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Gender Sensitivity Manual For Teaching Science Subjects in Elementary Grades

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Abstract
Recognizing the importance of promoting gender equality in education, this study focuses on developing a gender sensitivity manual for teaching science subjects in elementary grades aligned with the selected topics in the Most Essential Learning Competencies (MELCs). The manual was created to support teachers in integrating gender sensitive and gender-fair content and approaches in the science subject. Quantitative research utilizing a descriptive evaluative design involves analyzing the MELCs to identify relevant science topics. The manual was developed by the researchers and evaluated by fifty (50) selected science elementary teachers in Davao del Sur using purposive sampling through a validation survey assessing its content, organization, presentation, language and style, accuracy, and usefulness of the manual. The significant findings revealed that the developed gender sensitivity manual was rated as "very highly acceptable" in all five indicators. Science teachers recognized its potential to enhance inclusive learning and promote gender equality among elementary students. In conclusion, the manual is rated as an effective instructional support tool for science teachers, integrating gender-responsive strategies. The study recommends its adoption and further research to determine the effectiveness of the manual created

Keywords: elementary education, gender sensitivity, inequalities, manual, science,

Introduction

Gender Equality is one of the most observed issues, especially in Education. There are laws that the Philippines implemented in order to address this issue and to promote gender sensitivity in school. One is the [44] Republic Act No. 9710, or the Magna Carta of Women, which mandates all government agencies, including the Department of Education (DepEd), to eliminate gender-based discrimination and promote gender equity. Despite these efforts, there are still persistent gender biases and stereotyping in educational content, especially in Science Education. This highlights the need for gender-sensitive materials to promote gender equality, especially in the elementary curriculum [54] (Tshewang, 2021). Research suggests that teachers' gender-sensitive practices should increase to ensure that science educators/teachers are well prepared to address gender issues in the classroom setting [21] (Galaz et al., 2024).

Gender-sensitive teaching should be applied in each school as it involves teaching methods and materials that address the specific learning requirements of students of different genders [51] (Thege et al., 2020).

Introducing the concept of gender equality in science education from an early age, specifically in elementary grades, is crucial to preventing children from misconceptions about gender [25] (Halimatussakdiah et al., 2021). Gender Bias can still be observed in Science and Math classrooms based on the materials used. Despite that, teachers believe that gender equality in the classroom should always be observed and that teachers and students are responsible for maintaining equality [2] (Ablaza, 2021; Morales et al., 2019). Therefore, creating a gender sensitivity manual for science educators in elementary grades is crucial. This manual would serve as a tool in teaching strategies to effectively integrate and teach gender equality in science curricula.

The United Nations General Assembly adopted the 1979 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which obligates state parties to eliminate discrimination against women in Education. This includes revising textbooks, teaching methods, and curricula to reflect gender equality and to encourage the development of women's potential equally with men [56] (United Nations, 1979). Gender Bias in curriculum and textbooks is not in the school system, but the findings indicate that it is part of the hidden curriculum in universities [6] (Bachore & Semela, 2022). For instance, in Indian textbooks, there is gender bias, specifically gender stereotypes that exist in languages and examples used in some educational tools. The textbook includes content dominated by males and portrayals of women in submissive roles [52] (Times of India Education, 2024). A handbook entitled "Handbook for Creating a Gender Sensitive Curriculum: Teaching and Learning Strategies" helps teachers in different universities in the United Kingdom by providing practical strategies and guidelines for integrating gender sensitivity into teaching and learning [27] (Kitchiner et al., 2023).

In the United Nations, in its Sustainable Development Goals (SDGs) number 5, gender equality is not just a fundamental human right. However, it is also essential for a peaceful and sustainable world [5] (Algovia et al., 2024). In addition, as asserted by UNESCO (2023) in its Global Education Monitoring Report, to have unbiased learning materials, it is essential for curricula and textbooks to be free from gender bias and to promote equality among all genders. In addition, ASEAN declares its commitment to implementing gender-responsiveness in the ASEAN Community Vision in 2025 with the 3 ASEAN Blueprints and the Sustainable Development Goals to ensure a people-oriented and people-centered ASEAN Community (ASEAN, 2017).

The Department of Education issued DepEd Order No. 32, Series of 2017, also known as the Gender-Responsive Basic Education Policy, which seeks to integrate gender equality, equity, and sensitivity in Basic Education (DepEd,2017). In line with this, the Gender and Development (GAD) program in each public school in the Philippines will be implemented, focusing on promoting gender equality. This includes the integration of Gender Sensitivity into the curriculum, such as reviewing each lesson, removing gender bias and stereotypes, and conducting teacher training (Philippine Commission on Women, 2022). Some studies recommend strengthening awareness programs that address gaps and foster collaborative partnerships to enhance gender responsiveness. In addition, there is also a need for an inclusive learning environment that supports the development of students and aligns with the principles of the Gender Responsive Education Policy [7] (Barairo et al., 2024).

In some of the educational materials in the Philippines, Gender Bias is still observable. In the Grade One textbook study, there is a visible unequal representation of male and female characters in three categories of human activities [38] (Java & Parcon, 2018 ; Muya et al., 2020). Furthermore, gender disparities are mainly observed in different institutions because of the lack of training for teachers in gender-sensitive teaching. The study revealed that 25.81% of teachers are unaware of gender-sensitive teaching strategies.

Therefore, teachers' preparation and support from administrative and curriculum resources are essential in integrating gender-sensitive teachings for teachers and students [12] (Cagang, 2023). Teachers should be gender-neutral in the teaching and learning process as it emphasizes the importance of training for gender sensitivity [57] (OECD, 2015; Wang et al., 2023). Despite that, the implementation of a gender-responsive approach not only achieves gender equality in Education but also impacts the performance of students, especiallyin science classrooms [14] (Canuto & Espique,2023)

Albert Bandura's Social Learning Theory highlights that people learn by observing and imitating others [35] (McLeod, 2024). It further explains that a person's behaviors, attitudes, and beliefs arise from the interaction in the cultural or social environment around them [26] (Hammer, 2011). In this theory, teachers can serve as role models, and their gender-sensitive behaviors can influence how students view gender roles, specifically in the science subject. Moreover, the theory of Cognitive Development by Jean Piaget focuses on the phases of cognitive development that children go through. Children interacting with their surroundings can create conceptions [47] (Speldewinde, et al., 2024).

This paper focuses on creating a Gender-Sensitivity Manual for teachers and students that will guide the teaching and learning process in the Science subject in Elementary school. [39] The National Science Teaching Association (2020) study emphasizes the need for Gender Equity, especially in Science Education. NSTA suggests that teachers integrate materials that promote gender inclusiveness into their teaching. Moreover, teachers should also build a supportive and empowering classroom environment safe from bullying and promote gender equality, regardless of their race, religion, ability level, gender identity, or sexual orientation.

Research Objectives

This study aims to create a manual that promotes gender sensitivity in elementary science curricula. It includes teaching strategies for teachers to create a classroom environment free from judgment, regardless of gender. The students will benefit from it by engaging with content that promotes gender equity, which they can apply to their everyday lives. Moreover, science teachers can benefit from using this in class, considering the developed strategies and assessments to create a classroom free from inequalities. Additionally, this manual provides a foundation for future research on gender sensitivity in other subject areas. The research objectives are as follows:

1. To identify various elementary science topics in MELCs to be included in a gender sensitivity manual;
2. To create a gender sensitivity manual for science subjects in elementary school; and
3. To determine the acceptance level of elementary teachers towards the gender sensitivity manual.

Method

Respondents

This study's target respondents were elementary teachers from specific public schools within Davao del Sur. Utilizing purposive sampling, also known as selective sampling, the researcher selected individuals based on their characteristics and the relevance of the study's objectives [40] (Nikolopoulou, 2022). In order to choose the right respondents, the following inclusion criteria were used: (1) public school teachers, (2) currently teaching science subjects in elementary grades, and (3) at least two years in service. Teachers struggle during their first year in service, and there is a noticeable improvement in two or three years [37] (Mendoza, 2020). This finding indicates that after two (2) years in service, teachers have already gained valuable experience and can share essential insights for our study. This study's target number of

respondents would be fifty (50) science teachers from different schools, based on the study of [16] Diola (2023).

Furthermore, the following are the exclusion criteria for this research: (1) private school teachers, (2) teaching other subjects aside from science, and lastly (3) having less than 2 years in service.

Research Instrument

In order to gather the needed data, the researchers adapted the questionnaire developed by [16] Diola (2023) for her research study entitled "Development and Validation of Laboratory Manual in Life Science for Grade 11 Senior High School: An Input to Instructional Material Development." This research is composed of two parts: (a) the socio-demographic profile of the respondents and (b) an evaluation of the manual created (Gender Sensitivity Manual).

The first part of the questionnaire includes the respondents' names, ages, sex, highest educational attainment, number of years in service, and field of specialization. Moreover, the second part includes statements to evaluate the manual's content, presentation, organization, language and style, accuracy, and usefulness.

Furthermore, a 5-point Likert Scale was used to evaluate the Gender Sensitivity Manual in terms of the abovementioned criteria. A 5-point Likert Scale is a rating scale that measures a respondent's opinions, views, and behaviors [10] (Bhandari & Nikolopoulou, 2020).

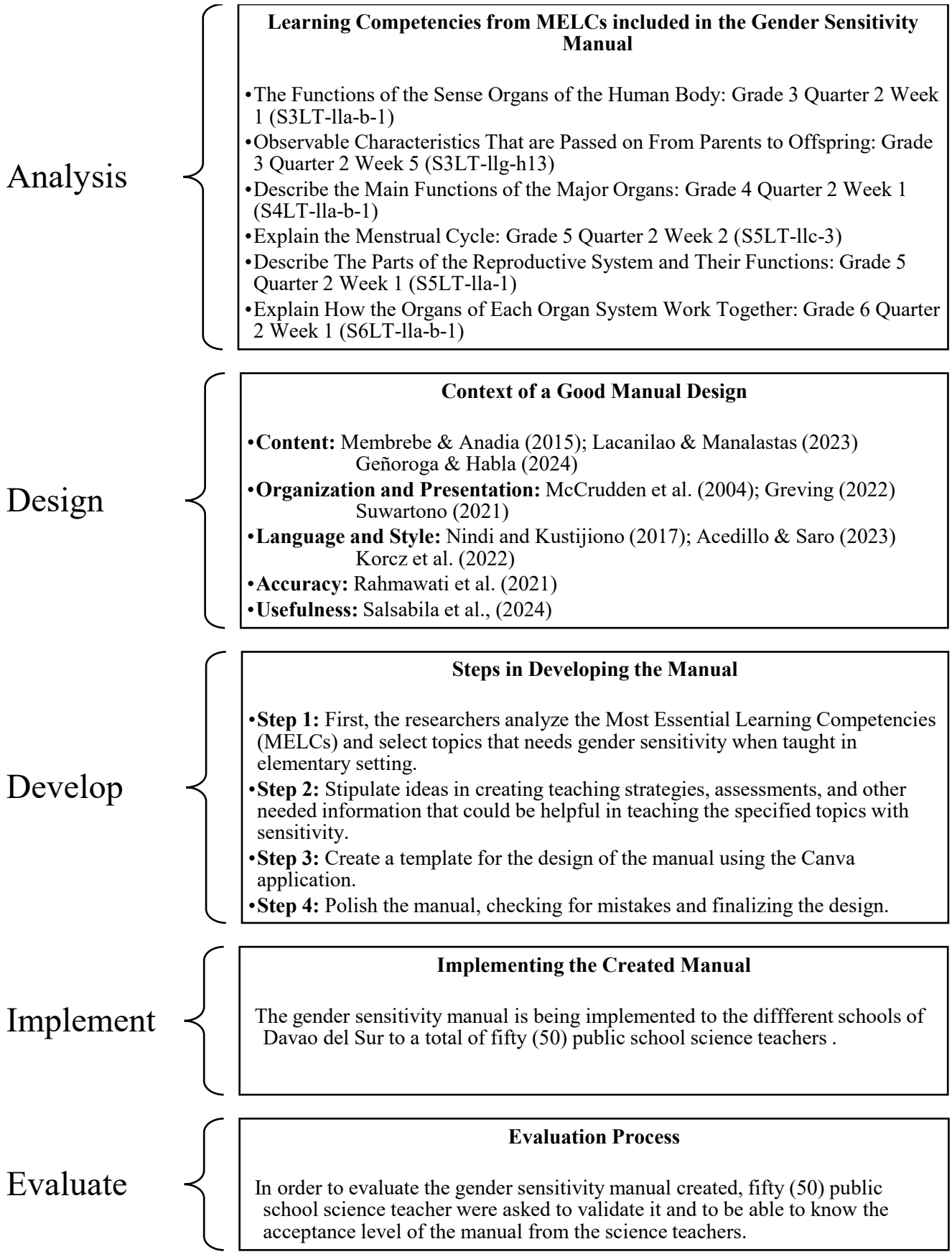
Table 1: Scale for evaluating the developed Gender Sensitivity Manual

Scale	Content	Organization and Presentation	Language and Style	Accuracy	Usefulness
5	Very Highly Sufficient	Very Highly Acceptable	Very Highly Acceptable	Very Highly Acceptable	Very Useful
4	Highly Sufficient	Highly Acceptable	Highly Acceptable	Highly Acceptable	Useful
3	Moderately Sufficient	Moderately Acceptable	Moderately Acceptable	Moderately Acceptable	Moderately Useful
2	Slightly Sufficient	Slightly Acceptable	Slightly Acceptable	Slightly Acceptable	Slightly Useful
1	Not Sufficient	Not Acceptable	Not Acceptable	Not Acceptable	Not Useful

Design and Procedure

This research study used quantitative research, using a descriptive evaluative method as the research design. Quantitative research is a strategy for studying social processes through numeric patterns and data [15] (Coghlan & Brydon-Miller, 2014). Moreover, according to [34] McCombes (2023), the descriptive, evaluative method aims to accurately describe a population, phenomenon, or situation and investigate one or more variables.

Figure 1: Framework of the Study



During the procedure of making the study, the researchers used the Analysis, Design, Develop, Implement, and Evaluate (ADDIE) model as our conceptual framework. With this, the researchers created and designed a manual to promote gender sensitivity in elementary settings using the ADDIE model to craft the gender sensitivity manual carefully. The following process is stated in the figure below.

The researchers carefully select topics from the Most Essential Learning Competencies (MELCs) for this framework. Topics are selected based on their nature and whether they need gender sensitivity. The next step is the design, wherein we follow the 5 indicators identified in our adapted research questionnaire. Every indicator was supported by the following literature in order to create a context for a good manual design.

Content. The contents of the learning materials must be carefully reviewed following the content criteria provided by the Department of Education (DepEd) for it to be used and serve as effective instructional materials to improve science teaching, facilitate the learning process, and improve students' achievement on the least mastered competencies [29] (Membrebe & Anadia, 2015; Lacanilao & Manalastas, 2023). In addition, aligning the objectives ensures that the lessons meet the needs and support students in achieving their competencies [22] (Geñoroga & Habla, 2024).

Organization and Presentation. Structured learning materials play an important role in enhancing learning outcomes. The text presented in instructional materials has a low cognitive load achieved through a clear presentation, logical organization, and relevant examples, significantly improving students' comprehension and retention of factual and conceptual information [23] (McCrudden et al.,2004; Greving, 2022). This is also supported by the study of [48] Suwartono (2021), who states that students will effectively comprehend the materials when organized logically.

Language and Style. As stated by [3] Nindi and Kustijiono (2017) and Acedillo & Saro (2023) , using a familiar language or contextualized learning materials helps the learners to change their interest and academic performance in the learning process by the means of having the resources allow the learners to read and interactively participate in the classroom while also making them comfortable .It is also supported by [27] Korcz et al. (2022), who stated that for every educational material, it is crucial to use simple text, eliminate unnecessary words, and avoid complex sentences so that the children can grasp the information easily.

Accuracy. The students' learning materials must be presented accurately to prevent misconceptions. The concepts and definitions must be well-defined to achieve the learning objectives [42] (Rahmawati et al., 2021).

Usefulness. Educational materials such as textbooks and manuals help promote gender equality. It stresses how crucial it is to integrate contents that promote inclusivity into the learning materials that the children use. This demonstrates the usefulness of textbooks and manuals in delivering lessons, shaping values, and promoting gender sensitivity in the classroom [45] (Salsabila et al., 2024).

After learning the design of the manual, we proceeded to develop it. Following the steps indicated in the framework, we finally developed the manual and proceeded with the checking. Afterwards, the researcher implemented it to different public schools in Davao del Sur, with fifty (50) science teachers. Science teachers evaluated the manual to determine the teachers' validation and acceptance level towards the manual.

Before conducting our study, the researchers validated the adapted questionnaire and submitted it to the Research Publication Center (RPC) of UM Digos College. The researchers ensured that all documents were completed before the study, including the letter to be signed by the RPC, Dean of College, Program

Head, and the Research Adviser. In addition, a permission letter from the Principal of the selected school where the researchers conducted their study is required. The researchers submitted all the documents to the RPC for validation.

After securing approval for all the necessary documents, the researchers formally asked permission from the school principal to survey the selected teachers. When the school principal approved the letter, the researchers proceeded to the survey, where the science teachers validated the created manual using the questionnaire.

After all the necessary documents were approved, the researchers formally asked permission to survey the selected participants in Davao del Sur. The questionnaires were distributed in person to select participants correctly, and the gender sensitivity manual was also handed to the participants for validation and acceptance. Participants were assured confidentiality and privacy during the data-gathering process.

After conducting the survey, the researchers coordinated with the RPC at UM Digos College and provided the collected data to the statistician. The researchers computed and catalogued the survey results before passing them to the statistician. After the data analysis, the statistician forwards the findings to the researchers. The procedures were strictly followed to ensure that the results would determine the validation and acceptance of the manual created.

For the final phase, data was analyzed using the statistical tools employed: Average Weighted Mean and Standard Deviation. The results were carefully studied, and recommendations were made to determine the manual's validity and acceptance.

Ethical Consideration

The researchers ensure that all information from the respondents adheres to ethical standards. Ethical considerations are fundamental principles that guide research practices, ensuring participants' rights, dignity, and safety are protected [9] (Bhandari, 2021). [20] As Fleming and Zeegward (2018) noted, ethical considerations are especially crucial in qualitative research, where sensitivity to participants' experiences and privacy is paramount.

Voluntary Participation: The participants should take part in the study voluntarily without feeling forced or pressured. They can withdraw from the study without any obligation to continue.

Informed Consent: The researcher ensures participants' rights by providing clear information, obtaining consent, and securing permission from school authorities. Participants are fully informed before agreeing to take part.

Risk of Harm, Confidentiality, and Anonymity: Risk of Harm emphasizes that researchers must minimize potential harm during the research process. It also highlights the importance of confidentiality, ensuring that participants' data remains private and is not shared with unauthorized individuals. Anonymity means participant identities are unknown or traceable, ensuring their complete privacy in a sensitive research context.

Results and Discussion

Demographic Profile of the Respondents

Table 2 shows the distribution of the respondents. Based on the collected data, elementary science teachers with the highest number of respondents are belonging to age group 40-49 years old (f=17; %=34), followed by 50-69 years old (f=15; %=30), 30-39 years old (f=12, %=24), and lastly is the age group 20-29 years old (f=6, %=12).

Table 2: Demographic Profile of the Respondents

Profile	f	%
Age		
20-29 years old	6	12
30-39 years old	12	24
40-49 years old	17	34
50-69 years old	15	30
Highest Educational Attainment		
Bachelor's Degree	13	26
Master's Degree	37	74
Doctorate Degree	0	0

Of the 50 respondents, 37 or 74% have earned their master's degree, and some are continuing their education to earn a doctorate, while only 13 or 26% graduated with a bachelor's degree. The data emphasizes a strong emphasis, especially on professional growth among the respondents, which suggests that they may be responsive to the gender sensitivity manual, given their aspiration for higher education and the potential for the manual to enhance their teaching practices.

Evaluation of the Developed Gender Sensitivity Manual

To secure the validity of the developed gender sensitivity manual, fifty public school science teachers were asked to validate it. The respondents are asked to validate the manual based on the criteria and rate their willingness to accept it. The criteria for validation include the content (Table 4), organization and presentation (Table 5), language and style (Table 6), accuracy of information (Table 7), and the usefulness of the developed manual (Table 8).

Table 3: Validation of the content of the developed manual

Content	$\bar{x}$	SD
1. The objectives are behavioral.	4.84	0.370
2. The content lessons meet the sensitivity needed.	4.78	0.418
3. Expected learning competencies are contained in the manual	4.86	0.351
4. Sufficient illustrative examples and ideas were provided.	4.72	0.497
5. The topics cover the essential lessons needing gender sensitivity.	4.76	0.431
Overall	4.79	0.413

As shown in Table 3, the validators strongly agreed that the content of the developed manual is very highly sufficient ($\bar{x}$=4.79; SD=0.413). Each indicator for the content validity received a highly sufficient remark. The objectives created for the manual are very behavioral. This means the objectives are specific, measurable, attainable, relevant, and time-bounded. Its content also meets the sensitivity needed, meaning all the contents promote gender sensitivity to the students. The expected learning competencies are

contained, the illustrative examples are sufficiently shown, with provided ideas, and the essential topics from the Essential Learning Competencies that need gender sensitivity are covered.

The goal of developing the Gender Sensitivity Manual is to promote equality among elementary students when learning Science. Additionally, it aims to help science teachers promote sensitivity and equality to their students. To achieve this, we carefully identified topics in the Essential Learning Competencies (MELCs) that require gender sensitivity. Therefore, this manual's content is designed to promote gender sensitivity, primarily through its objectives.

Content validation is critical when developing an instrument such as a manual [19] (Alamanasreh et al., 2019; Fatima et al., 2025). Furthermore, this result is supported by the study of [18] Esmane and Bueno (2022), who stressed that meeting the student's level and needs through tailored materials is essential in developing a workbook or manual. Moreover, [9] Basilio and Sigua (2022) highlighted that it should also adhere to the principle that each lesson's content must offer opportunities for students to achieve the lesson objectives.

Regarding the organization and presentation of the developed manual, the validators also strongly agreed that it is highly acceptable ($\bar{x}$=4.74; SD=0.441). The manual is well-organized and presented in a well-mannered manner. The topic and headings are clear and presented in a logical and orderly sequence. To realize the objectives, varied teaching materials and practices are sufficient. The presentation of the materials and practices also effectively promotes gender sensitivity. Lastly, illustrations, examples, and figures serve as instruments to attain the objectives.

Table 4: Evaluation of the organization and presentation of the developed manual

Organization and Presentation	**$\bar{x}$**	**SD**
1. Topic headings are clear and well-presented.	4.74	0.443
2. The topics are presented in a logical and orderly sequence.	4.74	0.443
3. The varied teaching materials and practices are sufficient to realize the objectives.	4.70	0.463
4. The presentation of materials and practices effectively promotes gender sensitivity.	4.80	0.404
5. The illustrations, examples, and figures serve as instruments to attain the objectives.	4.72	0.454
Overall	4.74	0.441

Regarding the organization and presentation of the developed manual, the validators also strongly agreed that it is highly acceptable ($\bar{x}$=4.74; SD=0.441). The manual is well-organized and presented in a well-mannered. The topic and headings are clear and presented in a logical and orderly sequence. To realize the objectives, varied teaching materials and practices are sufficient. The presentation of the materials and practices also effectively promotes gender sensitivity. Lastly, illustrations, examples, and figures serve as instruments to attain the objectives.

One of the critical components of education is presenting and organizing the instructions well. The materials used can also help engage students and meet their needs. According to [55] Tuma et al. (2021), teachers report that engaging, easy-to-use, and appropriately challenging materials enhance the learning experience and support better instruction.Many studies have indicated the importance of pictures,

drawings, concrete objects, and other instructional illustrations in elementary education learning materials as they suit the needs of learners' psychological and cognitive levels [5] (Al Ali & Albarakat, 2023). According to the study of [1] Abdulrraziq and Geedallah (2025), students are more engaged when instructional resources are used inside the classroom, and instructional materials can help students do better academically .

Furthermore, the language and style of the developed gender sensitivity manual have also been perceived as very highly acceptable ($\bar{x}$=4.75; SD=0.443), as shown in Table 6. Validators agreed that the directions give clear information about the manual. As stated by [8] (Batiibwe, 2024; Wang et al.,2015) clear and organized instruction can promote deeper engagement with the learning materials. Moreover, the language is simple and easy to understand, language structure avoids misinterpretations, provisions are provided for learning new meanings, and the language is suitable. According to [58] Bansiong (2019) and Yahya et al. (2023), it is essential to use plain language that is simple, clear, and straightforward, especially in learning materials used by students.

Table 5: Evaluation of the language and style of the developed sensitivity manual

Language and Style	**$\bar{x}$**	**SD**
1. The directions give clear information about the manual.	4.76	0.431
2. The language used is simple and easy to understand regarding vocabulary and technical terminologies.	4.80	0.404
3. The language structure used avoids misinterpretations.	4.74	0.443
4. There are provisions for learning new meanings.	4.66	0.519
5. The language used is right and suitable.	4.78	0.418
Overall	4.75	0.443

The developed manual incorporates clear and gender-fair instructions essential for inclusivity. As [28] Kristiyawan and Rarasati (2023) emphasize, integrating gender-neutral and inclusive language is key to reflecting equity, particularly in educational materials. Incorporating gender-neutral language in foundational materials, like manuals, supports developing respectful and inclusive values early. This aligns with [4] Aguelo (2024), who stressed that well structured, age-appropriate language improves comprehension and supports meaningful learning, especially among young learners.

For Table 6, the accuracy of the information in the developed manual was rated highly acceptable by the validators ($\bar{x}$= 4.80; SD= 0.402). The manual's content is validated as accurate for teaching and learning. Effective learning methods are possible through this manual. It also caters to the need for gender-sensitive material in science. When it comes to the teaching practices and methods in the manual, they are rated as relevant and very accurate, and the overall manual magnifies gender sensitivity.

Table 6: Evaluation of the accuracy of the information in the developed manual

Accuracy of Information	**$\bar{x}$**	**SD**
1. The manual's content is accurate to the teaching and learning process.	4.80	0.404
2. Effective learning methods are possible through this manual.	4.74	0.443
3. It caters to the need for gender-sensitive material in science.	4.84	0.370

4. The teaching practices and methods in the manual are relevant and accurate.	4.80	0.404
5. The manual magnifies gender sensitivity.	4.82	0.388
Overall	4.80	0.402

The Gender Sensitivity Manual aligns with the Essential Learning Competencies (MELCs) provided by the Department of Education (DepEd), particularly focusing on those competencies that benefit from gender-responsive teaching approaches. [36] Gaitan (2018) and Mendizabal (2024) state that incorporating gender sensitivity into teaching practices is essential. Many teachers are aware of gender concepts, but there is still a lack of available teaching materials. In the study of [17] Donnellan (2024), there is a need for more inclusive science materials, and there is an imbalance based on gender categorization, which has been observed in a series of 6 science textbooks.

Furthermore, an analysis of science and mathematics textbooks reveals that there is an imbalance when it comes to gender representation. There is a greater portrayal of males than females in different learning materials [18] (Casalan et al., 2021). These highlight the importance of developing learning materials that promote gender equality. The Gender Sensitivity Manual aligns with the goals of DepEd Order No. 32, s 2017, which requires the promotion of gender responsiveness in all teaching strategies and learning resources.

Lastly, the evaluation of the developed manual's usefulness was also validated as very useful, as shown in Table 7 ($\bar{x}$= 4.82; SD= 0.389). The practices and methods help develop effective learning. Promoting respect and inclusivity in schools can be achieved by providing teachers with gender-sensitive strategies, highlighting the importance of having tools such as a validated manual (Nair,2024).

Table 7: Evaluation of the usefulness of the developed sensitivity manual

Usefulness	$\bar{x}$	**SD**
1. The manual makes the teacher integrate gender sensitivity in class.	4.82	0.388
2. The practices and methods are useful in developing effective learning.	4.76	0.431
3. The teacher can use the teaching practices and methods easily in class.	4.86	0.351
4. The manual is useful to supplement and reinforce the transfer of learning.	4.82	0.388
5. The manual encourages one to incorporate gender sensitivity in class.	4.80	0.404
6. The manual is useful in understanding gender sensitivity.	4.84	0.370
Overall	4.82	0.389

The usefulness of the manual is that it provides teaching strategies for teachers and integrates gender sensitivity into their daily teaching. [31] Maidou and Polatoglou (2022) state that educational materials are crucial in promoting gender equality. Moreover, it helps reinforce learning by serving as a supplemental guide that supports everyday instruction. Teachers should incorporate learning materials that enhance gender-sensitivity awareness as early as kindergarten [49] (Tariman, 2020). This aligns with [24]Gülçiçek and Tantekin Erden's (2024) findings, which revealed that introducing gender-neutral activities reduce gender stereotyping among preschool children. Therefore, the Gender Sensitivity Manual is helpful for teachers, especially in subjects like Science, which require sensitivity to gender-related issues.

Overall acceptability of the gender sensitivity manual

Table 8: Overall acceptability of the developed gender sensitivity manual

Overall Acceptability	$\bar{x}$	**SD**
Content	4.79	0.413
Organization and Presentation	4.74	0.441
Language and Style	4.75	0.443
Accuracy	4.80	0.402
Usefulness	4.82	0.389
Overall Acceptability	4.78	0.418

Overall, the public elementary science teachers who validated the developed gender sensitivity manual gave the manual an overall acceptability rating as very highly acceptable ($\bar{x}$= 4.78, SD= 0.418). This means that the gender sensitivity manual is being accepted very much by the validators. Generally, all five indicators' average weighted mean (content, organization and presentation, language and style, information accuracy, and the developed manual's usefulness) were validated as very highly acceptable.
The study of [43] Ramilio and Anselmo (2025) emphasizes the importance of acceptability in designing teaching material. Moreover, a study conducted by [13] Cagomoc (2022) found that when a learning material is acceptable, it will significantly improve learning outcomes. Rating a worksheet or manual regarding its acceptability is crucial, as it will help to know if the contents, objectives, accuracy appropriateness, clarity, and usability are acceptable [33] (Matienzo, 2022).

Conclusions

This study aimed to develop a gender sensitivity manual for teaching science subjects that would be helpful to elementary teachers and students. It provides ideas, concepts, teaching strategies, and assessments that seek to promote gender equality and sensitivity inside the classroom. This is a quantitative research study conducted in Davao del Sur, utilizing purposive sampling, wherein the respondents of this research are fifty science elementary teachers using an adapted questionnaire by [16] Diola (2023) in order to validate the manual carefully, and used a descriptive evaluative method as the research design. Findings revealed that the validators rated all five manual validation indicators as highly acceptable. With this, the manual created was very highly acceptable according to the validators.
Overall, the developed gender sensitivity manual has been validated to promote and highlight gender sensitivity towards teaching various lessons in science subjects in elementary grades. Creating the manual helps determine the importance of gender sensitivity, especially in an elementary setting. For
educators, having equality inside the classroom and promoting gender sensitivity when teaching subjects such as science are very important. They will help children be viewed as who they are and accepted wholeheartedly. Creating a safe space for the children to learn, explore, and engage should be one of the priorities for all teachers

Recommendations

Based on the result of the validation and the development and design of the gender sensitivity manual, the researchers recommended the following:
Curriculum designers, school heads, and elementary science educators should review and analyze the Most Essential Learning Competencies (MELSs) regularly to identify topics where gender issues, stereotypes,

and gaps will likely emerge.

The developed gender sensitivity manual should be disseminated and used by the science teachers across elementary settings. Moreover, the Department of Education (DepEd) supports institutionalizing such manuals by putting them into regular lesson planning, curriculum review, and classroom observations.

Further enhancement of the manual should involve feedback from teachers, experts in gender and development (GAD), and curriculum specialists.

Further research must be conducted to improve the manual. Researchers can utilize the developed manual to determine its effectiveness and usability inside the classroom. Further enhancement of the manual should also involve feedback from educators, experts in Gender and Development
(GAD), and curriculum specialists.

The Department of Education (DepEd) should prioritize the development of similar manuals, particularly in subjects like science, where gender neutrality and representation continue to be imbalanced.

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract.

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