

# Adolescent Reproductive Health, Sex and Sexuality Education Program in a Science-Based Approach for Junior High School Learners

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## Abstract

This study was undertaken to determine the stakeholders' perspective on the adolescent reproductive health (ARH), sex, and sexuality education with the purpose of developing a program using a science-based approach to provide age and developmentally appropriate information for junior high school learners. A descriptive-developmental research design was used to determine any significant difference on the perception of the three groups of respondents on the adolescent reproductive health, sex, and sexuality education. Moreover, it determined the significant relationship between the students' evaluation of the designed program as to their profile and awareness on ARH, sex, and sexuality education. The results revealed a significant difference on the perception of the respondents on the adolescent reproductive health, sex, and sexuality education. Findings also revealed significant relationship between the students' profile, except religion and family orientation, and the effectiveness of the designed program. Therefore, the null hypothesis is partially upheld. Likewise, students' awareness is significantly related to the perceived effectiveness of the program on adolescence reproductive health, sex, and sexuality education. The research suggests that the designed program must be aligned to the holistic development of adolescents ensuring that the information is comprehensible and relevant to their stage of life.

**Keywords:** *Adolescent Reproductive Health, Sex Education, Sexuality Education, Science-Based Approach*

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## 1. Introduction

The United Nations Children's Fund (UNICEF) reported in April 2022 that approximately 1.3 billion adolescents, accounting for 16 percent of the global population, face challenges to the notion of youth as the hope and future of nations. Factors such as rising rates of teenage pregnancies, sexual violence, and HIV infections contribute to the difficulties of this situation (Department of Education, 2018). These issues not only jeopardize the physical and educational prospects of young individuals but also have lasting impacts on their overall well-being and their communities. Despite the magnitude of these risks, adolescent sexual and reproductive health has historically received inadequate attention due to various political, economic, and social barriers (Morris & Rushwan, 2015).

Adolescents aged 10 to 19, and youth, aged 15 to 24, as defined by the World Health Organization (WHO, 2022), undergo a transitional phase from childhood to adulthood. While they become physically capable of reproduction, their emotional, social, and economic development remains interconnected with their parental support. Reproductive health, encompassing psychological preparedness and behavioural adaptations, is a multifaceted process essential for a holistic well-being. However, misconceptions and taboos surrounding discussions about reproduction hinder effective education on the subject, leading to adverse outcomes like sexually transmitted diseases, early pregnancies, and unsafe abortions (Njoku & Josiah, 2015; Munakampe et al., 2018; Janighorban et al., 2022; Panda et al., 2023).

In the Philippine context, teenage pregnancy has emerged as a pressing concern. Studies indicate that adolescent mothers are less likely to complete secondary education, affecting their future employability and overall family earnings (UNFPA, 2020). The economic impact of early childbearing is substantial, potentially causing annual losses of up to 33 billion pesos for the country. Despite a decline in overall teenage birth rates, the Philippines still faces high rates of teenage pregnancy compared to other ASEAN member states (Zorilla, 2021). For instance, in 2019 alone, over 62,000 minors gave birth, with certain regions like CALABARZON, National Capital Region, and Central Luzon recording the highest numbers (POPCOM). To address these challenges, promoting reproductive health among youth is imperative, ensuring the development of beneficial habits and hygiene practices (Siswantara, 2020; Villa-Torres & Svanemyr, 2015).

The Demographic Research and Development Foundation, Inc. (DRDF) and University of the Philippines Population Institute (UPPI) 2013 Young Adult Fertility and Sexuality Study (YAFSS) indicated a notable increase in early sexual encounters among youth aged 15 to 24. Similarly, the PSA's 2017 National Demographic Health Survey (NDHS) demonstrated that adolescent girls' childbearing rates escalate with age, with marriage being identified as a key factor in school dropout rates. Moreover, there were also high incidence of teenage pregnancies in certain regions, such as CALABARZON, Region III, and NCR. Cases of teenage pregnancy are observed to be on the rise in places like Quezon Province, and the influence of technology and lack of parental guidance are suggested as contributing factors. To address this issue, former President Rodrigo Roa Duterte issued Executive Order No. 141, prioritizing measures to curb teenage pregnancies. The Department of Education has also taken steps to incorporate comprehensive sexuality education into the curriculum (DepEd, 2018).

This study asserts that proper guidance and information dissemination, involving parents, teachers, and students, can contribute to healthy reproductive health among adolescents. While the DepEd acknowledges the importance of equipping youth with comprehensive knowledge and life skills to make informed decisions, studies also show pressing concerns on adolescent reproductive health (ARH) in the Philippines (Habito et al., 2019; Melgar et al., 2018; Maravilla et al., 2018; Gipson et al., 2020) and sex education among students (Kumar et al., 2017; Mueller et al., 2008; Soto-Fernández et al., 2023). In addition, studies showed that a science-based approach in sexuality education is effective in addressing issues on reproductive health (Philliber & Nolte, 2008; Sedivy et al., 2017). Hence, this study assessed the awareness of the three groups of participants (teachers, parents and students) on ARH, sex, and sexuality education as basis for the development of the science-based learning material. The developed learning material was also evaluated to determine its applicability as educational resource.

## **2. Literature review**

### ***2.1 Adolescent Reproductive Health***

According to Backes and Bonnie (2019), adolescence is a critical developmental phase marked by the expansion and development of key brain regions. This period, extending

from puberty to the mid-20s, involves structural, functional, and connectivity changes in the brain. These changes contribute to the exploration of identity, building relationships, and experiencing new perspectives. Biswas (2020) emphasizes that reproductive health encompasses physical, psychological, and social well-being. It involves having a satisfying sexual life, making autonomous reproductive decisions, and accessing accurate information. It consists of quality health services, informed consent, and confidentiality.

The Open University (2017) points out that over a quarter of the world's population is aged 10 to 24, with most residing in less developed nations. The choices adolescents make regarding their sexual and reproductive health will have lasting impacts on communities and nations. Despite efforts, challenges persist in ensuring access to reproductive health care and education. Two significant issues affecting adolescent sexual and reproductive lives are family planning and HIV/AIDS. Pregnancy during adolescence is linked to various health risks for both mothers and infants, including increased chances of maternal mortality, STIs, and poor mental health outcomes (The OU, 2017).

The United Nations Populations Fund (2021) data revealed that a significant number of adolescent girls give birth each year in Asia and the Pacific. Teenage pregnancy has far-reaching consequences for individuals and future generations. High adolescent fertility rates are found in regions with varying levels of gender inequality. Early childbearing is more common among less educated, rural, and disadvantaged adolescents. Such circumstances can hinder reproductive health behaviors and lead to exploitation, poverty, and family separation. Adolescents may resort to high-risk behaviors to cope with their situations. For instance, Sawyerr and Adam-Bagley (2023) point out the global prevalence of adolescent sexual abuse, which is associated with low self-esteem and mental health issues. Osmeña and Barrera (2021) highlight the prevalence of child and adolescent sexual abuse in the Philippines and its significant impact on victims' physical and mental well-being. UNICEF's study in 2016 reveals that adolescents, particularly those aged 13-24, often experience various forms of violence, including sexual violence and abuse. Vulnerability to exploitation and abuse can disrupt supportive social structures, education, and well-being.

## ***2.2 Sex Education***

Sex education is defined by the American Sexual Education Association as providing scientifically accurate, non-judgmental information about sex. It encompasses sexual anatomy, reproduction, activity, and birth control (Leung et al., 2019). Research by Santelli et al. (2021) underscores its role in curbing adolescent behaviors leading to unintended pregnancy and sexually transmitted diseases.

Aquino et al. (2017) stress that sex education, especially in schools, is crucial for educating youth about the risks of early sexual activity. In fact, Goldfarb and Lieberman (2020) found that school-based sex education contributes to healthy relationships, prevention of abuse, and enhanced emotional learning while Netsanet et al. (2012) emphasized the importance of topics like human sexual anatomy and contraception. In the Philippines, discussions on contraception in sex education face resistance due to cultural and religious beliefs (La Bella, 2014).

According to Lindberg and Maddow-Zimet (2012), sex education fosters safe sexual behaviors and reproductive health. Inclusive sex education equips youth with skills for lifelong sexual health, fostering respect and understanding. It aids in preventing unplanned pregnancies and STDs (Planned Parenthood, n.d.). While it aims to educate about sex, sexuality, and growth, leading to STD and pregnancy prevention (Nichols, 2020), delivery of sex education varies globally due to cultural acceptance. The most challenges include societal taboos, differing views on addressing adolescent sexual behavior, and diverse delivery methods (Leung et al., 2019). Hence, sex education in schools must navigate cultural values while providing respectful discussions and skills training (Shtarkshall et al., 2007).

## ***2.3 Sexuality Education***

Sexuality education goes beyond the biological aspects of sex and reproduction, encompassing topics like gender identity, relationships, and body image for teenagers, including those with disabilities and special needs (Breuner & Mattson, 2016). Its aim is to enhance young people's ability to make informed decisions about relationships, sexuality, and well-being (European Expert Group on Sexuality Education, 2016). Sexuality education covers various aspects of human sexuality, including body interaction, emotions, gender

identity, and sexual orientation, and it is crucial for promoting healthy relationships (UNESCO, 2017).

During adolescence, forming a healthy sexuality involves understanding consent, sexual orientation, and relationships, shaped by factors like culture and personal identity (AAP, 2016). Homosexual adolescents might face challenges like isolation and discrimination, impacting their well-being (McDermott, 2010). Gender identity can differ from assigned sex, influencing how individuals perceive themselves (DepEd, 2017). Adolescents' body image is influenced by culture, media, and social media, affecting their self-esteem (Promoting Healthy Mental Development, n.d.).

Values play a role in decision-making about relationships and sexuality, impacting behavior (Prabhu, 2023). Culture also shapes development, including attitudes toward sexuality, hygiene, and gender stereotypes (Denis, 2013 as cited by Hedge et al., 2022). Digital technology and social media affect how adolescents interact, access information, and develop relationships (Benvenuti et al., 2023). The internet is a source of sexual health information, shaping behavior (von Rosen et al., 2017), but it can also expose adolescents to harmful content (Landry et al., 2017).

Parents and teachers are vital in addressing teenagers' questions about sex, with parental teaching impacting learners' educational activities (Shin et al., 2019). Schools play a role in comprehensive sexuality education (CSE), with teacher attitudes and willingness influencing its effectiveness (Mkumbo, 2012; Ollis et al., 2013). A comprehensive sexuality education aims to empower youth to make informed decisions about relationships and well-being, and not promoting sexual activity (UNFPA, 2016).

#### ***2.4 Science-Based Approach***

Human life is inherently linked to sexuality, and providing accurate and scientifically grounded information about this topic is vital for children and young people. Nonetheless, the teaching of reproductive health and sexuality in schools is a critical issue, with differing viewpoints from various groups like parents, religious leaders, and politicians. These groups hold contrasting stances on the content and timing of such education, often leading to divisive debates (Mijatović, 2020). To address this, it is advocated that children should receive up-to-date, science-based process about sexuality education.

The scientific approach involves a systematic and evidence-based pursuit of knowledge concerning the natural and social realms. It encompasses objective observation, the search for evidence, using facts to draw generalizations or conclusions, repeated testing, critical analysis, and validation (Science Council, n.d.). Research suggests that employing a science-based approach entails employing rigorous and organized methods to gather precise and credible knowledge relevant to educational initiatives (Knoff, 2017). It is crucial to refrain from relying solely on personal judgments, emotions, or preferences when addressing subjects like sex, sexuality, and reproductive health to prevent misinformation and prejudice.

The Centers for Disease Control and Prevention Division of Reproductive Health (CDC DRH) initiated the Promoting Science-Based Approaches Using Getting-to-Outcomes (PSBA-GTO) project in 2016. The goal is to advocate for science-based approaches (SBAs) concerning adolescent sexuality and reproductive health. SBAs involve implementing policies and programs that have been effective in research. It emphasizes the importance of achieving tangible outcomes when designing programs at various levels, including schools, neighborhoods, communities, and states, to create positive societal impacts (CDC DRH, 2016).

According to Lesesne et al. (2016), promoting science-based approaches using getting-to-outcomes in topics involving ARH, sex and sexuality will aid the practitioner by systematically preparing, reviewing, updating and continuously improving a program or plan of actions. This approach manages to focus on the community's most pressing issue, requires using current research to identify important risk and protective factors so that work can be focused for the greatest possible benefit. It develops a clear and logical program and evaluation plan which is culturally sensitive to the needs of the community and incorporates continuous quality improvement and sustainability. According to the Centers for Disease Control and Prevention (CDC, 2015) specifically, the approach involves ten distinct steps. These steps include assessing the community's needs and resources, setting clear goals and outcomes for prevention programs, selecting evidence-based programs that align with the goals, ensuring the chosen program fits the community's context, identifying the organizational capacities required for implementation, crafting a detailed plan for program success, evaluating the program's planning and execution quality, determining whether the program achieved its intended impact, continually enhancing the program's quality, and

finally, sustaining the successful program over time. This guide provides a structured framework for creating and maintaining effective programs based on scientific principles.

Furthermore, to be an effective and efficient program the PSBA-GTO approach ensures proper planning and goal setting to guide in the identification of specific needs in the community, assessment of available resources and setting priorities and outcomes. There will also be program development which include pre-implementation and implementation phase to select and gather information by means of consultation and ask for support from stakeholders. This will guarantee that the program will fit for the learners and learnings will be age and developmentally appropriate. Evaluation and feedback will also be part of the program to monitor and assess its effectiveness (CDC, 2015).

### **3. Methodology**

The study used a descriptive-developmental research design, utilizing questionnaires as the primary data collection tool. The questionnaires include a 4-Point Likert Scale researcher-adapted survey questionnaire of Adolescent Reproductive Health, Sex, and Sexuality Education, researcher-adapted pre-implementation validation questionnaires and the post-implementation evaluation tool. In this context, the descriptive survey developmental research approach was chosen to establish a significant relationship between stakeholders' perspectives on ARH, sex, and sexuality education. The aim was to design a program which includes activities such as symposium and classroom-based discussion rooted in the acceptability of respondents, to address topics related to ARH, sex, and sexuality education.

The study employed four sets of respondents. The first set of respondents were composed of expert validators from the Department of Education – Division of Quezon province. The second set of respondents involved public school teachers of an integrated high school, junior high school department. Specifically, it included the participation of 21 teachers from the science department, 15 Music, Arts, Physical Education and Health (MAPEH) teachers, 15 Araling Panlipunan teachers and nine teachers from Edukasyon sa Pagpapakatao (ESP) department and the entire population were selected. The third set of respondents consisted of parents who were chosen using purposive sampling technique while the fourth set of respondents consisted of selected Grade 7 to 10 students. The participants



were oriented on the goal of the study, consented and expressed their willingness to join the survey. The study ensured confidentiality and anonymity of their personal information.

The statistical tools used were mean and standard deviation, Analysis of Variance (ANOVA), Pearson- r and Chi square test of independence.

## 4. Findings and Discussion

**Table 1**  
*Extent of Awareness on Domains of Adolescent Reproductive Health*

Domains	Students (n = 400)		Parents (n = 135)		Teachers (n = 60)		Overall (n = 595)	
	M	SD	M	SD	M	SD	M	SD
Teenage pregnancy	3.30	0.51	3.51	0.51	3.80	0.30	3.40	0.52
Sexual health	3.07	0.52	3.38	0.50	3.74	0.35	3.21	0.55
Sexual violence and abuse	3.26	0.63	3.48	0.49	3.73	0.35	3.36	0.60

*Legend: 3.50 – 4.00 – Highly Aware(HA), 1.50 – 2.49 – Not Aware (NA), 2.50 – 3.49 – Aware (A), 1.00-1.49 – Highly Unaware (HU)*

Table 1 shows the extent of awareness on the domains of ARH. In terms of teenage pregnancy, the students perceived themselves as aware while the parents and teachers are highly aware. Among the indicators, the respondents are highly aware that pregnant teenagers need special medical care and support. However, only parents and teachers are highly aware that pregnancy can happen anytime a woman has unprotected vaginal intercourse with a man even during teenage years. Moreover, teachers are highly aware of all the variables about teenage pregnancy. The findings are attributed to teachers' unique role in adolescents' lives, as they possess knowledge about various topics such as Science, Health, ESP, and AP, enabling them to offer valuable support despite not being medical experts. They also contribute significantly to the well-being of their students, even those facing teenage pregnancy. Simultaneously, parents are crucial in providing emotional support, connecting adolescents with medical professionals, and facilitating access to resources for navigating the challenges of pregnancy. Students themselves are urged to raise awareness,

fostering an inclusive environment and ensuring access to necessary resources for all during these trying circumstances.

In terms of sexual health, the students perceived themselves as aware as well as the parents while the teachers are highly aware of the concept. The respondents are highly aware that male and females need to take care of their bodies during childhood and adolescence. As a teacher, it is a critical role in educating both males and females about the importance of taking care of their bodies during childhood and adolescence. Teachers provide age-appropriate healthy habits and behaviors. Parents have to deal with their children specially during adolescence as it is a critical time for their physical, emotional, and cognitive development. For the students, this may be attributed to their exposure to lessons about reproductive system and reproductive health, personal experiences, media and internet that teach them about the importance of taking care of their bodies during adolescence.

In terms of sexual violence and abuse, the students perceived themselves as aware as well as the parents whereas the teachers are highly aware. The overall mean of 3.36 suggests that the three groups of respondents are aware on the domain of ARH specifically, topics about sexual violence and abuse. Parents and teachers are highly aware that sexual assault is a crime and a person who is sexually assaulted can report the assault to the proper authority. Teachers have the duty to protect their students from harm, including sexual assault. They are taught to recognize the signs of sexual assault and to take appropriate steps to protect the victim and prevent further harm. For instance, the student discipline committee released a student discipline handbook based on DepEd 4A-OIC-RM-21-217 (DepEd CALABARZON, 2021) which includes offenses related sexual assault. It was discussed by the teachers to parents and learners during the HPTA conference and students were given a copy of the handbook. Additionally, this may also imply that the parents are aware of legal implication of sexual assault. Parents are also exposed to news either through television, radio or newspaper where sexual assault to children are being reported. As parents, they also have a natural instinct to protect their children from any harm. Furthermore, students are aware that sexual assault is a crime because they are taught by their teachers, parents, through school campaign, and peer education.

**Table 2**  
*Cognition Level on Sex Education*

Domains	Students (n = 400)		Parents (n = 135)		Teachers (n = 60)		Overall (n = 595)	
	M	SD	M	SD	M	SD	M	SD
Anatomy and physiology	2.96	0.60	3.18	0.60	3.55	0.44	3.07	0.61
Reproduction	2.95	0.61	3.25	0.55	3.58	0.44	3.08	0.62
Birth control	2.89	0.66	3.30	0.57	3.66	0.41	3.06	0.68

*Legend: 3.50 – 4.00 – Highly Familiar (HF), 1.50 – 2.49 – Moderately Familiar (MF), 2.50 – 3.49 – Familiar (F), 1.00-1.49 – Not Familiar (NF)*

Table 2 illustrates that the students perceived themselves as familiar as well as the parents in terms of anatomy and physiology. Meanwhile, the teachers are highly familiar about the concepts. The overall mean of 3.07 suggests that the three groups of respondents are familiar on the domain sex education specifically topics about anatomy and physiology. Topics about anatomy and physiology are part of the school curriculum. Based on the K-12 Curriculum Guide (DepEd, 2013), the parts and functions of the reproductive system is being introduced in Grade 5. Since it is a spiral curriculum, higher concepts about anatomy and physiology of reproductive system are again being discussed in Grade 7 and Grade 10. It has an implication that as a teacher it is an essential part of their role in providing comprehensive sex education to their students. Schools have a responsibility to provide sex education as integrated topic in science education. Similarly, parents are familiar because they may have learned about it during their own education or from personal experience and the need to educate their children and promote a culture of respect and understanding when it comes to reproductive health. Although students show familiarity on topics about anatomy and physiology of reproductive system, it gained the least mean due to the fact that they still continuously learning these concepts.

As to reproduction, the students perceived themselves as familiar as well as the parents. The teachers are highly familiar. The overall mean of 3.08 suggests that the three groups of respondents are familiar on the domain of sex education, particularly topics about reproduction. Although they are familiar, they got the least mean score on topics about ovulation. However, the statement that common sign of pregnancy is a missed menstrual period got the highest mean.

As to birth control, the students perceived themselves as familiar as well as the parents. Students are the least familiar on topics about birth control whereas the teachers are highly familiar. The overall mean of 3.06 suggests that the three groups of respondents are familiar on the birth control. For teachers, they exhibited highly familiar on the concepts because they have the knowledge as they have learned these throughout their education. There are also programs and training under the Department of Education in support of DepEd's commitment under R.A. 10354 or the Responsible Parenthood and Reproductive Health Act of 2012 (DepEd, 2022). Parents are familiar with the recommendation that young individual should talk to adults about sexual intercourse and contraception because they have ideas about the consequences of early pregnancy. However, students have limited knowledge on concepts such as birth control since parents are cautious to discuss it.

**Table 3**  
*Familiarity on Sexuality Education*

Indicators	Students (n = 400)		Parents (n = 135)		Teachers (n = 60)		Overall (n = 595)	
	M	SD	M	SD	M	SD	M	SD
Sexual orientation	3.20	0.53	3.32	0.48	3.61	0.43	3.27	0.52
Gender identity	3.17	0.53	3.21	0.49	3.62	0.41	3.22	0.53
Body image	3.18	0.57	3.27	0.46	3.58	0.44	3.24	0.55
Relationship	3.27	0.56	3.38	0.48	3.63	0.40	3.33	0.54
Personal skills	3.38	0.57	3.47	0.45	3.72	0.39	3.43	0.54
Society and culture	3.17	0.57	3.34	0.47	3.61	0.43	3.26	0.55
Media	3.14	0.55	3.31	0.49	3.55	0.49	3.22	0.55

*Legend: 3.50 – 4.00 – Highly Familiar (HF), 1.50 – 2.49 – Moderately Familiar (MF), 2.50 – 3.49 – Familiar (F), 1.00-1.49 – Not Familiar (NF)*

Table 3 shows that the students as well as the parents are familiar with sexual orientation while the teachers are highly familiar with an overall mean of 3.27. This indicates that the teachers are knowledgeable as they have the responsibility to ensure that all students feel safe and supported in the classroom, regardless of their sexual orientation. For the parents, it can be inferred that it is important for them to create a safe and supportive environment where their children feel comfortable talking about their sexual orientation and where they can seek guidance and support. In addition, it is important for the students to develop empathy and understanding towards their peers who may have different sexual orientations.

On the other hand, gender identity showed students and parents familiarity and teachers high familiarity. The overall mean of 3.22 implies that the three groups of

respondents are familiar on topics about gender identity. For teachers, gender-based violence can have serious consequences for the students and can create an unsafe and negative learning environment. In addition, it is crucial for teachers to take these incidents seriously and to take immediate action to prevent further harm. Through the DO 32, S. 2017 also known as the Gender-Responsive Basic Education Policy by the Department of Education (DepEd, 2017), teachers are guided on how to protect students regardless of their gender identity and provide a safe and inclusive education for all. It is also essential for parents to be familiar with the importance of reporting incidents of discrimination, intimidation and harassment based on gender identity. By doing so, they can help ensure the safety and well-being of their children and others in the community. Furthermore, adolescents' familiarity of gender identity and issues related to it will provide them a sense of security.

Results further showed that students and parents are also familiar with body image while again the teachers are highly familiar. The overall mean of 3.24 implies the three groups' familiarity on the domains of body image. It is important for the teacher to be highly aware about body image which they can impart to their students and can help develop a healthier relationship with their bodies and to build a more positive self-image. This will lead to positive impact on their sexual health. Parents can provide support to teenagers and boost their self-image by appreciating other qualities aside from their physical attributes. Adolescents are in the process of developing their own identities and becoming aware of how their bodies are changing. The concept of body image influences their sense of self-worth and confidence and becomes a significant part of how they define themselves (Body Image Issues Among Adolescents, 2017).

In terms of relationship dimension, students and parents are still within the familiar range while the teachers are in the highly familiar range with an overall mean of 3.33. The respondents affirmed that family members are individuals, each with a unique personality. This implies that as teachers, they may help students understand that each person in a family is different and may have different needs, preferences, and boundaries. On the part of the parents, they play a significant role in shaping their children's attitudes and values towards relationships and sexuality. This understanding can help students develop healthier family relationships by promoting respect for individual differences and encouraging open and

honest communication. By promoting healthy family relationships, students can develop a strong support system that can help protect their sexual health.

In terms of personal skills, still students and parents are familiar while teachers are highly familiar with an overall mean of 3.43. Teachers are familiar with the importance of discussing personal values in sexuality education because they play a critical role in guiding decision-making related to sexuality health and promoting healthy attitudes and behaviors. Meanwhile, parents set the foundation for children's attitude, morals, and values. They contribute an important role in helping their children understand the role of values by expressing and discussing their own values and beliefs.

The society and culture dimension showed students and parents' familiarity and teachers' high familiar with an overall mean of 3.26. Teachers are highly familiar with this as they interact with students from various backgrounds and are often in a position to observe and address cultural differences in the classroom. This is also in the case of the parents as they have their own cultural or family background. They are also familiar about how society and culture may affect the views on sexuality based on their own experiences or interactions with people from different cultural backgrounds. For the students, they come from different family background that holds specific beliefs and values that they may have learned from their parents and relatives. By acknowledging and understanding these cultural differences, teachers and parents can provide support to students.

The students and papers are still familiar with media while teachers are still highly familiar with an overall mean of 3.22. Based on the Social Learning Theory of Bandura (1977 as cited by La Bella, 2015), children learn by mimicking others in their environment, and have clear connection to the effect of social media. Therefore, if children are exposed to negative types of sexuality information chances are, it might result to misconceptions and undesirable attitudes. Teachers and parents belong to the trusted persons among their children and students. They often look up to these people as role models. Accordingly, they can help their children and students develop critical thinking skills and media literacy to navigate the media landscape effectively. Students may personally experience how the adults and trusted persons guide them on various issues including media consumption.

**Table 4***Experts Evaluation on the Appropriateness of the Designed Program of ARH, Sex and Sexuality Education*

<b>Criteria</b>	<b>M</b>	<b>SD</b>	<b>VI</b>
Program design	4.00	0.00	HA
Pre – implementation	3.96	0.10	HA
Implementation	3.92	0.20	HA
Post – implementation	4.00	0.00	HA

*Legend: 3.50 – 4.00 – Highly Appropriate (HA); 1.50 – 2.49 – Inappropriate (I); 2.50 – 3.49 -- Appropriate (A); 1.00-1.49 – Highly Inappropriate (HI)*

Table 4 exhibits the experts' evaluation on the appropriateness of the designed program of Adolescent Reproductive Health, Sex, and Sexuality Education in a science-based approach for junior high school learners. The program focused on activities such as symposium to selected grade 7 to 10 learners. The table reveals that most respondents gave an evaluation of highly appropriate in all indicators implying the potential utilization to the target participants. The expert-reviewed program design effectively meets its purpose through a science-based approach, tailored to learners' needs and resource optimization. Objectives target holistic student needs with a well-planned monitoring system. Experts emphasis age-appropriateness and value post-implementation assessment for quality enhancement and program sustainability. However, seeking stakeholder support and refining symposiums for participant options require further consideration. According to Lesesne et al. (2016), science-based methods can be summarized into four parts: goal setting, program development, program planning and evaluation, and improving and sustaining the program. Employing this guide combined with proper training and technical assistance of the implementer will improve individual capacity and program performance.

**Table 5***Students' Assessment on the Effectiveness of the Designed Program*

<b>Criteria</b>	<b>M</b>	<b>SD</b>	<b>VI</b>
Rationale	3.44	0.40	E
Objectives	3.51	0.38	HE
Pre-implementation	3.46	0.43	E
Implementation	3.53	0.33	HE
Impact	3.55	0.40	HE

*Legend: 3.50 – 4.00 – Highly Effective (HE); 1.50 – 2.49 – Moderately Effective M(E); 2.50 – 3.49 – Effective (E); 1.00-1.49 – Not Effective (NE)*

Table 5 displays the students' assessment on the effectiveness of the designed program. It was revealed that the designed program is highly effective. This indicates that the program was successful. It can be interpreted that the students realized the importance of the program to their well-being and viewed the topics as relevant to their needs.

**Table 6**

*Significant Difference on Respondents' Familiarity on the Adolescent Reproductive Health, Sex and Sexuality Education*

		Sum of Squares	df	Mean Square	F	Sig.
Adolescent Reproductive Health	Between Groups	18.518	2	9.259	42.318**	.000
	Within Groups	129.525	592	.219		
	Total	148.042	594			
Sex	Between Groups	28.526	2	14.263	51.422**	.000
	Within Groups	164.204	592	.277		
	Total	192.730	594			
Sexuality Education	Between Groups	8.630	2	4.315	21.711**	.000
	Within Groups	117.657	592	.199		
	Total	126.287	594			

\*\*Significant at the 0.01 level

Table 6 shows the test of the difference in the perception of the three groups of respondents on the adolescent reproductive health, sex and sexuality education. Based on the results, there is a significant difference on the familiarity of the respondents on the adolescent reproductive health, sex, and sexuality education.

Table 7 displays the significant relationship between the student respondents' perception on the designed ARH, sex, and sexuality education program as to their demographic profile. The result reveals a low positive correlation between the age and students' perception on adolescent reproductive health ( $r = 0.360$ ), sex education ( $0.374$ ), and sexuality education ( $0.324$ ). This implies that the age of the students' respondents has minimal effect on their perception regarding the designed program on ARH, sex, and sexuality education. Most of the respondents belong to middle adolescence (14-17 years).



**Table 7***Correlation between the Students' Evaluation of Designed Program and Their Profile*

Students' Evaluation	Demographic Profile				
	Age ( <i>r-value</i> )	Sex ( $\chi^2$ value)	Religion ( $\chi^2$ value)	Family Orientation ( $\chi^2$ value)	Media Source ( $\chi^2$ value)
Adolescent Reproductive Health (ARH)	.360**	27.505**	4.449	1.911	21.182**
Sex Education	.374**	10.149**	2.412	4.138	11.282
Sexuality Education	.324**	10.287**	1.358	6.080	16.240**

\*\*Significant at .01 level \*Significant at .05 level

In this developmental stage, teenagers have their previous knowledge about concepts related to ARH, sex, and sexuality education and their continuous maturity enable them to understand that these concepts are needed for their well-being. Furthermore, the sex of the respondents correlates with the student's perception on adolescent reproductive health ( $x^2=27.505$ ), sex education ( $x^2=10.149$ ), and sexuality education ( $x^2=10.287$ ). Based on the study of Aventin et al. (2020), gender distinctions exist in intergenerational communication on sexuality. However, the result also viewed that the relationship between students' evaluation, religion and family orientation are not significant. Family orientation and religion do not affect the perception of students when it comes to ARH, sex, and sexuality education. For most adolescence, they tend to get information about reproductive health, sex and sexuality related topics to other sources such as social media, internet, peers, and school rather than their family. They have hesitations discussing their sexual matters to their parents. Moreover, in media source and student's perception, only adolescent reproductive health and sexuality education were significant and correlated with  $x^2 = 21.182$  and  $16.240$ , respectively. Being digital natives, most adolescence tend to rely on social media and internet for information. Topics about adolescent reproductive health and sexuality education are rampant in social media and the internet, and adolescence has a quick access to this information.

Table 8 reveals the correlation between the student respondents' perception on the designed ARH, sex, and sexuality education program and their familiarity on ARH, sex, and sexuality education. It is noted that there is a significant relationship between students'

awareness and their assessment on the designed program. Based on the result, it may be suggested that the respondents have their previous knowledge on some topics about ARH, sex, and sexuality before the implementation of the program. The students who have previous knowledge are more eager to know about the topics on ARH, sex, and sexuality education since it deepens their understanding, answer their questions, and correct their misconceptions about their reproductive and sexual health.

**Table 8**

*Correlation between the Students' Evaluation of the Designed Program and Their Familiarity on Adolescent Reproductive Health, Sex, and Sexuality Education*

	Rationale	Objective	Pre-implementation	Implementation	Impact
<b>ARH</b>					
Teenage pregnancy	.188**	.208**	0.095	.261**	.146**
Sexual health	.170**	.231**	.158**	.265**	.190**
Sexual violence and abuse	.166**	.207**	.112*	.247**	.194**
<b>Sex education</b>					
Anatomy and physiology	.157**	.140*	.112*	.199**	0.103
Sexual reproduction	.160**	.186**	0.106	.176**	.139*
Birth control	.191**	.178**	.133*	.199**	.111*
<b>Sexuality Education</b>					
Sexual orientation	.170**	.188**	0.104	.212**	.155**
Gender identity	.177**	.191**	0.087	.190**	.147**
Body image	.185**	.211**	0.094	.220**	0.072
Relationships	.195**	.266**	.183**	.302**	.140*
Personal skills	.175**	.231**	.126*	.249**	.128*
Society and culture	.185**	.213**	.114*	.236**	.150**
Media	.225**	.272**	.185**	.266**	.164**

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## 5. Conclusion

This study showed significant difference on the familiarity of the respondents on the adolescent reproductive health, sex, and sexuality education. Therefore, the null hypothesis is not supported. Similarly, there is a significant relationship between the students'

demographic profile except on variables about religion and family orientation and their evaluation of the designed program. Therefore, the null hypothesis is partially upheld. There is a significant relationship between the students' familiarity and their evaluation of the designed program. Therefore, the null hypothesis is not supported.

In the light of the findings and conclusions, this study suggests the program design be adjusted for student' readiness, particularly for elementary, junior high, and senior high school levels, enhancing flexibility. The content can also be tailored to students' needs and grade levels for age-appropriate learning. This adaptable program can serve as a model for other schools, potentially becoming a recognized best practice.

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