the materials which are not friendly for all genders and develop support materials for use" attained a 3.56 perceived by science pre-service teacher- respondents' as always practiced. Apparently, indicator 8 "ensures fair division of responsibilities", grasped a 3.67 perceived by science pre-service teacher- respondents' as always practiced. Concomitantly, indicator 9 "ensure that instructional materials are not limited to female or male students", comprehend a 3.47 perceived by science pre-service teacher- respondents' as always practiced. Lastly, indicator 10 "gives equal/fair discipline in both genders", make out 3.88 and interpreted as always practiced. A gender friendly classroom environment can build harmonious relations between boys and girls at different stages of schooling. (Madriaga, 2023). But, in developing countries, gender-blind teaching approaches foster gender inequities in the classroom, giving rise to a teaching and learning environment where male students are allowed to dominate debates and classroom space (Chapin & Warne, 2020).

Table 5
Extent Level of Gender Sensitivity Practices of Science Pre-service Teachers in terms of Didactics Strategies

No	Classroom Management/Activities *As a pre-service science teacher, I can*	WM	Verbal Interpretation
1	shown the gender equality in the teaching styles of the teacher.	3.45	Always Practiced
2	develops the gender competence in the learning objectives in the science classroom.	3.76	Always Practiced
3	gives proper affirmation/ rewards regardless of gender.	3.80	Always Practiced
4	equally receives contributions of ideas from male and female students.	3.92	Always Practiced
5	ensure that doesn't look on the student 's gender when giving grades or judgment.	3.78	Always Practiced
6	equally addresses male and female students during class discussion.	3.88	Always Practiced
7	gives equally intensive and constructive feedback to male and female students.	3.90	Always Practiced
8	ensures a class setting, supportive for all genders.	3.87	Always Practiced
9	gives equal types of classrooms activities, regardless of their gender.	3.88	Always Practiced
10	stresses upon the values of respect and responsibility to be practiced by both genders.	3.92	Always Practiced
	Overall Weighted Mean	3.82	Always Practiced

Displayed in the table 5 showed the extent level of gender sensitivity practices of science pre-service teachers in terms of didactics strategies with ten (10) indicators considered.

The data presented shows that extent level of gender sensitivity practices of science pre-service teachers in terms of didactics strategies, the science pre-service teacher- respondents' measurement on the factors and indicators set forth posed an overall weighted mean of 3.54 and interpreted to be always practiced.

Looking on indicator 1 "shown the gender equality in the teaching styles of the teacher", the science pre-service teachers articulate always practiced as evident in the computed weighted mean of 3.45. Engagingly, indicator 2 "develops the gender competence in the learning objectives in the science classroom", evaluates as always practiced based on computed weighted mean of 3.76. Affirmatively, indicator 3 "gives proper affirmation/ rewards regardless of gender", measures as always practiced based on computed weighted mean of 3.80. Similarly, indicator 4 "equally receives contributions of ideas from male and female students", rating as always practiced emanate from computed weighted mean of 3.92. Proportionally, indicator 5 "ensure that doesn't look on the student 's gender when giving grades or judgment", found as always practiced well-thought-out from computed weighted mean of 3.92. Relatively, indicator 6 "equally addresses male and female students during class discussion", consider as always practiced based on computed weighted mean of 3.88. Affirmatively, indicator 7 "gives equally intensive and constructive feedback to male and female students", cogitate on as always practiced and gleaned 3.90 computed weighted mean. Interconnectedly, indicator 8 "ensures a class setting, supportive for all genders", contemplated as always practiced and culled a 3.87 computed weighted mean. More so, indicator 9 "gives equal types of classroom activities; regardless of their gender", draws as always practiced and find out a 3.88 computed weighted mean.Lastly, indicator 10 "stresses upon the values of respect and responsibility to be practiced by both genders",

From this, that pre- service science teachers to be more gender-aware and equip them with the skills to understand and address the specific learning needs of both sexes. It should developed teachers' teaching practices that propagate equal treatment and participation of girls and boys in the classroom and the wider school community, too.

It was also highlighted in the study of Hernandez and Cudiamat (2018) teachers need to focus on each individual learner's skills and/or weaknesses, and thus conduct a class session free from gender bias. Also, this was supported by the study of Tarrayo, (2023) that teachers are ready to integrate a gender perspective into their teaching; however, concrete frameworks, curriculum materials, teacher education, and institutional support are crucial given the sensitive, ethical concerns that consideration of gender may generate among educators, students, and the wider community.

More so, Gaitan (2018) revealed that teachers are aware of gender concepts, their instructional behaviors showed gender sensitive perspective and finally, they employ strategies for teaching their lessons. However, there is lack of specific strategies to teach gender concepts and teaching these concepts is not yet mainstreamed in the curriculum and not explicitly included in the learning outcomes.

Table 6
Extent Level of Gender Sensitivity Practices of Science Pre-service

Teachers in terms of Learning Materials

No	Learning Materials *As a pre-service science teacher, I can*	WM	Verbal Interpretation
1	use learning resource which is gender neutral rather than gender binary.	3.34	Always Practiced
2	include layout and design materials and examples appropriately representing both male, female and LGBTQIA.	3.37	Always Practiced
3	use springboards such as conceptual understanding to teach science featuring social and cultural ideas pertaining to gender equality.	3.39	Always Practiced
4	use illustrations with non-stereotypic situations for male, female and LGBTQIA roles.	3.43	Always Practiced
5	depict diverse socio-economic backgrounds and religious backgrounds, including disabled people, of equal prominence, potential and respect in the learning materials in science classroom.	3.77	Always Practiced
6	present other supplementary materials such as posters, graphs and figures in the classroom displaying male, female and LGBTQIA in equal numbers.	3.89	Always Practiced
7	present materials which the tone of superiority is not perceived as brought by patriarchal perspective.	3.25	Always Practiced
8	give similar significance to male, female and LGBTQIA characterized categories.	3.77	Always Practiced
9	incorporate science themes and context relative to the life male, female and LGBTQIA students.	3.88	Always Practiced
10	maximize science learning materials which corresponds to the needs and experiences of male, female and LGBTQIA students.	3.92	Always Practiced
	Overall Weighted Mean	**3.60**	**Always Practiced**

Exhibited in the table 6 showed the extent level of gender sensitivity practices of science pre-service teachers in terms of learning materials with ten (10) indicators considered.

As gleaned on gathered data the extent level of gender sensitivity practices of science pre-service teachers in terms of learning materials, the science pre-service teacher- respondents' measurement on the factors and indicators set forth posed an overall weighted mean of 3.60 and interpreted to be always practiced.

Taking aside, indicator 1 "use learning resource which is gender neutral rather than gender binary", gripped a 3.34 become cognizant of science pre-service teacher- respondents' as always practiced. Meanwhile, indicator 2 "include layout and design materials and examples appropriately representing both male, female and LGBTQIA", detected as always practiced based on the computed weighted mean of 3.37. Cognizantly, indicator 3 "use springboards such as conceptual understanding to teach science featuring social and cultural ideas pertaining to gender equality" dig-up a 3.39, the science pre-service teacher- respondents' expressed as always practiced. Emergently, indicator 4 "use illustrations with non-stereotypic situations for male, female and LGBTQIA roles", the science pre-service teacher- respondents' noted a 3.43 interpreted as always practiced. As such, indicator 5 "depict diverse socio-economic backgrounds and religious backgrounds, including disabled people, of equal prominence, potential and respect in the learning materials in science classroom," respondents make out of 3.77 and interpreted as always practiced. In a way, indicator 6 "present other supplementary materials such as posters, graphs and figures in the classroom displaying male, female and LGBTQIA in equal numbers," noticed an always practiced as gleaned from weighted mean of 3.89. In favor of indicator 7 "present materials which the tone of superiority is not perceived as brought by patriarchal perspective", respondents mentioned as always practiced based on calculated weighted mean of 3.25. Concomitantly, indicator 8 "give similar significance to male, female and LGBTQIA characterized categories," spotted a weighted mean of 3.77 and interpreted as always practiced. In quest for indicator 9 "incorporate science themes and context relative to the life male, female and LGBTQIA students", differentiate a weighted mean of 3.88 and interpreted as always practiced. Lastly, indicator 10 "maximize science learning materials which corresponds to the needs and experiences of male, female and LGBTQIA students," deemed a weighted mean of 3.92 and interpreted as always practiced.

From this, as educators prepare the modules for their learners, inclusiveness should still be emphasized. The materials should allow all students to realize that learning is for everybody. The approach in preparing learning materials should emphasize universal inclusion, especially of those often subject to discrimination, such as indigenous peoples, girls, women, LGBT, and persons with special needs. However, such materials often portray ideas and images that perpetuate gender stereotypes and encourage acceptance of entrenched norms that teachers somehow overlooked prior to usage. With this, teaching and learning resources must be reviewed for gender bias and revised accordingly to ensure that they are free from gender biases and stereotypes.

Domogen, Cuyangoan, and Ilacad, (2022) mentioned that equality in gender needs to be mainstreamed, from the preparation of the syllabus content to its execution in the modules. It is important to consider that even at the planning stage, consideration for gender equality must be advocated. Shallaita et al. (2021) and Wafa (2021) analyzed teaching materials for gender representation. However, Aguilar-Delavin (2022) evaluated the manifestations of gender bias in modules during the pandemic, the studies impressively reported gender imbalance practices; however, the area most focused upon was gender bias. Looking on the Section 4 of the same CHED memo indicates that faculty must provide learning materials that are gender-neutral and employ language that is sensitive to gender issues. Thus, learning materials such as laboratory manuals, modules, teaching guides, teaching manuals, workbooks, operation manuals, as well as everything that teachers prepare, must exhibit the use of gender-sensitive terms in the texts. This agrees with the study of Dierking (2017) that it requires additional work for teachers to review their materials for gender bias. But using gender-sensitive materials in class can help support the creation of more gender-sensitive attitudes among students. It can also establish a stronger learning environment where all students are motivated to succeed. Ancho and Arrieta (2021) cited that, regardless of age, gender, educational attainment and years of teaching experience, teachers have a mindset to grow in the profession and be better educators. Teachers must unlearn the old, relearn new knowledge and skills, and be resourceful in finding appropriate learning resources so that students learn according to their current needs and what the world needs in the future.

Table 7
Extent Level of Gender Sensitivity Practices of Science Pre-service Teachers in terms of Assessment & Evaluation

No	Assessment & Evaluation *As a pre-service science teacher, I can*	WM	Verbal Interpretation
1	give clear communication of the learners' needs, progress, and achievement regardless of gender to key stakeholders, including parents/ guardians are observed and prompted.	3.35	Always Practiced
2	use same assessment tools in evaluating performance of male, female and LGBTQIA students (same level of questions and grading system).	3.47	Always Practiced
3	monitor and evaluates learner's progress and achievement consistently using learner attainment data with same extent as with male and female students.	3.87	Always Practiced
4	give performance task which diverse and open for all gender in terms of acting a role (e.g. firefighter being played by a female student or teacher being played by male student and alike).	3.81	Always Practiced
5	use gender inclusive language (verbal and non-verbal) in different assessment methods to avoid discrimination.	3.38	Always Practiced
6	give assessment activities to students equally depending on their preferred outcomes especially in doing differentiated activities.	3.33	Always Practiced
7	review existing tests, examinations, and assessments to ensure that gender stereotypes are not included in all aspects including examples, choices instructions even in constructing test questions.	3.39	Always Practiced
8	give formative and critical feedback equally to male, female and LGBTQIA students.	3.40	Always Practiced
9	use objective criteria in assessing students' performance of all sexes.	3.42	Always Practiced
10	include variety of question types in developing test items to cater different learning styles of male, female and LGBTQIA students.	3.88	Always Practiced
	Overall Weighted Mean	**3.53**	Always Practiced

Unveiled in the table 7 showed the extent level of gender sensitivity practices of science pre-service teachers in terms of assessment & evaluation with ten (10) indicators considered.

The data presented shows that extent level of gender sensitivity practices of science pre-service teachers in terms of assessment & evaluation, the science pre-service teacher- respondents' measurement on the factors and indicators set forth posed an overall weighted mean of 3.53 and interpreted to be always practiced.

Vehemently, indicator 1 "give clear communication of the learners' needs, progress, and achievement regardless of gender to key stakeholders, including parents/ guardians are observed and prompted" the respondents shared as always practiced based on their assessment reflected in computed weighted mean of 3.35. Remarkably, indicator 2 "use same assessment tools in evaluating performance of male, female and LGBTQIA students (same level of questions and grading system)", obtained 3.47 and interpreted as always practiced. Notably, indicator 3 "monitor and evaluates learner's progress and achievement consistently using learner attainment data with same extent as with male and female students", acquired weighted mean of 3.87 interpreted as always practiced. Noticeably, indicator 4 "give performance task which diverse and open for all gender in terms of acting a role (e.g. firefighter being played by a female student or teacher being played by male student and alike)," reaped weighted mean of 3.81 interpreted as always practiced. Deemed, indicator 5 "use gender inclusive language (verbal and non-verbal) in different assessment methods to avoid discrimination," secured a weighted mean of 3.38 interpreted as always practiced. Accurately, indicator 6 "give assessment activities to students equally depending on their preferred outcomes especially in doing differentiated activities", derived 3.33 weighted mean and interpreted as always practiced. Sequentially, indicator 7 "review existing tests, examinations, and assessments to ensure that gender stereotypes are not included in all aspects including examples, choices instructions even in constructing test questions," attained 3.39 weighted mean and interpreted as always practiced. Interestingly, indicator 8 "give formative and critical feedback equally to male, female and LGBTQIA students," lay hold of 3.40 weighted mean and interpreted as always practiced. Necessarily, indicator 9 "use objective criteria in assessing students' performance of all sexes," get 3.42 weighted mean and interpreted as always practiced. Lastly, indicator 10 "include variety of question types in developing test items to cater different learning styles of male, female and LGBTQIA students," gained 3.88 and interpreted as always practiced.

Results shows that awareness of the teachers on the GAD concepts and principles needs and test-item writing needs more enhancement for them to be able to integrate gender perspective in their test development process. Teachers have been developing and testing a range of measurement approaches aiming to capture relative improvements in each individual student's learning, rather than their performance relative to the type of 'comparative measure' (Villagracia, 2023).

This relative measure gives critical insight into the progress each student makes while learning. Based on the study of Lualhati (2019) regarding the learning evaluation design, the study concluded that respondents strongly agreed that they observe non-formal forms of communication. It shows that faculty members' utilization of silent language implies that they transfer messages through the complex combination of appearance, posture and facial expressions. Similarly, it also concluded that the respondents use a professional judgement to evaluate students' learning and output. Respondents were careful not to limit what they ask their students to perform in different classroom activities. Results also concluded that respondents strongly agreed that learning evaluation should make certain that prejudices and stereotypes are not adopted in their feedback and learning evaluation methods. On the other hand, faculty members agreed that inclusion of gender competence in learning evaluation/criteria from respondents should also be considered. This finding reveals that their judgement and decision on students' achievement is fair and reliable.

According to Barodia (2015), the use of gender-neutral words, examples and images in exam papers and other instructional assessments should be implemented not only among the primary schools but to any educational institutions as well. With this strategy, students can be given fair options and can encourage not to stereotype particular profession or job based on the examples provided in their exams. As Villaroman (2017), the implicit integration entails GAD's embeddedness in the given topics. As such, the integration is dependent upon the teachers' initiative. It is worth mentioning that for most of the faculty members who were able to integrate gender and development, they were able to do so because of the previous background that they had. For most regular faculty members, they had participated in the Gender Sensitivity Trainings. For part-timers, it was done through seminars and the integration of GAD in their tertiary education. Thus, the capability to mainstream solely depend if the faculty is well equipped and ready to embrace the mainstreaming in the existing curricula. Fontanos (2019) "If reports aggregated learners according to what they have learned & what else they need to learn, then underachievement of learners would be seen as an issue that can be addressed through education interventions & learning solutions at the level of schools and classrooms". One way to ensure success of implementation is through capacitating the competency of the teachers in test development process with a gender perspective. This can be done though training, workshop, seminars and the like.

Table 8
Summary of the Assessment of Extent Level of Gender Sensitivity Practices of Science Pre-service Teachers

No	Variables	WM	Verbal Interpretation
1	Delivery of the subject matter	3.67	Always Practiced
2	Use of Language	3.54	Always Practiced

3	Classroom Management / Activities	3.48	Always Practiced
4	Didactics Strategies	3.82	Always Practiced
5	Learning materials	3.60	Always Practiced
6	Assessment and Evaluation	3.53	Always Practiced
	Overall	**3.60**	**Always Practiced**

Shown on table 8 was the summary of the evaluation of science pre-service teachers on the extent the level of gender sensitivity practices in terms of delivery of the subject matter, use of language, classroom management / activities, didactics strategies, learning materials and assessment and evaluation.

Demmed in the gathered data it shows that in terms of delivery of the subject matter, the science pre-service teachers' assessment on the factors and indicators set forth posed a weighted mean of 3.67 and interpreted to be always practiced. On the other hand, use of language posed a weighted mean of 3.54 and interpreted to be always practiced. Taking aside, classroom management / activities gleaned a weighted mean of 3.48 and interpreted to be always practiced. Looking forward to didactics strategies assessed to be always practiced as reflected on the weighted mean of 3.82. As such, learning materials, the science pre-service teachers agreed as always practiced as secured from the weighted mean of 3.60. Meanwhile, assessment and evaluation draw a 3.53 and interpreted to be always practiced.

In the analysis of the overall evaluation of science pre-service teachers on the extent the level of gender sensitivity practices in terms of delivery of the subject matter, use of language, classroom management / activities, didactics strategies, learning materials and assessment and evaluation on the factors and indicators set forth posed a overall weighted mean of 3.60 and interpreted to be always practiced. With this, the assurance of eliminating stereotypes, discrimination, and gender-sensitive issues in education is possible and well-observed among respondents. This is in observance of Article XIV of the 1987 Philippine Constitution that states, the state shall protect and promote the right of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all. Therefore, no one can be subject to discrimination on the basis of, among other grounds, sex, ethnicity, geographical location, economic circumstances, disability, citizenship or residence status, membership of a minority group, religion, detention, or sexual orientation.

In line with the study of Madriaga (2023), that the teachers in Marinduque State College are gender sensitive and incorporate gender sensitivity in their teaching practices. Consequently, Monleon et al. (2021) also study the gender sensitivity level of the students from the four selected state universities and colleges (SUCs) in Region IV-B (MIMAROPA) - Marinduque State College, Palawan State University, Western Philippines University-Aborlan, and Occidental Mindoro State College. The study found that among the four SUCs, observed practices gender sensitivity in teaching and learning process. Moreover, Manubac et al. (2019) found that students were aware of gender equality; however, they have a very low understanding of gender roles and gender stereotypes and have shown some gender biases.

2. Challenges Encountered of Science Pre-service Teachers in the Extent Practices of Gender Sensitivity

Presented on the following tables were the evaluation of challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of administration, curriculum, instruction, facilities and security, health, and other student services. A summary of the evaluation was also presented for a holistic discussion of the evaluation of the challenges encountered of science pre-service teachers in the extent practices of gender sensitivity.

Table 9
Challenges Encountered of Science Pre-service Teachers in the Extent Practices of Gender Sensitivity in terms of Administration

No	Administration *I am experiencing challenges in..*	WM	Verbal Interpretation
1	awareness of administrators and implementers on the basic principles and legal mandates of gender sensitivity.	1.23	Not a Problem
2	existence of agency gender and development action plan and budget.	1.30	Not a Problem
3	approved budget for gender programs, projects and activities released promptly.	1.28	Not a Problem
4	provision of clear policies and guidelines on the implementation of gender and development projects programs and activities in every unit.	1.77	Moderately Serious Problem
5	institutionalized gender and development agenda in every unit of the agency.	1.60	Not a Problem
6	gender-sensitive trainings for personnel and clientele.	1.02	Not a Problem
7	enhancement of the skills of gender and development trainers, seminars and workshops.	1.33	Not a Problem

8	establishing and strengthening networks with local government units and other agencies in the implementation of gender and development projects programs and activities.	2.32	Serious Problem
9	development and adoption of information materials on gender.	1.21	Not a Problem
10	linkages to the community to promote gender equality.	1.77	Moderately Serious Problem
	Overall Weighted Mean	**1.48**	Not a Problem

Manifested on table 9 was challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of administration with ten (10) indicators considered.

The data presented shows that challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of administration, the science pre-service teacher- respondents' assessments on the factors and indicators set forth posed an overall weighted mean of 1.48 and interpreted to be not a problem.

As such, indicator 1 "awareness of administrators and implementers on the basic principles and legal mandates of gender sensitivity," attained 1.23 weighted mean and interpreted to be not a problem. Likewise, indicator 2 "existence of agency gender and development action plan and budget," achieved 1.23 weighted mean and interpreted to be not a problem. Affirmatively, indicator 3 "approved budget for gender programs, projects and activities released promptly," gained 1.28 weighted mean and interpreted to be not a problem. However, indicator 4 "provision of clear policies and guidelines on the implementation of gender and development projects programs and activities in every unit," take 1.77 weighted mean and interpreted to be moderately serious problem. Looking forward, indicator 5 "institutionalized gender and development agenda in every unit of the agency," culled 1.60 weighted mean and interpreted to be not a problem. Proportionally, indicator 6 "gender-sensitive trainings for personnel and clientele," gathered 1.02 weighted mean and interpreted to be not a problem. Relatively, indicator 7 "enhancement of the skills of gender and development trainers, seminars and workshops," get 1.33 weighted mean and interpreted to be not a problem. On the other hand, indicator 8 "establishing and strengthening networks with local government units and other agencies in the implementation of gender and development projects programs and activities," procured 1.33 weighted mean and interpreted to be serious problem. Concomitantly, indicator 9 "development and adoption of information materials on gender", comes by 1.21 weighted mean and interpreted to be not a problem. Lastly, indicator 10 "linkages to the community to promote gender equality," determined with computed 1.77 weighted mean and interpreted to be not a problem. In line with findings of Perigo, and Mangila (2020). have noted that the lack of management support and operational requirements were the typical problems focal persons encountered during the GAD Program implementation. There is a need to implement the designed framework that strengthens the awareness and integration of GAD and classroom management (Bacquian, 2019). GAD programs should be implemented with the cooperation of concerned agencies, such as the involvement of communities.

Table 10
Challenges Encountered of Science Pre-service Teachers in the Extent Practices of Gender Sensitivity in terms of Curriculum

No	Curriculum *I am experiencing challenges in..*	WM	Verbal Interpretation
1	reflecting the needs and life experiences of both boys and girls.	1.55	Not a Problem
2	allowing to choose strands that may not be traditionally male or female preferences.	1.43	Not a Problem
3	promoting peace and equality regardless of the race, class, caste, disability, religion or ethnic background.	1.55	Not a Problem
4	non- existence of social stereotypes.	1.33	Not a Problem
5	encouraging both male and female in the classroom activities.	1.45	Not a Problem
6	fair treatment in the learning process and equitable outcomes.	1.60	Not a Problem
7	curricula and textbooks focus on individual characteristic of boys and girls and not on the collective characteristics.	1.12	Not a Problem
8	promoting sexuality and reproductive health education.	1.79	Moderately Serious Problem
9	participation of boys and girls in extracurricular activities.	1.28	Not a Problem
10	nonselective in admitting students in the different strands.	1.29	Not a Problem
	Overall Weighted Mean	**1.43**	**Not a Problem**

Betrayed on table 10 was challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of curriculum with ten (10) indicators considered.

The data presented shows that challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of curriculum, the science pre-service teacher- respondents' assessments on the factors and indicators set forth posed an overall weighted mean of 1.43 and interpreted to be not a problem.

Consequently, indicator 1 "reflecting the needs and life experiences of both boys and girls," revealed a computed weighted mean of 1.55, interpreted to be not a problem. More so, indicator 2 "allowing to choose strands that may not be traditionally male or female preferences", prevailed a 1.43 and interpreted to be not a problem. Also, indicator 3 "promoting peace and equality regardless of the race, class, caste, disability, religion or ethnic background," attained a 1.55 and interpreted to be not a problem. Similarly, indicator 4 "non- existence of social stereotypes," draws a 1.33 and interpreted to be not a problem. Proportionally, indicator 5 "encouraging both male and female in the classroom activities", hold a 1.45 computed weighted mean and interpreted to be not a problem. In addition, indicator 6 "fair treatment in the learning process and equitable outcomes," earned a computed weighted mean of 1.60 and interpreted to be not a problem. Cognizant to, indicator 7 "curricula and textbooks focus on individual characteristic of boys and girls and not on the collective characteristics", reaped a computed weighted mean of 1.12 and interpreted to be not a problem.

But on the other side, indicator 8 "promoting sexuality and reproductive health education", takes a computed weighted mean of 1.79 and interpreted to be moderately serious problem. In request for indicator 9 "participation of boys and girls in extracurricular activities", gathered a computed weighted mean of 1.28 and interpreted to be not a problem. Lastly, indicator 10 "nonselective in admitting students in the different strands," unsheathed 1.29 computed weighted mean and interpreted to be not a problem.

According to Decena (2021), the implementation of Gender-Responsive Basic Education in schools, as assessed by the respondents, is rated as moderately implemented across various aspects. These aspects include Learners' Development, Curriculum Standards, Learning Delivery, Learning Environment, Assessment of Learning, health, youth formation, school sports, Physical Facilities, Human Resource Development, and Employee welfare. This social issue required more in-depth exploration, especially in the classroom, to promote its significance and determine its applicability and effectiveness.

Table 11
Challenges Encountered of Science Pre-service Teachers in the Extent Practices of Gender Sensitivity in terms of Instruction

No	Instruction *I am experiencing challenges in..*	WM	Verbal Interpretation
1	instructional materials, quizzes and examinations are non- sexist, free of stereotypes and gender bias.	1.11	Not a Problem
2	boys and girls receive equal treatment, attention and have equal opportunities in learning process.	1.33	Not a Problem
3	they have freedom to learn, explore and develop skills in all academic subjects and extra- curricular activities.	1.28	Not a Problem
4	gender sensitivity training for pre-service teachers.	1.55	Not a Problem
5	practicing of the gender fair use language by teachers.	1.60	Not a Problem
6	performs different teaching strategies.	1.62	Not a Problem
7	promote awareness on the sexist roles and integrate them in class discussion whenever appropriate.	1.57	Not a Problem
8	refraining from using verbal expressions and/ or clinches reflecting traditional views on women.	1.42	Not a Problem
9	avoiding the use gender- biased terms instead promote the gender sensitive terms.	1.45	Not a Problem
10	development and review of daily lesson plan (DLP) and daily lesson log (DLL).	1.09	Not a Problem
	Overall Weighted Mean	**1.40**	**Not a Problem**

Unveiled on table 11 was challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of instruction with ten (10) indicators considered.

The data presented shows that challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of instruction the science pre-service teacher- respondents' assessments on the factors and indicators set forth posed an overall weighted mean of 1.40 and interpreted to be not a problem.

In a way, indicator 1 "instructional materials, quizzes and examinations are non- sexist, free of stereotypes and gender bias", grip a computed weighted mean of 1.11 and interpreted to be moderately serious problem. Affirmatively, indicator 2 "boys and girls receive equal treatment, attention and have equal opportunities in learning process," take hold of computed weighted mean of 1.33 and interpreted to be moderately serious problem. Likewise, indicator 3 "they have freedom to learn, explore and develop skills in all academic subjects and extra- curricular activities," lay hold of computed weighted mean of 1.28 and interpreted to be moderately serious problem. Relatively, indicator 4 "gender sensitivity training for pre-service teachers", yields a computed weighted mean of 1.55 and interpreted to be moderately serious problem. Proportionally, indicator 5 "practicing of the gender fair use language by teachers," gained a computed weighted mean of 1.60 and interpreted to be moderately serious problem. Interconnectedly, indicator 6 "performs different teaching strategies," culled a computed weighted mean of 1.62 and interpreted to be moderately serious problem. Similarly, indicator 7 "promote awareness on the sexist roles and integrate them in class discussion whenever appropriate," obtained a computed weighted mean of 1.57 and interpreted to be moderately serious problem. More than, indicator 8 "refraining from using verbal expressions and/ or clinches reflecting traditional views on women," get a computed weighted mean of 1.42 and interpreted to be moderately serious problem. Concomitant to indicator 9 "avoiding the use gender- biased terms instead promote the gender sensitive terms," selected a computed weighted mean of 1.45 and interpreted to be moderately serious problem. Lastly, indicator 10 "development and review of daily lesson plan (DLP) and daily lesson log (DLL)," finds out a computed weighted mean of 1.45 and interpreted to be moderately serious problem.

In the study of Srivastava (2017), it was mentioned that as a teacher, he or she must be an agent of change. The teacher's role is to foster gender equality in the classroom and actively challenge societal stereotypes by instilling a transformative mindset within the younger generation. A teacher makes strategies based on teaching-learning materials to construct a gender-friendly attitude. To develop a positive attitude toward gender issues, it is crucial to develop a program in educational institutions. In this program, teachers are sensitized and equipped with the proper skills to enable the students to break the gender bias and gender-stereotyped mindset of society. Thus educational institutions should offer practical guidance and strategies for integrating gender equality in education systems, emphasizing the need for inclusive policies, teacher training, and curriculum reforms regardless of the age groups to promote inclusive learning environments.

Table 12
Challenges Encountered of Science Pre-service Teachers in the Extent Practices of Gender Sensitivity in terms of Facilities

No	Facilities *I am experiencing challenges in..*	WM	Verbal Interpretation
1	well-maintained and adequate number of functional sex-separate comfort rooms.	2.56	Moderately Serious Problem
2	accessibility of clean drinking water.	1.55	Not a Problem
3	enough seats and seating space to accommodate the students.	1.50	Not a Problem
4	sufficient lighting and ventilation in the classrooms.	3.20	Serious Problem
5	availability of science and computer laboratories.	3.25	Serious Problem
6	availability of school canteen.	3.00	Serious Problem
7	availability of library or reading center	1.72	Not a Problem
8	well- maintained medical clinic.	2.50	Moderately Serious Problem
9	access to sports and recreation facilities.	2.53	Serious Problem
10	adequate numbers of tables, chairs, and desk in the classrooms.	3.15	Serious Problem
	Overall Weighted Mean	**2.49**	**Moderately Serious Problem**

Unveiled on table 12 was challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of facilities with ten (10) indicators considered.

The data presented shows that challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of facilities the science pre-service teacher- respondents' assessments on the factors and indicators set forth posed an overall weighted mean of 2.49 and interpreted to be moderately serious problem.

Emergently, indicator 1 "well-maintained and adequate number of functional sex-separate comfort rooms," acquired weighted mean of 2.56 interpreted as moderately serious problem. More so, indicator 2 "accessibility of clean drinking water," yields a weighted mean of 1.55 interpreted as not a problem. Concomitant to indicator 3 "enough seats and seating space to accommodate the students," obtained a weighted mean of 1.50 interpreted as not a problem. Similarly, indicator 4 "sufficient lighting and ventilation in the classrooms," gleaned a weighted mean of 3.20 interpreted as serious problem. Likewise, indicator 5

"availability of science and computer laboratories," mentioned as serious problem based on computed weighted mean of 3.25. Interconnectedly, indicator 6 "availability of school canteen," stressed as serious problem based on computed weighted mean of 3.00. Cognizantly, indicator 7 "availability of library or reading center," pointed out as not a problem based on computed weighted mean of 1.72. Engagingly, indicator 8 "well- maintained medical clinic," emphasized as not a problem based on computed weighted mean of 2.50. In addition, indicator 9 "access to sports and recreation facilities," draw attention to serious problem based on computed weighted mean of 2.53. Lastly, indicator 10 "adequate numbers of tables, chairs, and desk in the classrooms," place emphasis on serious problem based on computed weighted mean of 3.15.

Gender-responsive classroom set-ups play a crucial role in the teaching-learning process. However, many schools face difficulty in classroom management due to the sheer size of students and limited classroom size (Yuden, Chuki, & Dorji, 2020).

Table 13
Challenges Encountered of Science Pre-service Teachers in the Extent Practices of Gender Sensitivity in terms of Security, Health and Other Student Services

No	Security, Health and other Student Services *I am experiencing challenges in..*	WM	Verbal Interpretation
1	availability of security guards in the premise of the school.	1.70	Not a Problem
2	both boys and girls are safe while on the school premises.	1.23	Not a Problem
3	conduct review of policies for possible discriminatory clauses	2.10	Moderately Serious Problem
4	availability of medical doctors.	2.34	Moderately Serious Problem
5	availability of dental doctors.	2.47	Moderately Serious Problem
6	regular conduct guidance, career and counseling.	2.77	Serious Problem
7	promote the protection of children against violence, abuse, discrimination and bullying in school.	1.13	Not a Problem
8	participation of both male and female in school activities and programs such as academic and non- academic contests.	1.23	Not a Problem
9	availability of school nurse.	1.30	Not a Problem
10	availability of registered guidance counselors.	2.67	Serious Problem
	Overall Weighted Mean	**1.89**	**Moderately Serious Problem**

Presented on table 13 was challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of security, health, and other student services with ten (10) indicators considered.

The data presented shows that challenges encountered of science pre-service teachers in the extent practices of gender sensitivity in terms of facilities, the science pre-service teacher- respondents' assessments on the factors and indicators set forth posed an overall weighted mean of 1.89 and interpreted to be moderately serious problem.

Meanwhile, indicator 1 "availability of security guards in the premise of the school," gleaned a computed weighted mean of 1.70 and interpreted to be not a problem. More than, indicator 2 "both boys and girls are safe while on the school premises," yields a computed weighted mean of 1.23 and interpreted to be not a problem. As such, indicator 3 "conduct review of policies for possible discriminatory clauses," takes a computed weighted mean of 2.10 and interpreted to be moderately serious problem. In addition, indicator 4 "availability of medical doctors," culled a computed weighted mean of 2.34 and interpreted to be moderately serious problem. Affirmatively, indicator 5 "availability of dental doctors" shared a computed weighted mean of 2.47and interpreted to be moderately serious problem. Looking forward, indicator 6 "regular conduct guidance, career and counseling" derived a computed weighted mean of 2.77 and interpreted to be serious problem. On the other hand, indicator 7 "promote the protection of children against violence, abuse, discrimination and bullying in school," draw a computed weighted mean of 1.13 and interpreted to be not a problem. Relatively, indicator 8 "participation of both male and female in school activities and programs such as academic and non- academic contests," find out a computed weighted mean of 1.23 and interpreted to be not a problem. Likewise, indicator 9 "availability of school nurse" observed a computed weighted mean of 1.30 and interpreted to be not a problem. Lastly, indicator 10 "availability of registered guidance counselors," acquired a computed weighted mean of 2.67 and interpreted to be serious problem.

It was aligned in the study of Niones-Bojos, (2022) identified that the school clinic does have a qualified nurse in place. The school does have a qualified counselor to meet the counseling/guidance needs of children. The facilities/medical does support in the nursing room adequate enough to meet the specific needs of children belonging to either gender. There is provision for privacy for children when they are placed in the nursing center. The school does have doctor(s) enrolled/empanelled who would attend to the specific needs of children belonging to either gender. Regular sessions are conducted by School nurse/counselor to handle and address gender specific growing up queries and concerns (Lucas, S., 2017).

Table 13
Summary of the Challenges Encountered of Science Pre-service Teachers in the Extent Practices of Gender Sensitivity

No	Variables	WM	Verbal Interpretation
1	Administration	1.48	Not a Problem
2	Curriculum	1.44	Not a Problem
3	Instruction	1.40	Not a Problem
4	Facilities	2.49	Moderately Serious Problem
5	Security, Health, and other Student Services	1.89	Moderately Serious Problem
	Overall	**1.74**	**Not a Problem**

Presented on table 13 was the summary of the challenges encountered of science pre-service teachers in the extent practices of gender sensitivity with five (5) variables considered such as in terms of administration, curriculum, instruction, facilities, security, health, and other student services.

The data presented shows that challenges encountered of science pre-service teachers in the extent practices of gender sensitivity of the the science pre-service teacher- respondents' assessments on variables posed an overall weighted mean of 1.74 and interpreted to be not a problem. Looking on the challenges encountered of science pre-service teachers in the extent practices of gender sensitivity of the the science pre-service teacher- respondents' assessments in terms of administration, curriculum, and instruction was observed as not a problem based on the computed weighted mean of 1.48, 1.44 and 1.40 respectively. Concomitantly, in terms of facilities, facilities, security, health, and other student services noticed as moderately serious problem as mentioned in the computed weighted mean of 2.49 and 1.89 respectively.

Tiongson and Gonzales (2021), the result analyzed the implementation of gender mainstreaming in basic education in the Philippines and examined the role of critical positions such as School Heads, GAD Focal Point System, and teachers. The study found that School Heads and GAD Focal Point systems play critical roles in promoting gender mainstreaming in basic education. At the same time, teachers also significantly contribute to implementing gender-responsive policies.

Another study that supports the result was the work of Garcia and Hernandez (2020). The study investigated the roles of school heads and teachers in gender mainstreaming in the basic education sector in the Philippines. It examined school heads and teachers' awareness, attitudes, and practices in gender mainstreaming and identified the challenges they face in implementing gender-responsive policies. Patel and Bhatt (2020) observed that the duration of service among teachers in India had a notable impact on their awareness and comprehension of gender-responsive policies. Specifically, teachers with more extended service experience demonstrated a significantly higher level of understanding of these policies compared to their counterparts with shorter service experience.

Similarly, Hossain and Ali (2018) investigated the impact of length of service on teachers' attitudes towards gender issues in Bangladesh. The study found that teachers with more extended service experience had a more positive attitude toward gender issues and were more likely to incorporate gender-sensitive pedagogy in their teaching practices.

Furthermore, Sim and Koh (2019) explored the correlation between the duration of service and teachers' gender awareness in Singapore. The research revealed that teachers with extensive experience in the field were more inclined to adopt a gender-sensitive approach in their teaching practices and actively integrate gender perspectives into their instructional materials.

PROPOSED RECOMMENDED POLICY ACTION PLAN FOR GENDER SENSITIVITY PRACTICES IN TEACHER EDUCATION

Introduction

The Global Education 2030 Framework for Action for the Implementation of Sustainable Development Goal (SDG) 4 – which promotes inclusive and equitable quality education and lifelong learning for all – stresses that gender equality will not be achieved in education unless serious action is taken in creating 'gender sensitive policies, planning and learning environments,

mainstreaming gender issues in teacher training and curricula, and eliminating gender based discrimination and violence in schools'. In line with this new framework, the discourse on gender in education is shifting from gender parity to gender equality.

The proposed recommended policy action plan for gender sensitivity practices in teacher education is designed for the education policy makers and planners for their better understanding in gender issues and assess how they affects gender inequality in teacher education. The potential of education to contribute to sustainable development for nations and their citizens has become widely accepted. As leaders of educational settings, teachers serve as powerful agents of change with the power to promote healthy behaviors, attitudes and worldviews among their students, and challenge harmful social norms and practices.

Educators are thus uniquely positioned to shift the way that learners view and interact with prevailing gender norms, stereotypes, and inequalities. Improving teacher education and Pre-service teacher training in particular – can play a pivotal role in promoting more gender equitable societies. It is therefore of critical importance to understand how teacher education systems prepare and train teachers to be gender sensitive and responsive in their work, and to determine how teachers can best be supported to contribute to gender equality across all educational settings.

The following are the proposed recommended policy action plan for gender sensitivity practices in teacher education.

Key Areas	Recommended Policies
CURRICULUM	*Recommended policies to make curriculum and teaching/learning materials in pre – service teacher education gender sensitivity is:* ✓ State explicitly that gender equality is a goal of the TEI curriculum, as well as an outcome of teaching and learning. ✓ Incorporate in the performance evaluation of TEIs and their leadership a set of gender indicators related to gender – sensitive curriculum and textbooks. ✓ Conduct a periodic gender audit of the curriculum, course syllabus, textbooks and learning materials of TEIs to identify and remove all gender biases, while at the same time emphasizing and applauding attitudes and values that promote gender equality. Ensure the monitoring of curriculum modification and its delivery because of the audit. ✓ Mainstream gender issues in the curriculum and instructional materials to Sensitize future teachers of gender stereotypes and their negative effects, and to enable them to develop healthy attitudes. At the same time, dedicate a separate module on gender to provide basic understanding of gender issues and how they are expressed in professional and personal lives. ✓ Develop a checklist for gender – responsive curriculum, syllabuses, and textbooks of TEIs; make sure all old and new curriculum and materials are screened against this checklist. 6. Require the developers of curriculum and textbooks to participate in gender training and to use gender checklist in the development of curriculum and materials.

Key Areas	Recommended Policies

INSTRUCTION	*Recommended policies to make pedagogy in teacher education gender sensitivity are the following:* ✓ Incorporate gender – sensitive behaviors in the code of conduct for teacher educators. ✓ Include gender awareness, gender – sensitivity, and gender – responsive teaching skills in the competency framework and standards for teacher educators. ✓ Train teachers in gender responsive and student – centered methodologies to promote equal participation and learning of girls and boys, as well as any subgroup of girls/boys requiring special attention within a given country context (e.g. children with disabilities, those from socially and economically disadvantaged families). ✓ Incorporate in the performance evaluation of TEIs and their leadership a set of gender indicators related to gender – sensitive pedagogy. ✓ Conduct periodic gender training for teacher educators where they review their teaching practices through a gender lens and develop a plan for improvement. ✓ Adopt a gender – sensitive, learner – centered teaching approach for all TEIs, promoting active engagement of female and male students in the learning process, and encouraging student teachers to use the same approach when they work at school.

Key Areas	Recommended Policies
ADMINISTRATION	*Recommended policies to make teacher education institutions gender – sensitivity is the following:* ✓ Make the equal representation of male and female staff members in leadership positions – including on committees and boards – an institutional goal and obligation of all TEIs. ✓ Integrate the equal representation and role distribution of male and female members in the goal and policies of TEIs, and in the decision – making and strategic planning process of the TEIs. ✓ Incorporate a gender – equitable quota in staff recruitment and replacement in all units of the TEIs to achieve an equal representation of both sexes. In some cases, undertake affirmative action in targeted hiring in favor of the under – represented sex, using results from surveys and gender. ✓ Incorporate in the performance evaluation of TEIs and their leadership a set of gender

	indicators related to gender – sensitive institutional management and support. ✓ Institutionalize periodic sensitization for all staff to reject their own gender bias, to understand the nature and root causes of gender inequality, to recognize the problems related to gender discrimination, and to develop action plans for addressing them. This action plan will be accompanied with a road map for monitoring expected results and sanctions for non – compliance. ✓ Put in place a functional mechanism for tracking the implementation of gender equality measures in TEIs and inform all staff and student teachers accordingly. The TEI Head should lead this mechanism and be accountable for its effectiveness. ✓ Include gender – sensitive attitudes and behaviors in the code of conduct of all staff and specify sanction measures in case of non – compliance. ✓ Develop support policies, programmed and facilities for women, especially women from minorities and ethnic groups, and ensure institutional services in TEIs are gender – sensitive. ✓ Provide scholarships and other forms of financial assistance to female students, especially from ethnic minorities and those who live in disadvantaged areas. ✓ Appoint a gender focal person for women's specific activities in order to benefit from the policy equally and equitably with others.

Key Areas	Recommended Policies
FACILITIES	*Recommended policies to make facilities. gender – sensitivity is the following:* ✓ Strengthen cooperation and partnerships by creating a 2-year or 3-year MOA to provide and improve the facilities. ✓ Conduct regular monitoring and focus group discussions or forums to address immediately issues and concerns toward maintenance of the school facilities ✓ Provision of facilities like GAD office, materials and other equipment needed. ✓ Designation of a full-time focal person & hiring of staff or personnel. ✓ Continuous capability building activities for focal persons and coordinators *Recommended policies to make security, health, and other student services was gender – sensitivity.*

SECURITY, HEALTH, AND OTHER STUDENT SERVICES	✓ Engendering the curricula embedding youth and sports development ✓ Required gender sensitivity seminar for all the students. ✓ Integrate school health programs and services in the curriculum most especially under the areas of sexuality and reproductive health. ✓ Review the curriculum and integrate human rights competencies such as responsible parenthood, equal opportunities, and equal representation in public affairs. ✓ Capacitate teaching and non-teaching personnel in the implementation of school health services. ✓ Guidance counselor must formulate, recommend, and implement policies and frameworks consistent with the principles of the gender sensitivity. ✓ Continuous capacity building activities for focal persons and coordinators. ✓ Formulation of standard evaluation mechanism for all counseling programs and activities. ✓ Rigid information dissemination through the use of different media

CONCLUSIONS

Education is the main driver for triggering social change on gender equality. Although educational policies advocate gender equality in education, equality cannot be attained unless these policies enable teachers to perform a decisive role. In this sense, one of the best strategies is to equip teachers with sensitivity and awareness about gender equality. As they establish face to face and close relationships with students, teachers may play a major role in the development of new criteria, roles and attitudes regarding gender equality. The results showed that gender sensitivity practices in terms of delivery of the subject matter, use of language, classroom management/activities, didactics strategies, learning materials and assessment and evaluation was observed always practiced. However, facilities, security, health, and other student services was observed moderately serious problems in the extent gender sensitivity practices of science pre-service teachers. Based on the results of this study, a gender sensitivity recommended policy action plans was developed to serve as a framework among Universities in Calabarzon Region IV- A in mainstreaming gender sensitivity on their curriculum, policies, programs, projects, and activities (PPAs), and other enabling mechanisms.

ETHICS AND CONFLICT OF INTEREST

This study was conducted according to ethical and research standards. Authors declare and confirm that we have acted in accordance with ethical rules throughout the entire research. Authors report there are no competing interests to declare.

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