

JUNIFER S. VISTO, Agusan del Sur State College of Agriculture and Technology;  
JULIE S. BERAME, Caraga State University - Philippines

## ✦ Abstract

This study aimed to develop electronic manual that significantly applies to the enhancement competency of the students on sexuality education that comprised of 7 topics as essential components and was validated by the experts in the field. A quasi-experimental design was utilized using survey questionnaire through pretest and posttest, administered to 50 first-year biology college students in Agusan del Sur State College of Agriculture and Technology admitted in school year 2024-2025. Results exhibited pretest scores of students with a remark of average mastery in every component and was found out as nearly proficient for the overall mean of the components. The posttest mean scores showed large difference from pretest as it revealed an interpretation of transitioning from basic competence to nearly full competence in each component, with remark of highly proficient for all the parameters. The developed e-manual reached the criteria established for validity based on its content quality, media appropriateness, and suitability of language. Analysis using T-test demonstrated the pre-intervention scores of students prior to the used of e-manual were significantly different in posttest scores as the high MPS increment of pretest to posttest gave an increased performance of the students using e-manual. Students' feedback provided positive perspective that encourages them to learn at their convenience, while also giving anticipation to complete their readings and activities at their own pace. Thus, the utilization of this e-manual notably implies the improvement of learning competencies of the participants.

**Keywords:** Competency, Electronic Manual, Sexuality.

## ✦ Research Methods

### Research Design

This research utilized the design of quasi-experimental to scrutinize the efficacy of the intervention material developed which is the e-manual. Fifty first-year Bachelor of Science in Biology students were the participants in this study. The result of the posttest performance of the students after utilizing the e-manual was statistically processed, treated, and interpreted as the purpose of the study is to test its effectiveness as an intervention tool.

### Research Instrument

The researcher utilized a 70-item survey questionnaire to measure students' basic knowledge about sexuality education, addressing 7 subtopics with 10 multiple-choice items per category. The instrument was utilized to determine pretest and posttest scores and was validated, with a consent form for the participants to maintain ethical standards. An e-manual was utilized and validated by experts to support students' knowledge of sexuality education to act as a beneficial pedagogical source of learning.

### Data Gathering

The study comprised of four stages upon data gathering. Planning stage, establishing learning objectives aligned with general biology curriculum and students' performance level. Development stage is the creation of e-manual based on the guide curriculum with input from subject field experts for refinement. The validation stage is to ensure the validity of intervention material and study related tools through expert review to confirm content accuracy. And implementation stage, rolling out the e-manual to participants, conducting initial test and follow-up test assessments for evaluating the efficacy of e-manual to enhance learning outcomes.

### Data Analysis and Treatment of Data

The participants' mean percentage range with the associated verbal remarks was interpreted with the standards. Weighted mean was also used to describe the performance of the participants in their initial test and follow-up test conducted preceding and succeeding implementation of the created e-manual, and paired T-test was utilized to ascertain if there is a substantial change between scores achieved by the learners prior to and following the deployment of the strategic instruction model.

## ✦ Key Findings

Shown below were the results obtained by participants of their initial test and follow-up test results alongside the associated meaning found in Table 1.

**Table 1. Participants' mean scores in pretest and posttest**

Components of Sexuality Education	Pretest		Posttest	
	Mean Score	Remarks	Mean Score	Remarks
Gender	61.4%	Average mastery	90.2%	Closely approximating mastery
Relationships	58.0%	Average mastery	88.2%	Closely approximating mastery
Pleasure	57.0%	Average mastery	87.8%	Closely approximating mastery
Violence	56.0%	Average mastery	87.6%	Closely approximating mastery
Diversity	55.4%	Average mastery	85.2%	Moving towards mastery
Sexual Rights and Relationships	54.4%	Average mastery	85.0%	Moving towards mastery
Sexual and Reproductive Health	49.8%	Average mastery	79.6%	Moving towards mastery

The findings revealed the pretest and posttest outcomes, gender had the greatest mean of 61.4% and 90.2% which were average mastery and closely mastery, respectively. Reproductive the mean in

in sexuality education through interactive content, activities, and digital resources. The intervention addresses the issue of inadequate knowledge in sexuality education, which could result to negative outcomes such as early pregnancy and transmitted diseases. The e-manual plays an essential role in contemporary education, adapting technological advancements and making teaching strategies to make learning pertinent and effective for students of the present context and developmental level.

## References

- Almahaasees et al., Faculty's and Students' Perceptions of Online Learning During COVID-19. Sec. Digital Education Vol.6–2021<https://doi.org/10.3389/feduc.2021.638470>.
- Hazwani, Adnan et al., (2020). The Effectiveness and Challenges of Online Learning for Secondary School Students