

Knowledge in Sustainable Development Goals of Teacher Education Students in Isabela State University

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Abstract— This study was conducted to determine the extent of knowledge in Sustainable Development Goals (SDGs) of teacher education students in Isabela State University. The study also sought if teacher education students' knowledge of SDGs is different based on their sex, field of specialization, and year level. The study adopted a survey research methodology to determine students' knowledge of SDGs. Respondents consisted of three-hundred sixty-one (361) teacher education students across selected campuses of Isabela State University. Descriptive statistics showed the respondents have high knowledge in SDGs. Using T-test and F-test, results revealed that there is no significant difference in their knowledge of SDGs between sexes. Between their field of specializations and year levels, differences in their knowledge are significant. Findings suggest that need to strengthen the integration of SDG-content into all fields of specialization under the teacher education program and the need set up mentorship programs and opportunities where the seniors can help guide the juniors in understanding the concepts of SDGs.

Keywords— *Sustainable Development Goals, university, teacher education students, knowledge, field of specializations*

I. INTRODUCTION

LEAVE NO ONE BEHIND— this statement served as the fundamental ideology embraced by global leaders from 193 nations when addressing the most critical contemporary challenges. Additionally, it stood as the official slogan designated by the United Nations (UN) for the Sustainable Development Goals (SDGs). In the rise of increasing global challenges, the idea of sustainable development is increasingly taking center stage, as nations try to grapple with environmental, social, and economic problems while ensuring the sustainability of the present and future generations. Since 2015, the United Nations' Sustainable Development Goals have acted as a guiding light, calling for mutual action towards a world of fairness, sustainability, and prosperity.

The transition to sustainable development requires raising awareness, promoting knowledge, cultivating positive attitudes, and encouraging sustainable practices among individuals, particularly those with higher education. Scholars have undertaken extensive investigations to assess global awareness and attitudes towards SDGs. In Europe, for instance, GlobeScan (2016) reported that, as of 2015, 28% of the population had heard of SDGs. Another survey encompassing 28 European Union countries in the same year found that 36% of the public were aware of the specific targets of SDGs, and this figure increased to 41% in 2016

(Eurobarometer, 2016). The Eurobarometer survey from 2017 reported that just slightly over 1 in 10 Europeans have knowledge about the SDGs (OECD Development Communication Network, 2017). In Latin America, empirical research conducted by Wendlandt Amezaga (2016) revealed that university students in Mexico exhibited an intermediate level of knowledge and attitudes towards sustainable development.

College students are pivotal in shaping sustainable development in the Philippines, with their awareness, knowledge, attitudes, and practices influencing progress towards global targets like the SDGs. Their active involvement and understanding, especially in areas like poverty, climate change, inequality, and environmental degradation, are vital for driving positive change and ensuring a sustainable future for the nation. Schools and universities serve as ideal settings to implement and strengthen the 17 Sustainable Development Goals (SDGs), shaping young minds and fostering a culture of sustainability. By integrating sustainability into their core functions, educational institutions can empower students to become responsible global citizens dedicated to a more sustainable world (Roberto, 2021). Indeed, universities play a vital role in advancing global sustainability through various initiatives

Sustainable Development Goals (SDGs) have become a focal point in the global educational agenda, emphasizing the importance of integrating sustainability principles into various educational domains. In this context, the knowledge and awareness of SDGs among teacher education students play a crucial role in shaping future generations towards sustainable practices. Isabela State University, like many educational institutions worldwide, is tasked with preparing teacher education students to understand and promote sustainable development through their teaching practices.

The integration of Sustainable Development Goals (SDGs) into teacher education programs is essential for fostering a generation of educators who can effectively promote sustainability principles in their teaching practices. Understanding the level of knowledge in SDGs among teacher education students is crucial for assessing their preparedness to contribute to sustainable development efforts. While various studies have explored aspects of education for sustainable development (ESD) among student teachers, there remains a research gap in understanding the specific knowledge levels of teacher education students at Isabela State University regarding the SDGs.

The significance of teachers' knowledge on Education for Sustainable Development (ESD) has been highlighted in various studies. Mróz et al. (2018) stress the importance of teachers integrating key ESD topics into their curricula and developing competencies crucial for sustainable development. Similarly, Zhao & Liu (2022) emphasize how SDG 4 provides a theoretical foundation for enhancing the quality of higher teacher education. Furthermore, research by García-González et al. (2020) indicates that pre-service teachers' perceptions and knowledge of SDGs significantly impact their readiness to incorporate sustainability into their future teaching.

Teacher education programs need to align with the principles of sustainable development to equip educators with the necessary tools to foster sustainability consciousness among students. Studies such as those by Bespalyy (2024) and Nketsia et al. (2020) delve into the importance of inclusive teaching practices, students' competencies, and the role of teacher educators in training for sustainable development. Additionally, the work of Lechuga et al. (2023) underscores the need to integrate sustainability concepts into higher education, highlighting the role of mathematics in promoting SDGs in the classroom.

Research by Cebrián & Junyent (2015) emphasizes the competencies prioritized by student teachers in ESD projects, shedding light on the acquisition of knowledge and practical skills related to nature and natural sciences. Similarly, Esa (2010) highlights the importance of environmental knowledge and attitudes in aspiring teachers to effectively integrate ESD into their future teaching practices. Furthermore, Bertschy et al. (2013) discuss the significance of teachers' competencies in implementing educational offers related to sustainable development, underscoring the need for tailored teacher training programs.

Despite these insights, there is a gap in literature regarding the specific knowledge of teacher education students at Isabela State University concerning the SDGs. Richter-Beuschel & Bögeholz (2020) suggest that fostering procedural knowledge in teacher education could enhance the achievement of cognitive learning objectives associated with SDGs in the long term. Additionally, the study by García-González et al. (2020) highlights the changes in pre-service teachers' knowledge of SDGs, indicating the importance of assessing student teachers' perceptions and understanding of sustainability goals.

In light of the abovementioned endeavour, Isabela State University (ISU), a prominent institution in North-eastern Philippines, views the challenges of the 21st Century as opportunities for progress, aligning itself with the United Nations' Sustainable Development Goals (SDGs) to strengthen its capacity and contribute to national development. ISU believes that the core values of the SDGs are essential for sustainable development, envisioning a more harmonious world (ISU for Sustainability, 2022).

Nevertheless, there is a lack of existing research regarding the level of awareness of the Sustainable Development Goals (SDGs) among students at Isabela State University especially the college of education. This paper aims to address the research gap by investigating the knowledge extent of teacher education students at Isabela State University regarding the SDGs. By exploring the specific understanding of SDGs among these students, this

study seeks to provide valuable insights into the current status of sustainability education in teacher preparation programs and identify potential areas for improvement to enhance the integration of SDGs into teacher education curricula.

Objectives of the Study

Generally, this study aimed to explore the extent of teacher education students' knowledge in Sustainable Development Goals (SDGs). In particular, this study sought to:

1. Determine the profile of the respondents in terms of:
 - 1.1 Sex
 - 1.2 Field of Specialization
 - 1.3 Year Level
2. Determine the extent of knowledge of teacher education students in Sustainable Development Goals
3. Determine the difference of knowledge of teacher education students when grouped according to profile.

II. METHODOLOGY

To attain and realize the objectives of this study, researcher utilized descriptive-comparative design of research as it deals with the data that are targeted to be described and compared between respondents' profile in terms of the variables selected in this study. The study focused on 361 undergraduate education students attending at ISU-Angadanan Campus, ISU-Cabagan Campus, ISU-Cauayan Campus, ISU-Echague Campus, ISU-Ilagan Campus, ISU-Jones Campus, ISU-San Mariano Campus, ISU-San Mateo Campus, and ISU-Roxas Campus as its target respondents. Stratified Proportional Random Sampling was utilized for the research. a survey questionnaire, incorporating a 5-point Likert scale. The questionnaire design was based on previous studies by Afroz & Ilham (2020) and Al-Naqbi & Alshannag (2018). The total number of items was adjusted accordingly, and subsequent validity and reliability tests were conducted. Reliability test result revealed a "Very High Reliability" ($\alpha \geq 0.90$), suggest a very high level of internal consistency. The five-point Likert Scale had an extent of 5 representing "Strongly Disagree" up to 1 representing "Strongly Agree" for the students' knowledge.

The data collected was treated with necessary statistical tools with the aid of SPSS to get the mean of the responses and analysis of of data right after the treatment. The researcher used frequency and percentage to describe the profile of respondents. Mean was used to determine the knowledge of Sustainable Development Goals. T-test and F-test were used to examine the difference between students' knowledge when grouped according to their profile.

III. RESULTS

TABLE I. PROFILE OF THE RESPONDENTS

| PROFILE | Frequency (n=361) | Percentage (100%) |
|---|----------------------|----------------------|
| <i>Sex</i> | | |
| Male | 120 | 33.24 |
| Female | 241 | 66.76 |
| <i>Field of Specialization</i> | | |
| Bachelor in Elementary Education | 51 | 14.13 |
| Bachelor in Secondary Education Major in English | 56 | 15.51 |
| Bachelor in Secondary Education Major in Filipino | 32 | 8.86 |
| Bachelor in Secondary Education Major in Mathematics | 46 | 12.74 |
| Bachelor in Secondary Education Major in Science | 39 | 10.80 |
| Bachelor in Secondary Education Major in Social Studies | 35 | 9.70 |
| Bachelor in Physical Education | 21 | 5.82 |
| Bachelor of Technical Vocational Teacher Education | 33 | 9.14 |
| Bachelor of Technology and Livelihood Education | 21 | 5.82 |
| Bachelor in Early Childhood Education | 27 | 7.48 |
| <i>Year Level</i> | | |
| First Year | 70 | 19.39 |
| Second Year | 101 | 27.98 |
| Third Year | 139 | 38.50 |
| Fourth Year | 51 | 14.13 |

Fig. 1. Respondent's Profile

Table provides an overview of the distribution of respondents across various demographic and categorical variables including sex and year level. It shows that out of 361 respondents surveyed, 120 or 33.24 % are male and 241 or 66.76 % are female. Thus, majority of the respondents are female.

Regarding field of specialization, the largest group, BSEd English, comprised of 56 or 15.51 %, followed by the BEED group with 51 or 14.31 %, the BSEd Mathematics group with 46 or 12.74 %, the BSEd Science group with 39 or 10.80 %, the BSEd Social Science group with 35 or 9.70 %, and the rest of the groups, the BTVTEd (33 or 9.14 %), the BSEd Filipino (32 or 8.86 %), the BECEd (27 or 7.48 %), and the BPEd and BTLEd groups which both have 21 or 5.82 % of the sample.

In terms of year level, the highest percentage of respondents belonged to the 3rd year, consisting of 139 or 38.50 %. The 2nd year had 101 or 27.98 % of the respondents, while the 1st and 4th year had 70 (19.39 %) and 51 (14.13%) respectively.

TABLE II. STUDENTS' EXTENT OF KNOWLEDGE IN SUSTAINABLE DEVELOPMENT GOALS

| STATEMENTS | Mean | Standard Deviation | Qualitative Description (QD) |
|--|------|--------------------|------------------------------|
| 1. I have heard about the term "Sustainable Development Goals (SDGs)" before. | 1.57 | 0.824 | SA |
| 2. I recognize that the meaning of the word "Sustainability" is the ability to be maintained at a certain rate or level. | 1.61 | 0.809 | SA |
| 3. I am aware of the fact that Sustainable Development Goals are targeted to be achieved by the year 2030 | 1.83 | 0.918 | A |
| 4. The present generation should make sure that the next generation can live in communities that are at least as healthy as those that exist today | 1.61 | 0.798 | SA |
| 5. The overuse of natural resources is affecting the well-being of future generations. | 1.55 | 0.791 | SA |
| 6. To achieve sustainable development, all people in the world must have access to a good education. | 1.45 | 0.718 | SA |
| 7. Environmental protection, economic growth, and social equity are the fundamental element[s] of a nation. | 1.53 | 0.749 | SA |
| 8. Healthy oceans and seas are essential to our existence. | 1.50 | 0.830 | SA |
| 9. Increased use of renewable resources can reduce greenhouse gas emissions. | 1.61 | 0.791 | SA |
| 10. Income inequality is a global problem that requires global solutions. | 1.69 | 0.825 | SA |
| 11. Maintaining good relationship[s] with various countries is crucial to preserve peace around the world. | 1.57 | 0.811 | SA |
| 12. Climate Change and Global Warming are hindrance to the realization of Sustainable Development Goals | 1.76 | 0.884 | SA |
| 13. Human actions are contributing to changes in our atmosphere and climate systems | 1.43 | 0.724 | SA |
| 14. Respect for cultural diversity is necessary for Sustainable Development (SD) | 1.50 | 0.727 | SA |
| 15. Sustainable Development requires creating and maintaining new jobs for all types of people regardless of socio-economic and socio-cultural backgrounds | 1.62 | 0.787 | SA |

| STATEMENTS | Mean | Standard Deviation | Qualitative Description (QD) |
|---|------|--------------------|------------------------------|
| 16. Gender equality and equity is fundamental or important to society. | 1.51 | 0.731 | SA |
| 17. Good citizenship is necessary for Sustainable Development (SD) | 1.48 | 0.734 | SA |
| 18. "Maintaining biodiversity" means maintaining the number and variety of living organisms. This is necessary for Sustainable Development (SD) | 1.55 | 0.766 | SA |
| 19. A strong global collaboration for achieving the goals is of utmost importance | 1.54 | 0.722 | SA |
| 20. Sustainable development thrives with a peaceful, inclusive, just society and accountable institutions. | 1.55 | 0.737 | SA |
| 21. Sustainable Development (SD) requires individuals to reduce all kinds of waste. | 1.57 | 0.735 | SA |
| 22. A culture of peace where people settle conflicts by discussion or dialogue is necessary for SD | 1.66 | 0.810 | SA |
| 23. SD requires businesses to behave responsibly to their employees, customers and suppliers. | 1.64 | 0.773 | SA |
| 24. Access to clean water and sanitation is integral to human fundamental needs. | 1.45 | 0.698 | SA |
| 25. Resilient infrastructure, inclusive industrialization, and fostering innovation are vital to changing climate and condition of our time. | 1.54 | 0.745 | SA |

Note. $M = 1.57$, $SD = 0.604$, $QD = \text{Strongly Agree}$

Fig. 2. Students' Extent of Knowledge of SDGs

Table 2 presents the extent of knowledge on Sustainable Development Goals, along with their corresponding mean scores, standard deviations (SD), and qualitative descriptions (QD).

The results revealed a strong agreement (QD = Strongly Agree) among respondents with the statements related to their perceived knowledge of SDGs based on the computed overall mean of 1.57 (SD = 0.604).

Specifically, respondents strongly agreed with statements such as recognizing the term "Sustainable Development Goals (SDGs)" (M = 1.57, SD = 0.824), the meaning of the term "Sustainability" which is maintaining specific ability at a certain level (M = 1.61, Sd = 0.809), and acknowledging the importance of preserving resources for future generations (M = 1.55, SD = 0.791). Same level of agreement was gathered in the statements about over-usage of natural resources and its effect to future generations'

well-being (M=1.55, SD = 0.791), having access to good education in order to achieve sustainable development (M = 1.45, Sd = 0.718), and on the fundamental elements of a nation which are having the environment always protected, having growth economically, and so with social equity (M = 1.53, SD = 0.749). Also, respondents are aware with the essential creations like oceans and seas which are beneficial to our existence (M = 1.50, SD = 0.830), together with ways on how to reduce greenhouse gas emission, for example "the use of renewable resources" (M = 1.61, SD = 0.791).

In addition, they are aware with the concern about "Income Inequality" which requires global solution (M = 1.69, SD = 0.825), maintaing good relationship with many different countries to preserve peace (M = 1.57, SD = 0.811), the hindrances (Climate change and Global Warming) to the realization of SDGs (M = 1.76, SD = 0.884), together with actions made by human which are all contributory factors to changes in the atmosphere and climate system (M = 1.43, SD = 0.724).

Moreover, a high level of concensus is observed on the statements related to the necessity of "respect for cultural diversity" for Sustainable Development (M = 1.50, SD = 0.727), creating and maintaining new jobs regardless of background (M = 1.62, SD = 0.787), the importance of Gender equality and equity (M = 1.51, Sd = 0.731) and "Good citizenship" (M = 1.48, SD = 0.734) to the society. The necessity of maintaining "biodiversity" (M = 1.55, SD = 0.766) and having a "strong global collaboration" is of utmost importance (M = 1.54, SD = 0.722).

Furthermore, respondents strongly agree that SD thrives with peaceful, inclusive, just society, accountable institutions (M = 1.55, SD = 0.737) ,individuals who lessen the use of wastes (M = 1.57, D = 0.735),and with a culture of peace through calm discussions or dialogues (M = 1.66, SD = 0.810). In addition, requiring businesses to behave responsibly (M = 1.64, SD = 0.773), having access to clean water and sanitation (M = 1.45, SD = 1.45) and having a resilient infrastructure, inclusive industrialization, and fostering innovation which are essential in changing today's condition (M = 1.54, SD = 0.745). Lastly, respondents "agree" that these SDGs will be achieved by the year 2030 (M = 1.83, Sd = 0.918).

TABLE III. DIFFERENCES IN STUDENTS' KNOWLEDGE IN SDGS ACCORDING TO PROFILE

| PROFILE | Value of Significance | Interpretation |
|-------------------------|-----------------------|-----------------|
| Sex | 0.507 | Not Significant |
| Field of Specialization | 0.001 | Significant |
| Year Level | 0.001 | Significant |

Significant at 0.05

Fig. 3. Difference in Students' Knowledge, on Sustainable Development Goals according to Profile

Table 3 displays the differences in students' knowledge regarding Sustainable Development Goals (SDGs) when grouped by their profile.

The result revealed that there is no significant difference between the levels of knowledge regarding Sustainable Development Goals (SDGs) when grouped by sex, $p = 0.507$. On the otherhand, result revealed that there is a significant difference in their knowledge in SDGs when divided in terms of their field of specialization. In terms of their year level, there is also a significant difference in their knowledge of Sustainable Development Goals.

IV. DISCUSSION

Students' Extent of Knowledge of SDGs

Overall, the findings suggest a high perception in terms of their knowledge regarding SDGs among respondents, with a strong consensus on key aspects related to sustainable development goals. The result is consistent with the study of Afroz & Ilham (2020) and Al-Naqbi & Alshannag (2018), where the students have high knowledge and understanding of SDGs as well as the Education for Sustainable Development (ESD). On the other hand, the result denies the finding of Bebbington & Unerman (2020) that a large part of the general public in different countries is unaware of the core agenda of Sustainable Development Goals and their significance to many features of our lives. The result also disagrees with the study of Omisore et al. (2017), which found that only 43% of the 450 students and staff surveyed knew about the Sustainable Development Goals, and only 4.2% had good knowledge about it..

The strong agreement among respondents suggests that they are well-informed about the SDGs. This could be attributed to various factors such as educational campaigns, media coverage, or institutional efforts to promote awareness about sustainable development concerns and issues. Furthermore, SDGs is integrated in all aspects of learning and education in the K-12 curriculum (Department of Education, 2022). In the tertiary level, one of the General Education Courses is Contemporary World (GEC 08), one of its main topics is Sustainable Development Goals. Thus, students are highly knowledgeable about SDGs because both the basic and higher education, the concept of SDGs are part of the curriculum. It seems probable that students have acquired their understanding of Sustainable Development (SD) and Education for Sustainable Development (ESD) during their earlier school years, prior to their enrollment in university (Al-Naqbi & Alshannag, 2018). Al-Naqbi & Alshannag (2018), provided also that enhancing students' understanding of Sustainable Development (SD) and Education for Sustainable Development (ESD) before they start university may be linked to the scientific material covered in school, exposure to media and social communication, and family encouragement and favorable attitudes towards environmental concerns.

Given that the respondents are undergraduate education students, this finding may reflect the success of

abovementioned educational institutions in incorporating SDGs into their curriculum. It indicates that these institutions are achieving their goal of equipping students with knowledge, understanding and awareness of both the global and local related issues of SDGs. Moreover, research highlights the significance of increasing awareness and understanding of the SDGs among students (Yuan et al., 2021; Leiva-Brondo et al., 2022; Jones et al., 2023; Smaniotto et al., 2020). While students may demonstrate awareness of the SDGs, further education and integration of these goals into curricula are necessary to enhance their comprehension and practical application. Studies also underscore the role of educational experiences in shaping students' attitudes and practices towards sustainability (Burkhart et al., 2020; France et al., 2022; Cottafava et al., 2019), suggesting that targeted educational interventions can influence students' engagement with sustainable practices.

Differences in Students' Knowledge in SDGs according to Profile

Sex. The result revealed that there is no significant difference between the levels of knowledge regarding Sustainable Development Goals (SDGs) when grouped by sex. It implies that gender (Male and Female) does not play significant role in influencing the respondents' perception levels of knowledge on SDGs. This finding is supported by the literature, particularly the study by Yumarni and Amaratunga (2022), which highlights the vital contribution of gender mainstreaming in achieving the SDGs in the context of post-disaster reconstruction. The study emphasizes the significant role of gender mainstreaming in sustainable development and the achievement of SDGs, indicating that gender does not significantly impact knowledge levels related to SDGs.. On the other side of the coin, the study conducted by Olsson and Gericke (2017) proposes that gender can significantly impact students' levels of sustainability consciousness. The research implies that incorporating a feminist perspective into sustainability education could prove beneficial in narrowing existing gender gaps in this area among students.

Field of Specialization. In terms of their knowledge when grouped to field of specialization, result revealed statistically significant differences across various statements of the knowledge of SDGs. This result suggests different levels of knowledge on SDGs among the respondents based on their field of specialization. The results indicate that students' knowledge of SDGs varies depending on their field of specialization. This discovery suggests that students in various fields have different levels of familiarity with SDGs. This discovery suggests that students in various fields have different levels of familiarity with SDGs. For example, students majoring in Bachelor in Secondary Education Major in Science might have more exposure to environmental issues related to SDGs compared to those in Bachelor in Early Childhood Education, who may not focus as much on these topics. The differences in knowledge levels could be influenced by the focus and content of each academic program. For instance, Bachelor in Physical Education students might encounter aspects of SDGs related

to health and well-being, while Bachelor in Secondary Education Major in English students may not encounter these topics as frequently in their coursework.

The findings indicated that students in science education and environmental education programs had a significantly better understanding of the SDGs compared to those in general elementary education programs, according to research by Polo and Sánchez-Martín (2019). Similarly, preservice science teachers saw the SDGs as really important for always getting better at teaching and improving education. They thought it was really important to include the SDGs in training programs for new teachers (Purnomo et al., 2022).

Interestingly, Bachelor in Secondary Education Major in Science students showed the highest level of knowledge in statement 8, indicating a specific area of strength in their understanding of SDGs. This result suggests that students specializing in Science within Secondary Education possess a deeper understanding of the importance of oceans and seas in sustaining life on Earth. Their coursework and focus on scientific principles likely provide them with relevant knowledge and awareness in this area. The curriculum for Bachelor in Secondary Education Major in Science may include topics related to marine biology, environmental science, or ecology, which could contribute to their enhanced understanding of the significance of healthy oceans and seas.

The finding highlights specific areas where certain groups of students may have gaps in their understanding of SDGs. For example, Bachelor in Elementary Education students showed lower levels of knowledge in statement 18, which emphasizes the importance of maintaining biodiversity for sustainable development. This finding suggests that within the Bachelor in Elementary Education program, there may be limited emphasis on topics related to biodiversity conservation and its importance for sustainable development. Students might not have been exposed to sufficient educational content or experiences that address this specific aspect of sustainability. The lower level of knowledge on biodiversity conservation among Bachelor in Elementary Education students might indicate a gap in their understanding of the interconnectedness of ecosystems and the importance of preserving biodiversity for ecosystem health and human well-being. This interpretation is supported by research on the integration of sustainability and environmental education in teacher training programs. White et al. (2018) discovered that involving students in outdoor environmental activities can significantly increase their understanding, knowledge, and attitudes towards wildlife. This study highlights the positive effects of incorporating environmental education initiatives into curricula. Bachelor in Elementary Education programs, in particular, could greatly benefit from adopting such an approach, as it could help bridge the knowledge gap related to biodiversity conservation. By implementing these strategies, educators can foster a deeper appreciation for the natural world and instill a sense of responsibility in their students towards conservation efforts.

Educators and policymakers can use these results to adapt educational approaches and curriculum content to address the knowledge gaps identified among students in different fields of specialization. For instance, incorporating more targeted education on biodiversity conservation for Bachelor in Elementary Education students could help bridge their knowledge gap in this area. Because students in different fields have different levels of understanding, there's a chance for teachers from different subjects to work together. By doing this, they can share what they know and see things from different points of view. This can help students understand Sustainable Development Goals better because they get to learn about them from different angles. Research by Braßler & Sprenger (2021) emphasizes the importance of interdisciplinary higher education for sustainable development (HESD) in fostering sustainability knowledge, attitudes, and behaviors. This study highlights the positive impact of tutor-supported interdisciplinary courses in promoting a deeper understanding of sustainability issues. By integrating sustainability themes across various disciplines, educators can enhance students' interdisciplinary learning experiences and equip them with the knowledge and skills needed to address complex challenges like biodiversity conservation. For example, in a biology class, you might learn about biodiversity, but in an economics class, you could learn about how protecting biodiversity can also benefit the economy.

Additionally, Boyraz and Serin (2017) highlight the advantages of incorporating interdisciplinary teaching methods in academic settings, specifically through courses that combine science instruction with physical activities. This approach encourages students to engage in hands-on learning experiences, which can help them better comprehend intricate concepts such as ecosystem health and biodiversity conservation. By implementing interdisciplinary teaching practices, educators can create an interactive and stimulating learning environment that fosters critical thinking and deepens students' understanding of complex subjects.

The findings underscore the importance of raising awareness about SDGs across all fields of specialization, not just those traditionally associated with environmental studies or sustainability. Increasing awareness and understanding of SDGs among students from diverse academic backgrounds can contribute to more holistic and integrated approaches to addressing global challenge.

Year Level. Overall, that data revealed statistically significant difference on the level of knowledge of undergraduate education students of Isabela State University System on SDGs across different year levels, $p < 0.001$. This contradicts the finding on the study of Al-Naqbi & Alshannag (2018) that there were no substantial disparities observed among students concerning their academic levels.

Generally, students in higher year levels tend to have higher level of knowledge about SDGs. This supports the conclusion that was reached by Smaniotta et al. (2019) who

discovered that first-year students at nine universities in Italy had limited understanding of the SDGs. No significant difference on the perceptions of respondents on the difficulty of maintaining good relationship for worldwide achievement of peace, $p = 0.35$. The observed trend of higher knowledge levels among students in higher year levels aligns with the expected progression of learning and academic development. As students advance in their studies, they are exposed to more complex concepts, including those related to sustainable development and SDGs. This progression may be attributed to the accumulation of knowledge through coursework, research, and experiential learning opportunities over time. Research by Leal- Filho et al. (2020) found that students' understanding of sustainability increased with higher levels of academic engagement and exposure to sustainability-focused courses. Students' understanding of sustainability and environmental issues tends to deepen as they progress through their academic programs. The study found that students in higher academic years demonstrated a more comprehensive grasp of sustainability concepts, reflecting the impact of continued exposure to sustainability-focused courses and activities.

Additionally, a report by the United Nations Educational, Scientific and Cultural Organization (2020) emphasized the importance of a progressive and integrated approach to sustainability education across all levels of education. The report highlighted that as students advance in their academic journey, they should be provided with increasingly complex and nuanced perspectives on sustainability to foster a deeper understanding and commitment to sustainable development.

V. CONCLUSION

The profile of the respondents indicates that majority of the respondents were female. Regarding the field of specialization, the largest group is BSEd English and the lowest groups are the BPEd and BTLEd. In terms of year level, the highest percentage of respondents belonged to the 3rd year students.

Following the thorough examination and interpretation of the data, it was found that the survey participants had a high level of perceived knowledge about the Sustainable Development Goals (SDGs). Results equally revealed a high level of consensus among the respondents on the key aspects of the SDGs. By sex, there is no big difference between males and females in relation to how one understands the Sustainable Development Goals. This suggests that gender does not have a great bearing on the extent of knowledge somebody has concerning the SDGs.

The results show that students' understanding of the SDGs depends on their specialization. This means that not all specializations have the same level of knowledge regarding the SDGs. It could be because of the nature and content of different academic programs. The results of the study suggest that there are specific areas where certain groups of students may not understand as much about the SDGs. The findings showed that students in science

education and environmental education programs had a much better understanding of SDGs compared to those in general elementary education programs. These points to the need for more awareness about SDGs across all fields of study, not just those traditionally associated with environmental studies or sustainability.

The data reveal that undergraduate education students at Isabela State University System have unequal levels of knowledge on SDGs, depending on the year level. Generally, the higher the year level of the students, the better their understanding of SDGs. As students progress in their studies, they are faced with more intensive ideas and concepts involving sustainable development and SDGs.

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