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# Adapting to online education: Social and emotional learning and teaching efficacy among Filipino teachers post-pandemic

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## Abstract

On March 11, 2020, the World Health Organization declared COVID-19 a pandemic. With the help of online learning, students were able to continue their education. Since the outbreak of the pandemic nearly five years ago, online learning has become an attractive alternative in a number of situations for the Philippines. High temperatures, flooding, and other weather conditions make online learning a certainty. Recently, there has been an increased emphasis placed on integrating social and emotional learning into day-to-day classroom activities. The same is true for online learning as well. To better understand the current situation in the Philippines, 139 teachers who took pre-service teacher education during the pandemic were surveyed. The results indicated that teachers exhibit high levels of social and emotional learning, while online teaching efficacy is moderate. Importantly, compassion fatigue seems moderate with no specific relationship to the other variables. These findings suggest that while teachers are adapting well to social and emotional learning, there is room for improvement in their online teaching efficacy. It is crucial to provide ongoing support and resources to enhance teachers' skills in this area. By addressing these needs, the education system in the Philippines can continue to thrive in a predominantly online learning environment.

*Keywords:* online teaching and learning, social and emotional learning, teacher efficacy, optimism, pessimism, resilience

# Adapting to online education: Social and emotional learning and teaching efficacy among Filipino teachers post-pandemic

## 1. Introduction

During COVID-19 pandemic, the Philippines was also heavily affected, as well as many other countries (Joaquin et al., 2020). The sudden shift to online learning has been accompanied by questions regarding its readiness (Briones, 2021). These readiness requirements pertain not only to the physical infrastructure itself (such as the internet and other information technology), but also to both teachers and students (Clemen et al., 2021). Schools and teachers have faced significant challenges in adapting to new digital platforms and teaching methods (Alea et al., 2020). This lack of preparedness highlighted the need for training and resources to ensure effective online education (Chin et al., 2022). Additionally, the disparity in technology access further complicated the transition for both educators and students (Marquez et al., 2020). More important the various relevant psychological issues related to online learning during COVID-19 (Lim et al., 2022; Rotas & Cahapay, 2020).

Online learning in the Philippines during COVID-19 was characterized by a range of challenges. Students reported the greatest challenge as being related to their home learning environment, while the least challenging was their level of technological literacy (Barrot et al., 2021). A number of other issues are associated with insufficient internet connectivity, inadequate learning resources, power outages, vague learning contents, overloaded lesson activities, limited teacher scaffolding, poor peer communication, conflict with home responsibilities, a lack of a learning environment, financial issues, physical health challenges, and mental health problems (Rotas & Cahapay, 2020). As for the psychological effects, research indicates that the majority of teachers have stress and anxiety-related problems (Mordeno et al., 2023; Talidong & Toquero, 2024). In addition to anxiety, teachers have also been found to suffer from depression and compassion fatigue, leading to burnout (Aruta et al., 2022). While research also indicates that Filipino teachers tend to be resilient and have the ability to cope with a variety of issues (Aragasi & Pangandaman, 2021; Edara et al., 2021), teachers are nonetheless still quite susceptible to burnout (Carreon et al., 2021). Thus, it is noted that further research is necessary, particularly in the area of exploring how teacher preparation programs can better prepare future educators to handle these psychological challenges.

In light of these issues, the current study seeks to answer the following research questions:

➢ Determine the levels of social emotional learning, compassion fatigue, and online teaching efficacy of teachers who underwent teacher training during COVID-19;

➢ Determine the relationships between teachers' optimism, pessimism, and resilience with social emotional learning, compassion fatigue, and online teaching efficacy; and

➢ Understand the predictors of compassion fatigue

## 2. Background of the study

**Compassion fatigue** is not a new concept. It is clinically defined as a form of *vicarious traumatization* (McCann & Pearlman, 1990) or *secondary traumatic stress* (Figley, 1999). Prior to the COVID-19 pandemic, this condition is more commonly described as a *work-related stress* response among healthcare providers (Sinclair et al., 2017). As the COVID-19 pandemic unfolds, compassion fatigue has risen again as a significant cause of burnout in healthcare related occupations (Lluch et al., 2022). More importantly, recent researches have noted that besides healthcare professions, teachers, especially those involved in online teaching during the pandemic, have also experienced compassion fatigue (Fute et al., 2022; Yang et al., 2021). Within an academic

standpoint, compassion fatigue in teachers can be defined as the physical, emotional, and psychological effects of helping students during COVID-19 (Chao et al., 2024). Moreover, teachers' constant need to adapt to online classrooms, support students emotionally, and all the while also managing their own stress has significantly contributed to their burnout (Oberg et al., 2023). This parallels the struggles of healthcare professionals and teachers, which highlights a widespread issue across professions that requires high levels of empathy and adaptability (Ormiston et al., 2022). Accordingly, the ability to adapt during COVID-19 corresponds to the social emotional learning competencies of teachers (Gultom et al., 2022; Yang, 2021).

**Social and emotional learning** is first conceived as public health approach to education (Greenberg et al., 2017), while also coined as similar to character education, soft skills, and non-cognitive skills (Jones & Doolittle, 2017). In some sense, social and emotional learning or social emotional learning (SEL) involves various soft-skills that are said to be able to help an individual understand and manage his or her own emotions. Since it equips students for both academic and personal success, social and emotional learning has gained more and more recognition in recent years as one of the most crucial facets of education (Greenberg et al., 2017).

**Issues during COVID-19** was concurred by various scholarships that the COVID-19 pandemic has brought an unprecedented change in people's lives across the globe. It has affected the educational sector where the landscape of educational engagements was stirred. Some observed that different learning institutions "have taken necessary measures in responding to the imminent threat this pandemic has to the lives of educators, learners, and other school personnel" (Pandey et al., 2021, p. 38). This measure leads to a series of suspensions and cancellations of classes that interrupt the learning of students and the customary operations of schools. In effect, online education and distance learning were given attention as the practical learning continuity plan. Studies have noted that as a crucial reaction to the educational difficulties caused by COVID-19, online learning has grown in popularity, enabling schools to keep teaching even while many campuses were closed, and students were required to maintain physical distance (Bao, 2020; Dhawan, 2020). As a result, online learning continuity manuals were designed and implemented throughout the pandemic. In fact, one of the provisions of the online learning continuity manual has something to do with capacity building for teachers. Capacity building is centered on enhancing the knowledge and skills of teachers in utilizing technology and applications to facilitate learning in an online setup (Huang et al., 2024).

**Capacity building** in an online education framework ought to involve developing staff competencies in online course design and facilitation, assessing e-readiness, and implementing supportive strategies like pilot programs and stakeholder engagement to enhance online learning experiences for both staff and students (Kuboni, 2013). Therefore, teachers across all generations who are actively teaching cannot but familiarize themselves with the demands of an online learning setup, and the proper procedure in using technologies and applications in ensuring that learning becomes interactive. Nevertheless, if the sudden shift in the educational landscape causes different mental, physical, and emotional problems for students (Pandey et al., 2021), the same goes with teachers. It was not only the students who experienced mental, physical, and emotional disturbance, educators as well had experienced these disturbances. Online learning, while providing a solution to continuing education during the COVID-19 pandemic, has also introduced new sources of stress for teachers. Below are some of the sources of stress that teachers experience in an online learning environment.

**Increased workload and preparation time** was clearly observed within the learning continuity plan (Mendoza & Ocampo, 2022). Teachers have had to redesign lesson plans to fit online formats, often spending more time preparing digital materials, recording lectures, and setting up online assessments. This additional workload frequently extends beyond normal school hours, creating a sense of "always being on" and blurring the boundary between work and personal life (Dhawan, 2020). Similarly, **technical challenges and digital literacy** issues was also observed. Many teachers were unfamiliar with the necessary technology and online platforms before the pandemic, leading to stress as they learned to use new tools on the job (Rodriguez et al., 2022). Technical issues like unstable internet connections, software malfunctions, and difficulties in managing digital classrooms add to this stress, especially for teachers who may have limited technological support.

**Student engagement and classroom management** is challenging (Lin et al., 2021). Teachers often find it challenging to maintain students' attention in a virtual setting, as they lack physical proximity and the usual cues to manage classroom behavior (Santos et al., 2021). Keeping students engaged online requires extra effort and innovative teaching methods, adding pressure on teachers to find new ways to reach and motivate students (Roberts & Ching, 2023). Furthermore, **isolation and reduced peer support** becomes a common problem. Teaching can be a collaborative profession, with colleagues providing support and resources. The isolation of online teaching limits teachers' interactions with peers, making them feel more alone in managing the demands of online instruction. This isolation can contribute to emotional exhaustion and feelings of disconnect (Crawford et al., 2020).

**Balancing emotional and academic support** is needed. Teachers have increasingly found themselves providing not only academic instruction but also emotional support to students coping with the stresses of the pandemic. This additional emotional labor, coupled with their struggles, can increase burnout and contribute to stress (Ferri et al., 2020). In front of the challenges that teachers met, challenges that take a significant toll on the overall well-being, in ensuring that learning of students continues there were interventions that different schools have applied in ensuring the personal and professional health of teachers (Ching & Gungon, 2023). These interventions are aimed at helping teachers manage stress, maintain their well-being, and adapt effectively to the demands of online education. One of these has something to do with recognizing the rapid shift of schools to online learning as an opportunity to provide professional development programs focused on digital skills, including how to use learning management systems, video conferencing tools, and virtual classroom management software. Training in these areas has been essential for helping teachers build confidence in using technology effectively, reducing stress related to unfamiliar platforms (Dhawan, 2020).

Conceivably, what could reinforce the **professional development programs** of schools during the pandemic is to also provide technological resources to teachers (Chin et al., 2022). The rapid shift to online education has highlighted the necessity for reliable technological resources. Many teachers initially faced challenges in adapting to digital teaching due to a lack of adequate technology, internet connectivity, and digital literacy. Recognizing this, schools have provided resources like laptops, tablets, and internet subsidies to ensure that teachers have the tools necessary to teach effectively (Rodriguez et al., 2022). By supplying these resources, schools address a critical barrier to online teaching success, especially for teachers in underserved areas. Research indicates that teachers who have access to reliable technology and stable internet connections experience less frustration and are better equipped to maintain instructional quality, which is directly related to student engagement and learning outcomes (Rodriguez et al., 2022). Furthermore, access to these resources enables teachers to experiment with various educational technologies, ultimately increasing their digital competence and confidence in delivering online instruction.

Aside from programs that provide solutions to problems related to the conduct of classes in an online environment, schools also make it necessary to raise **significant awareness about mental health** issues. Schools have begun to incorporate mental health support for teachers, such as counseling services, virtual support groups, and wellness programs. These initiatives address the psychological strain of online teaching and help teachers manage feelings of isolation, burnout, and anxiety. Some schools also conduct regular check-ins and provide access to stress-management resources, like mindfulness training and relaxation exercises, to support mental well-being (Crawford et al., 2020). In maintaining a well-balanced workload and to reduce the stress that teachers during the pandemic, several schools have implemented a flexible work schedule. To alleviate the demands of online teaching, some schools have implemented more flexible work schedules, allowing teachers time to balance personal and professional responsibilities. Others have reduced workloads by hiring additional staff or providing teaching assistants to support online classes, enabling teachers to focus on core teaching tasks and reducing the strain of extended work hours (Mendoza & Ocampo, 2022). The physical demands of online teaching - such as prolonged screen time, limited movement, and the need for ergonomic workspaces - have been shown to affect teachers' physical well-being. Schools have addressed these challenges by offering resources and guidance on maintaining physical health in a virtual setting.

Many institutions **provide ergonomic recommendations**, such as proper desk setups and posture guidelines, to prevent strain from extended computer use (Dhawan, 2020). Schools have also encouraged teachers to incorporate regular breaks and physical activity into their routines to counteract the sedentary nature of online work. Some have even offered virtual wellness programs, including yoga and mindfulness sessions, aimed at reducing stress and promoting relaxation. Research shows that teachers who receive support for their physical health are better able to maintain energy levels, reduce fatigue, and avoid burnout, all of which contribute to sustained teaching efficacy in an online environment (Dhawan, 2020). Santos et al. (2021) also mentioned the importance of strengthening the sense of community among teachers. Hence, Peer collaboration and mentorship programs play a critical role in helping teachers adapt to the demands of online education. Schools have developed these initiatives to reduce feelings of isolation, which can significantly impact teachers' mental health and motivation. Through organized virtual meetings, discussion forums, and structured mentorship relationships, teachers have been able to share resources, discuss effective online teaching strategies, and receive feedback on their challenges. These programs create a platform for experienced teachers to mentor those less familiar with digital teaching tools, fostering a supportive and collaborative environment. Studies show that peer collaboration strengthens teacher efficacy and builds resilience by fostering a sense of community, which is crucial in a setting where face-to-face interaction is limited (Santos et al., 2021).

Nevertheless, in an online teaching environment, **feedback and evaluation** play a crucial role in teacher development, issues such as instructor immediacy and presence are critical in student motivation (Palmes et al., 2024). However, during the pandemic, many institutions shifted to supportive evaluation practices, focusing on growth and learning rather than strict performance assessments. Schools implemented feedback mechanisms, often through regular one-on-one meetings with administrators or instructional coaches, to provide constructive guidance and affirm teachers' progress in digital education (Rahim, 2020). This supportive approach acknowledges the challenges teachers face in adapting to new methods, encouraging them to refine their skills without the fear of negative consequences. Additionally, such feedback mechanisms offer teachers an opportunity to voice their concerns, creating a more responsive and understanding educational environment. Research suggests that constructive feedback enhances teaching efficacy, as it helps teachers adapt to the online format with a sense of encouragement, rather than criticism (Phillip et al., 2024).

All together these interventions reflect a **comprehensive approach** to supporting teachers as they navigate the unique challenges of online education. By investing in their professional competence and personal health, schools have contributed to building a resilient teaching workforce capable of adapting to ongoing changes in education. Through peer collaboration, technological support, constructive feedback, and physical wellness programs, schools create an environment that values both the well-being and professional growth of teachers. These initiatives ensure that teachers are not only equipped to meet the technical demands of online education but are also supported in maintaining their health and motivation, ultimately benefitting the quality of education delivered to students during the pandemic and beyond.

The aforementioned interventions enable teachers to adapt to the sudden changes in the education landscape, shifting from physical learning interactions into digital ones using various online applications, which the pandemic brought is part of the principles of **social and emotional learning**. Social and emotional learning is increasingly recognized as a foundational element of effective teaching, particularly in virtual classrooms where traditional student-teacher interactions are altered (Atwell & Bridgeland, 2019). Social and emotional learning encompasses competencies such as self-awareness, social awareness, self-management, relationship skills, and responsible decision-making - skills that support both student and teacher resilience and adaptability in changing educational environments. Within an online settings, social and emotional skills are essential for teachers as they establish rapport, build a positive classroom culture, and support students' emotional well-being, often without physical presence (Meyer et al., 2021).

Research specific to Filipino educators highlights those teachers who integrated social and emotional practices reported **improved classroom cohesion**, student engagement, and a sense of connectedness despite

physical distances (Santos et al., 2021). These outcomes are particularly relevant in the post-pandemic context, where students face increased stress and anxiety, and many have experienced learning losses or disruptions (Briones et al., 2021). Social and emotional learning practices, such as creating routines, fostering open communication, and offering emotional support, have been shown to mitigate some of the psychological impacts of online learning, benefiting both students and educators (Santos et al., 2021). Furthermore, teachers with high social and emotional learning competencies should demonstrate greater resilience and adaptability in virtual classrooms, essential traits for navigating the challenges associated with online education.

**Teaching efficacy** can be defined as an educator's belief in their capacity to positively influence student learning, has been closely associated with effective teaching practices and student outcomes (Bandura et al., 1999). During the transition to online education, Filipino teachers reported declines in teaching efficacy, particularly in their confidence to engage students and manage classroom dynamics effectively (Mendoza & Ocampo, 2022). This decline can be attributed to multiple factors, including the unfamiliarity of virtual instruction, lack of experience with digital tools, and reduced face-to-face interaction with students, which many teachers relied on for cues and feedback (Martin et al., 2012). However, as the post-pandemic landscape has evolved, there has been an increase in targeted training programs to bolster Filipino educators' digital competencies and pedagogical adaptability (Carreon & Villanueva, 2023). These training sessions focus not only on technical skills but also on enhancing teachers' confidence in using digital platforms and fostering engagement in online classrooms. Studies indicate that teachers with higher levels of teaching efficacy in online settings tend to create more interactive and engaging learning environments, which are positively correlated with improved student learning outcomes (Lopez & Cruz, 2022). Teachers who feel more competent in their digital teaching abilities are also more likely to experiment with new instructional strategies and incorporate feedback effectively, contributing to a more dynamic and responsive online teaching approach (Martin et al., 2012).

Lastly, **teachers' professional development** has been identified as a critical pathway for enhancing social and emotional learning competencies and teaching efficacy in online education (Chao et al., 2024). Research suggests that social and emotional learning-focused professional development improves teachers' ability to support students emotionally, creating a safe and inclusive learning environment even in virtual classrooms (Flores & Hernandez, 2021). Filipino teachers who participated in such training programs reported higher levels of emotional resilience, improved classroom management skills, and increased confidence in fostering a positive online classroom climate (Hu et al., 2024). These findings underscore the need for comprehensive training that goes beyond technical skills to address the emotional and relational dimensions of online teaching. Furthermore, professional development initiatives that incorporate social and emotional learning principles have been shown to benefit teachers' well-being, enhancing their resilience and reducing burnout - factors that, in turn, positively impact their teaching efficacy (Datu & Restubog, 2020). In essence, social and emotional learning does not only aids teachers (and students) in managing their emotions and stress, but also equips them with strategies for modeling emotional regulation and empathy, which are vital for maintaining student engagement and well-being in any learning contexts.

In sum, the COVID-19 pandemic has significantly altered the educational landscape, necessitating a shift to online learning and distance education. This transition has introduced new stressors for teachers, who must adapt to new technologies and methods while managing their own stress and supporting their students emotionally. Therefore, understanding teachers' compassion fatigue is crucial as it directly impacts their well-being, job satisfaction, and effectiveness in the classroom. By recognizing and addressing this issue, schools can implement supportive measures, such as professional development, mental health resources, and a supportive work environment, to help teachers manage stress and maintain their passion for teaching. This not only benefits the teachers but also enhances the overall learning experience for students, fostering a healthier and more productive educational environment.

## 3. Method

The current study uses a cross-sectional quantitative research approach to further understand the relationships between teachers' optimism, pessimism, and resilience with social emotional learning, compassion fatigue, and online teaching efficacy. The study also utilized control variables (teachers' age, gender, tenure (years teaching), and hours spent online (weekly average) to eliminate the tendency for false relationships among the variables under study (Spector, 2019). Meaning that the data was collected at a single point in time, which enables researchers to gather data from a defined population and analyze the relationships between these variables (Kesmodel, 2018). Additionally, the study used a volunteer sampling strategy (Stanley, 2015), wherein an email with the online survey link were sent to students who took teacher preparation training during COVID-19. The use of volunteer sampling or sometimes referred to as convenience sampling, which involves recruiting individuals who are readily available and willing to participate in the study (Emerson, 2015). Before the participants answer the survey, an informed consent statement was provided. The survey data were collected in a secure manner and kept confidential and no identifiable information were collected. In total 139 teachers completed the online survey.

Data analysis included descriptive statistics, such as frequencies and percentages, were used to summarize the data. Pearson's correlation analysis was used to examine the relationship between variables (Bollen & Barb, 1981). Finally, regression statistics was conducted to determine the predictors of teachers' compassion fatigue. For the survey instrument, the current study used Chao et al. (2024) instrument as an attempt to replicate the study made in Taiwan for possible future comparison. Cronbach's (1951) Alpha reliability of the instrument is computed at .60, denoting an adequate internal consistency (Nunnally & Bernstein, 1994). Furthermore, confirmatory factor analysis of the instrument was performed using Structural Equation Modelling with AMOS version 26.0 software (Schreiber et al., 2006). Due to the low number of participants, bootstrap method with sampling repeated 2000 times was used to achieved multivariate normality (Mallinckrodt et al., 2006). Criteria for confirmatory factor analysis model fit were computed with all values within the accepted norm (Hu & Bentler, 1999): Significant Chi-Square with 89.04, $p < .001$ and Chi-Square divided by degrees of freedom with 1.06 (a value less than 5 is acceptable). RMSEA = .021 (.001, .052) 90% CI, and GFI = .93, TLI = .91, and CFI = .93, all of which have values greater than .90, indicating good. Lastly, the current study has some limitations. The use of volunteer sampling may limit the generalizability of findings. Hence, the findings are only suitable within the Philippine setting and only for those teachers who undertook teacher training at the height of COVID-19 pandemic. Additionally, online surveys are self-reported and limited to the fact that it may not collect the full complexity of the teachers' experiences.

## 4. Results and discussions

The results and discussions are separated into sections highlighting the findings of the corresponding research objectives. For the descriptive statistics, table 1 shows that among the 139 teacher respondents, 88% (or 122) are female teachers with the remaining 12% (or 17) are male. Majority 73% (101) teachers works at state or public schools in the Philippines, while the remaining 27% (or 38) are affiliated with private institutions. As for the teaching levels, 53% (or 74) taught in elementary, while 47% (or 65) taught in high schools. Most of the participants 75% (or 105) have bachelor degrees, while the remaining 25% (or 34) took graduate education. As for prior online experiences prior to COVID-19 pandemic, most teachers 66% (or 91) have no internet teaching or learning experiences, while the remaining 34% (or 48) have online experiences. Lastly, average age of participants is 28 years old, while the average work tenure is around 2 years. Denoting just appropriate group of participants who took their teacher preparation studies during COVID-19 pandemic. These findings explained the typical situation in the Philippines, wherein prior to COVID-19, online teaching and learning is quite limited (Dela Pena-Bandalaria, 2009).

**Table 1**

*Descriptive statistics*

| Variables / Items | *n* | *%* |
|---|---|---|
| Gender | | |
| Male | 17 | 12 |
| Female | 122 | 88 |
| School type | | |
| Public school | 101 | 73 |
| Private school | 38 | 27 |
| Teach level | | |
| Elementary | 74 | 53 |
| High School | 65 | 47 |
| Graduate studies | | |
| Yes | 34 | 25 |
| No | 105 | 75 |
| Previous online experiences | | |
| Yes | 48 | 34 |
| No | 91 | 66 |

*N* = 139

### 4.1 Levels of social emotional learning, compassion fatigue, and online teaching efficacy of teachers who underwent teacher training during COVID-19

Table 2 shows the total mean scores (including the standard deviation - SD) together with the male and female participants' mean scores. Importantly, independent samples T-tests results indicates that only **emotional learning** $t$ (139) = 2.10, $p < .05$ with male teachers scoring higher than female teachers. Previous studies all noted the importance of emotional stability in teachers (Kanagaraj & Rajeswari, 2023; Singh & Kumar, 2009), however, studies have provided varied findings (Shehzad & Mahmood, 2013), denoting the inconsistency of gender issues with regards to teachers' emotions, hence the need to further investigate this issue.

For the levels of optimism (Philippines: 9.73, Taiwan: 9.04), pessimism (Philippines: 8.61, Taiwan: 6.69), and resilience (Philippines: 3.17, Taiwan: 3.31) [Taiwan scores based from (Chao et al., 2024) study], upon comparison, there seems to be not much difference between optimism and resiliency scores. However, Pilipino teachers seems to scored higher in pessimism denoting the perceived difficulties of online teaching and learning during COVID-19 (Decena, 2023; Samifanni & Gumanit, 2021). Furthermore, **no** significant gender differences were found in optimism, pessimism, or resilience scores. Both male and female teachers demonstrated comparable levels of psychological traits that influence their ability to cope with the challenges of teaching during the pandemic. This similarity suggests that resilience and outlook are not inherently tied to gender, but may in some sense influenced by external factors such as institutional support and personal experiences.

For the mean scores, on weekly average teachers spent time online (studies/teach) reported around 16 to 17 hours, while spending almost 12 hours in preparation (this include either studying or preparing lessons offline). Time spent online during COVID-19 is quite similar to previous study in Taiwan with an average of around 16 hours per week (Chao et al., 2024). This finding somehow reflects the demanding nature of online education during the pandemic and suggests that time investment in teaching was consistent across genders.

For the mean scores of social and emotional learning, findings show that within a four-point Likert (1932) scale, social and emotional learning seems moderately high with **social learning = 2.97** and **emotional learning = 2.95**. There were **no** significant gender differences in social learning scores, denoting that both male and female teachers reported similar levels of understanding their students' challenges, paying attention to students' emotions, fostering community, and encouraging idea-sharing. As for **compassion fatigue** with mean score of **2.26**, which indicate moderate level of secondary trauma (Figley, 1999), incurred from teaching or learning online during the pandemic. Furthermore, **no** significant gender differences were also observed in compassion

fatigue scores. However, it is notable that both male and female teachers scored relatively low on items like *losing sleep over others' traumatic experiences* and *difficulty separating work and personal life*, which in a wider sense might actually be a good thing.

**Table 2**
*Gender differences*

| Items | Total | | Male | | Female | | $t$ | |
|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | | |
| Emotional learning | 2.95 | 0.38 | 3.13 | 0.47 | 2.93 | 0.36 | **2.10\*** | **M>F** |
| I am realistic about the strengths and limitations of my online teaching abilities | 2.95 | 0.78 | 3.12 | 0.70 | 2.93 | 0.79 | | |
| I will continue to develop my skills to better support my online teaching abilities | **3.27** | 0.52 | 3.41 | 0.62 | 3.25 | 0.51 | | |
| I am able to calm myself when I am stressed or nervous | 2.78 | 0.65 | 2.88 | 0.78 | 2.76 | 0.63 | | |
| I am able to balance my emotions when teaching online | 2.81 | 0.79 | 3.12 | 0.86 | 2.77 | 0.77 | | |
| Social learning | 2.97 | 0.37 | 2.93 | 0.56 | 2.98 | 0.33 | ns | |
| I am able to understand the challenges my students face in learning | 2.90 | 0.62 | 2.88 | 0.70 | 2.90 | 0.61 | | |
| I pay attention to the feelings of my students | 3.02 | 0.65 | 3.00 | 0.79 | 3.02 | 0.64 | | |
| I have fostered a sense of community within the class | 2.82 | 0.62 | 2.82 | 0.88 | 2.82 | 0.58 | | |
| My students are given the change to share their ideas | **3.16** | 0.59 | 3.00 | 0.71 | 3.18 | 0.58 | | |
| Compassion fatigue | 2.26 | 0.57 | 2.22 | 0.50 | 2.27 | 0.58 | ns | |
| I am losing sleep over others' traumatic experiences | 2.19 | 0.93 | 2.00 | 0.79 | 2.22 | 0.95 | | |
| I felt weak and tired after teaching online | **2.54** | 0.90 | 2.24 | 0.75 | 2.58 | 0.91 | | |
| I have difficulty separating my work and personal life | 2.05 | 0.90 | 2.41 | 0.80 | 2.00 | 0.91 | | |
| Online teaching efficacy | 2.48 | 0.62 | 2.79 | 0.83 | 2.43 | 0.57 | ns | |
| I am able to promote critical thinking | 2.45 | 0.99 | 2.94 | 1.03 | 2.39 | 0.97 | | |
| I am able to overcome difficulties in teaching online | 2.47 | 1.00 | 2.94 | 0.90 | 2.40 | 0.99 | | |
| I am able to understand the value of teaching online | **2.53** | 1.07 | 2.53 | 1.07 | 2.53 | 1.08 | | |
| I am able to stay motivated when teaching online | 2.45 | 0.85 | 2.76 | 0.97 | 2.41 | 0.82 | | |
| Optimism | 9.73 | 2.09 | 10.41 | 2.58 | 9.64 | 2.00 | ns | |
| Pessimism | 8.61 | 1.94 | 9.35 | 2.37 | 8.51 | 1.86 | ns | |
| Resilience | 3.17 | 0.42 | 3.33 | 0.45 | 3.15 | 0.41 | ns | |
| Teach online (hours per week) | 16.62 | 9.95 | 16.88 | 10.94 | 16.58 | 9.85 | ns | |
| Preparation (hours per week) | 11.88 | 7.07 | 11.24 | 7.29 | 11.97 | 7.06 | ns | |

*Note.* N=139, Cronbach Alpha reliability = .82, SD = standard deviation, t = independent samples t-test. Male = 17 or 12%, Female = 122 or 88%. \* *p* < .05, ns = non-significant

For **online teaching efficacy** with mean score of **2.48**, which can also be considered as moderate. In addition, while there were **no** overall significant gender differences were found in online teaching efficacy, male teachers reported slightly higher mean scores (M = 2.79, *SD* = 0.83) compared to female teachers (*M* = 2.43, *SD* = 0.57). On individual items, male teachers scored higher on *promoting critical thinking* (*M* = 2.94 vs. *M* = 2.39 for females) and *overcoming difficulties in teaching online* (*M* = 2.94 vs. *M* = 2.40 for females). These findings suggest that male teachers might feel more confident in their ability to handle the challenges of online teaching, which may stem from differences in self-efficacy or teaching approaches.

In sum, these results somehow show the need for further integration of digital literacy and online pedagogy into teacher preparation programs, particularly in public institutions where the majority of educators are trained. Policymakers should prioritize funding for both initial training and ongoing professional development to address gaps in digital readiness. Given the relatively young and early-career profile of the respondents, mentorship programs that pair experienced educators with newer teachers could also serve as a valuable resource for navigating the complexities of modern teaching environments.

*4.2 Relationships between teachers' optimism, pessimism, and resilience with social emotional learning, compassion fatigue, and online teaching efficacy*

Several independent samples t-tests were computed, wherein results show that there were **no** significant differences between teachers who worked at public and private school, elementary and high school, and whether they had previous online teaching experiences. As for the correlation between the variables, table 3 shows that *age* (1), *teaching tenure* (2), and *hours spent teaching online weekly* (3) showed **weak** to **no** significant

relationships with the main study variables. *Emotional learning* (5) was positively correlated with *online teaching efficacy* (8) with $r = .19$, $p < .05$, suggesting that teachers who are emotionally aware of their online teaching capabilities tend to have higher perceived efficacy in online teaching. *Social learning* (6) exhibited a moderate positive correlation with *emotional learning* (5) with $r = .37$, $p < .01$, indicating that teachers who are better at understanding and managing social dynamics also have higher emotional learning.

**Table 3**
*Correlations between the variables*

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) Age | | | | | | | | | | |
| (2) Tenure (years teaching) | ns | | | | | | | | | |
| (3) Teach online (hours per week) | .17* | ns | | | | | | | | |
| (4) Preparation (hours per week) | ns | ns | ns | | | | | | | |
| (5) Emotional learning | ns | ns | ns | ns | | | | | | |
| (6) Social learning | ns | ns | ns | ns | .37** | | | | | |
| (7) Compassion fatigue | ns | ns | ns | ns | ns | ns | | | | |
| (8) Online teaching efficacy | ns | ns | ns | ns | .19* | ns | ns | | | |
| (9) Optimism | ns | .22* | ns | ns | ns | ns | ns | ns | | |
| (10) Pessimism | ns | ns | ns | -.19* | ns | ns | ns | ns | .21* | |
| (11) Resilience | ns | ns | ns | ns | ns | ns | ns | ns | ns | ns |

*Note.* ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). ns = non-significant

Interestingly, *compassion fatigue* (7) showed **no** significant correlations with any other variables, suggesting it operates **independently** within the context of this study. *Optimism* (9) was positively correlated with *teaching tenure* (2) with $r = .22$, $p < .05$, hinting that longer teaching experience might foster or create a more positive outlook on the COVID-19 situations. In addition, *pessimism* (9) showed a **weak negative** correlation with *preparation time* (4) with $r = -.19$, $p < .05$ and a weak **positive** correlation with *optimism* (9) with $r = .21$, $p < .05$, reflecting a complex relationship between these emotional dimensions. Lastly, *resilience* (11) showed **no** significant relationships with any of the other variables, indicating it might act as a stable personality trait unaffected by the factors measured in this study.

The correlation findings highlight the complexity of teachers' experiences during online education. The positive relationship between emotional learning and online teaching efficacy suggests that fostering emotional skills could enhance teachers' confidence in managing online classrooms. This aligns with previous studies indicating that emotionally competent teachers are better equipped to adapt to challenging environments (Carreon & Villanueva, 2023). Furthermore, the moderate correlation between emotional and social learning underscores the interconnected nature of these competencies. Teachers who are skilled at navigating social interactions are likely to possess stronger emotional self-regulation, which could be critical in online teaching contexts wherein direct human interaction (student-teacher) is limited. Overall, the findings emphasize the importance of equipping teachers with emotional and social learning skills to enhance their online teaching efficacy while addressing the broader psychological challenges they face in an increasingly digital educational landscape.

*4.3 Predictors of compassion fatigue*

A hierarchical linear regression was used to compute for the predictors of compassion fatigue. Demographic variables such as teachers' age, gender, tenure (years teaching), and hours spent online (weekly average) were input into the first block to serve as control variables (Spector, 2019). While the remaining variables emotional learning, social learning, online teaching efficacy, optimism, pessimism, and resilience were entered into the second block. Interestingly, results showed **no significant** predictors. Unlike the previous study noted in Chao et al. (2024), wherein teachers' resilience is negatively related to compassion fatigue, while teachers' sense of pessimism is positively related to compassion fatigue, which are expected. Furthermore, previous study also noted the positive relationship between online learning efficacy with compassion fatigue (Chao et al., 2024), which explained that excessive emotional burden can cause compassion fatigue.

The absence of significant predictors for compassion fatigue in this study highlights its potential complexity and suggests that the variables measured here may not directly account for the phenomenon in the sample. One possible explanation for this discrepancy could be the relatively short tenure and limited online teaching experience of the sample. As most teachers in this study had minimal online teaching exposure before the COVID-19 pandemic, the stressors they experienced might differ from those of more seasoned educators. Furthermore, cultural or contextual factors specific to the Philippine education system could contribute to the variance in findings. Overall, while the findings do not support previous models, they underscore the complexity of compassion fatigue and the importance of considering diverse factors in future research to develop comprehensive support mechanisms for teachers in online environments.

## 5. Conclusions

The current study explored the relationships among teachers' optimism, pessimism, resilience, social-emotional learning, compassion fatigue, and online teaching efficacy while controlling for demographic factors such as age, gender, tenure, and online teaching hours. Descriptive statistics revealed that the majority of the participants were young, early-career teachers with minimal prior online teaching experience, reflecting the typical profile of Philippine educators during the pandemic. While some gender differences were found in emotional learning and online teaching efficacy, key constructs like compassion fatigue showed no significant predictors in the regression model. These findings suggest that the factors contributing to teachers' emotional burdens may be more complex and multifaceted than anticipated, potentially influenced by unmeasured variables such as workload, institutional support, or cultural context.

The implications of these findings are twofold. First, the lack of significant predictors for compassion fatigue highlights the need for more nuanced research that includes both personal and systemic factors affecting educators' well-being. Future studies should investigate the role of institutional policies, access to mental health resources, and professional development opportunities in mitigating compassion fatigue. Second, the findings underscore the importance of equipping teachers with skills in emotional and social learning, as these elements may indirectly influence their ability to manage stress and maintain teaching efficacy in challenging environments. Policymakers and school administrators must prioritize tailored interventions, such as resilience training and peer support networks, to foster a supportive teaching ecosystem. By addressing these gaps, educators can be better prepared to navigate the demands of online and hybrid teaching environments, ultimately improving teacher well-being and educational outcomes.

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# Towards sustainable futures: Rethinking EFL teacher education in Vietnam

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## *Abstract*

As global emphasis on sustainability grows, there is an increasing need to incorporate Education for Sustainable Development (ESD) across disciplines, including English as a Foreign Language (EFL) teacher education. This literature review investigates the integration of sustainability principles into EFL teacher education programs, with a focus on implications for the Vietnamese higher education context. Despite policy initiatives from Vietnam's Ministry of Education and Training (MoET) to address sustainable development, practical implementation within EFL education remains limited. This study synthesizes global practices in sustainability-focused teacher training and examines barriers and challenges. Key findings highlight successful models from international contexts that embed sustainability within teacher preparation, enhancing both pedagogical outcomes and student engagement with global sustainability issues. The review offers recommendations for curriculum development and pedagogical strategies to bridge the identified gaps, aligning EFL education in Vietnam with MoET's sustainability goals. By fostering a comprehensive understanding of sustainability in EFL teaching, this study seeks to support Vietnamese educators in cultivating a future-oriented, globally aware perspective among students.

*Keywords:* sustainability, Education for Sustainable Development, higher education, curricula, English language education, EFL

# Towards sustainable futures: Rethinking EFL teacher education in Vietnam

## 1. Introduction

Sustainability has become a critical issue in global education, necessitating the integration of Education for Sustainable Development (ESD) into teacher education programs (Rieckmann, 2019). This shift reflects the evolving role of educators as agents of sustainable change, equipped with the competencies necessary to foster sustainability-oriented mindsets among students (Imara & Altinay, 2021). The concept of sustainability in education has broadened over the past decades, moving from a focus on environmental issues to encompassing social equity, economic development, and global citizenship (UNESCO, 2022). Integrating these aspects into teacher education requires innovative pedagogical practices, policy support, and faculty development (Albareda-Tiana et al., 2018). The United Nations' Sustainable Development Goals (SDGs), particularly Goal 4 on quality education, highlight the necessity of preparing teachers who can address sustainability challenges in diverse classroom contexts (Le & Nguyen, 2023).

Despite these global imperatives, many countries struggle to translate policy into practice, with developing nations facing additional challenges such as limited resources, outdated curricula, and insufficient teacher training infrastructure (Wang et al., 2021). In Vietnam, these challenges are further compounded by cultural norms emphasizing traditional teacher-centered methods and exam-driven learning environments (Nguyen et al., 2022). Vietnam's Ministry of Education and Training (MoET) has emphasized integrating sustainability principles into higher education (Le & Nguyen, 2023). However, despite policy directives, sustainability integration in EFL teacher education remains fragmented due to insufficient resources, unclear implementation strategies, and limited faculty training (Wang et al., 2021). Vietnamese universities, such as Vietnam National University, have made efforts to align their curricula with the SDGs, though these remain at early stages of execution (Tien, 2024). In Vietnam, this need is amplified by national education policies that prioritize sustainable development but face implementation challenges in English as a Foreign Language (EFL) teacher education (Nguyen et al., 2022).

Existing literature highlights several international models of sustainability integration in teacher education (Rieckmann, 2019; Ilgaz & Eskici, 2018). However, few studies explore contextual adaptations in developing countries like Vietnam (Diep & Hartmann, 2016). This lack of research-based understanding can hinder the development of effective educational strategies that align with MoET's sustainability objectives. This study aims to bridge this gap by conducting a comprehensive literature review of global practices in embedding sustainability into EFL teacher education programs. The specific objectives are:

➢ To review international literature on the integration of sustainability in EFL teacher education, focusing on effective practices and theoretical frameworks.

➢ To identify pedagogical strategies and educational reforms that can inform curriculum development in Vietnam, aligning with MoET's sustainability objectives.

➢ To propose recommendations for embedding sustainability into EFL teacher education programs in Vietnam, drawing on lessons learned from international experiences.

The review will encompass peer-reviewed articles, international reports, and educational policies published between 2014 and 2024, providing a contemporary and relevant analysis of sustainability in teacher education. The focus will be on identifying effective practices, theoretical frameworks, and pedagogical strategies that can be contextualized to the Vietnamese higher education system.

**2.   Literature review**

*2.1  Sustainability in higher education*

Sustainability is a multi-faceted concept that has evolved from its initial focus on environmental protection to encompass a broader understanding of social equity and economic viability. According to the United Nations General Assembly (1987), sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs.". In the context of education, sustainability implies the need for educational practices that promote environmental awareness, social responsibility, and economic consciousness among learners. Sustainable development is the practice of sustainability. It requires a concerted effort to balance environmental, social, and economic considerations in all human endeavors. In education, sustainable development necessitates the integration of sustainability principles into curricula, teaching methodologies, and institutional practices.

In the context of education, sustainability implies the need for educational practices that promote environmental awareness, social responsibility, and economic consciousness among learners. Sustainable development in education involves creating learning environments that encourage critical thinking, problem-solving, and active participation in sustainability-related initiatives (Kioupi & Voulvoulis, 2019). This approach necessitates the integration of sustainability principles into curricula, teaching methodologies, and institutional practices to cultivate informed and responsible global citizens (Tilbury, 2011). Educational institutions play a critical role in advancing sustainability by embedding these principles into academic programs, operational frameworks, and community engagement projects (Sterling, 2016). Schools and universities can serve as living laboratories for sustainability, modeling practices such as resource conservation, waste reduction, and social equity promotion (Barth et al., 2021). This framework is crucial in helping learners develop a holistic understanding of how different systems interact within the world and the impact of human activities on these systems. Interdisciplinary learning, experiential education, and service-learning projects can reinforce this understanding by connecting theoretical knowledge with real-world applications (Wals & Corcoran, 2012).

In the context of English language education, sustainability extends to fostering linguistic skills that empower students to engage with global sustainability challenges effectively (Alpaydın & Demirli, 2022). Language education can serve as a conduit for promoting cross-cultural understanding, advocacy for sustainability initiatives, and participation in international dialogues on pressing environmental and social issues (Rieckmann, 2019). By integrating sustainability themes into language instruction, educators can enhance students' communication skills while raising awareness about global sustainability goals (UNESCO, 2020).

The integration of sustainability into language education is gaining traction globally, supported by numerous successful practices and programs. This approach seeks to merge linguistic development with sustainability competencies, enabling learners to engage effectively with global challenges. One effective method is embedding sustainability across the curriculum, where sustainability concepts are integrated into various subjects, including language courses, to foster a comprehensive understanding of sustainability issues (Sterling, 2016). Language curricula often feature sustainability themes such as climate change, social equity, and economic development, allowing students to develop critical language skills while engaging with real-world concerns.

In some institutions, dedicated sustainability courses focus on the environmental, social, and economic aspects of sustainable development. These courses help students acquire specialized vocabulary, critical thinking skills, and cultural awareness necessary for addressing global sustainability challenges (Tilbury, 2011). Similarly, teacher education programs are increasingly embedding sustainability into their frameworks, equipping future educators with the knowledge and skills required to promote sustainable practices among learners. Modules on environmental literacy, intercultural communication, and sustainability education methodologies have become integral to pre-service teacher training (Rieckmann, 2019). On the other hand, the use of technology further

enhances sustainability education through online resources, virtual simulations, and collaborative platforms. Digital tools such as learning management systems, virtual reality applications, and multimedia content create interactive and experiential learning environments (Wals & Corcoran, 2012). Additionally, project-based and service-learning initiatives provide students with hands-on experience, enabling them to address real-world sustainability issues while fostering communication skills, social responsibility, and environmental stewardship (Barth et al., 2021). Furthermore, community engagement and partnerships also play a crucial role. Collaborations with local communities, NGOs, and international organizations enable students to apply their language skills in meaningful sustainability projects. This approach promotes experiential learning, global citizenship, and active civic engagement (UNESCO, 2020). Moreover, interdisciplinary collaboration between language educators and teachers from other fields creates courses that integrate language learning with scientific, environmental, and cultural studies, enhancing students' ability to discuss complex sustainability topics across various contexts (Kioupi & Voulvoulis, 2019).

These interconnected practices collectively strengthen the role of language education in promoting sustainable development by fostering linguistic competence, critical thinking, and global citizenship. Through the intentional integration of sustainability themes, educators can better prepare students to address and communicate about the world's pressing sustainability challenges.

*2.2 Teacher training for sustainability*

The growing emphasis on sustainability in education has led to the development of various teacher training models aimed at integrating sustainability principles into educational practices. These models include pre-service and in-service training programs designed to equip educators with the skills, knowledge, and values necessary for promoting sustainability in their classrooms.

One prominent model is the competency-based approach, which focuses on developing specific sustainability-related skills, including critical thinking, problem-solving, and environmental literacy. This model often involves experiential learning, reflective practice, and community engagement projects that enable teachers to apply theoretical concepts in real-world contexts (Rieckmann, 2019). Another approach is the action-research model, where teachers engage in research projects focused on sustainability issues within their schools, fostering a deeper understanding through active participation (Tilbury, 2011). Collaborative learning models, involving partnerships with universities, NGOs, and local communities, also play a critical role in building educators' capacity for sustainability education (Barth et al., 2021). Studies measuring the effectiveness of these training programs have shown positive outcomes in teacher practices and student learning. For example, research indicates that teachers who undergo sustainability-focused training demonstrate greater confidence in integrating environmental and social issues into their lessons (Wals & Corcoran, 2012). Programs emphasizing project-based learning and interdisciplinary collaboration have been linked to increased student engagement and improved critical thinking skills (Kioupi & Voulvoulis, 2019). Furthermore, teacher training programs that incorporate reflective practices and continuous professional development show lasting impacts on educators' instructional approaches. Longitudinal studies suggest that sustained professional learning leads to deeper integration of sustainability topics into the curriculum and more meaningful student learning experiences (Sterling, 2016). This evidence underscores the importance of comprehensive teacher training models that blend theoretical instruction with practical, community-based experiences.

Overall, teacher training for sustainability serves as a critical foundation for fostering a culture of environmental stewardship, social responsibility, and economic awareness within educational institutions. By equipping teachers with the necessary competencies, these programs ensure that sustainability principles are effectively embedded into classroom practices and school-wide initiatives.

*2.3 Challenges of the Integration of Sustainability into Teacher Training Programs*

Despite these opportunities, the integration of sustainability into teacher training programs presents several challenges, which can be categorized into inadequate preparation of EFL teachers to teach sustainability concepts, contextual challenges such as institutional constraints and lack of accessible materials, alongside cultural challenges.

Firstly, a significant challenge in integrating sustainability into EFL teaching arises from the limitations of current teacher training programs. Much research indicates that many EFL instructors lack the necessary pedagogical knowledge and skills to confidently teach sustainability-related topics (Yu et al., 2024). Chen et al. (2023) found that teachers often struggle to translate abstract sustainability concepts into creating learning activities that align with language-learning objectives, highlighting a gap in their pedagogical training. Wang et al. (2022) emphasize that many teachers possess a limited understanding of sustainability, often focusing solely on environmental aspects while neglecting social and economic dimensions. This limited understanding, often a result of inadequate training, hinders their ability to provide a comprehensive and nuanced perspective on sustainability issues. According to Anyolo, Kärkkäinen, & Keinonen (2018), teachers frequently express a desire to incorporate sustainability into their lessons and curriculum but lack the formal training for doing this effectively. Without structured professional development opportunities focused on sustainability, teachers are left to rely on their existing knowledge and experience, which may not be sufficient to address complex issues in their classrooms. Similarly, Tavakkoli and Rashidi (2020) find that while EFL instructors may demonstrate a willingness to engage with sustainability topics, their lack of sustainability literacy limits the depth and effectiveness of their teaching. Besides, a lack of universal and broadly applicable pedagogies to foster student understanding and action around sustainability is also a difficulty encountered in teaching training programs (Wang et al., 2022).

Secondly, some contextual challenges can be encountered during this implementation. Institutional barriers significantly hinder the integration of sustainability into teacher training programs. One major issue is the challenge of aligning sustainability themes with current language learning objectives (Yu et al., 2024). Teachers frequently find it difficult to make room in a packed curriculum or are unsure of how to properly integrate sustainability concepts (Yu et al., 2024). Furthermore, a lack of institutional support and clear policies may make it more difficult to successfully incorporate sustainability into teaching methods. Insufficient funds for professional development, little time devoted to sustainability-related activities, or a lack of initiative in advancing sustainability inside the organization are some examples of how this can appear (Kieu et al., 2015). Therefore, without robust institutional support and policy direction, attempts to integrate sustainability into these programs may continue to be fragmented and unproductive. On top of this, the dearth of readily available resources based on the concept of sustainable education is also one of the hindrances for this integration (Alcantud-Díaz & LLoret-Catalá, 2023). Echgoyen-Sanz and Martín-Ezpeleta (2021) highlight the challenges faced by teachers in developing their own sustainability-related teaching materials because "they usually have to create their own materials grounded in the idea of sustainable education and only those really aware of sustainability issues are able to do so" (p.11). Another contextual barrier can be mentioned is the limited resources in poor and even in some developing countries. Limited resources such as large class sized and inadequate facilities, which can limit opportunities for interactive learning and practical activities essential for ESD (Kieu et al., 2015; Sun & Zhang, 2022).

Lastly, cultural challenges also play a crucial role in shaping how sustainability is integrated into teacher training programs. In some Asian cultures which were heavily influenced by Confucianism and feudalism, teachers often play a role of authority and students passively accept information from them. The teacher-centered pedagogical approach in these places remains dominant, hindering the adoption of student-centered, participatory teaching methods crucial for ESD (Kieu et al., 2015). Such approaches may not effectively promote critical thinking, problem-solving, and action-oriented learning which is essential for ESG. It is because teacher-centered pedagogical practices prioritize rote memorization over analytical thinking and problem-solving.

As found in Nguyen et al.'s study (2022), students in Vietnam have a tendency of underperforming on critical thinking indicators. Besides, cultural resistance to change and a focus on traditional knowledge systems can impede the integration of new ideas and perspectives related to sustainability (Nguyen et al., 2022).

### 3. Proposed implications for implementing ESD in teacher training programs

From the barriers above, some suggestions are offered to integrate and implement ESD in teacher training programs effectively and productively. Alampei, Malotidi, Psallidas, and Scoullos (2013, as cited in Anyolo et al., 2018) suggest ESD learning methods generally as follows:

➤ "1. Interdisciplinary and holistic;

➤ 2. Learned-centered and participatory;

➤ 3. Value-driven, promoting critical thinking and exploring all stakeholders;

➤ 4. Forward-looking, promoting medium and long-term planning;

➤ 5. Logically relevant, encouraging multilateral collaboration among schools, local actors, and authorities, scientific communities, private sector, and NGOs, etc. and revealing global issues and connections as part of everyday life, whether in a small village or a large city." (p.110)

Many other researchers also agree with these suggestions. As the current effort to integrate sustainability themes into the already packed training programs' curricula and to align sustainability topics with the objectives in language learning is still fragmented, Yu et al. (2024) agree that interdisciplinary cooperation is needed to address this challenge. Beside environment issues, lecturers ought to link sustainability-related social and economic issues with their disciplines to enhance students' thinking competency (Reid & Petocz, 2006) for the shift of syllabi from content-based to competency-based teacher education (Kieu et al., 2015).

In terms of pedagogical approaches, while MOET orients towards a more interactive pedagogy away from top-down teaching, the current landscape in teacher education has not been as expected (Kieu et al., 2015). More effort should be intensified to transform pedagogical approaches to encourage future educators to think more critically (Nguyen et al., 2022). Moreover, these students should be given a broad range of pedagogical skills, trained teaching techniques related to sustainability competences (Wang et al., 2022) and ensured a more literacy of sustainability (Wang et al., 2022; Tavakkoli & Rashidi, 2020). In addition to theoretical background, these future educators should be given opportunities for practical knowledge and more ESD-related practices by increasing their participation in the learning process (Kieu et al., 2015).

Another proposed implication for this is to foster a culture of collaboration (Kieu et al., 2015). Not only internal but also external collaboration between stakeholders is necessary. Internal collaboration involves the exchange of practical expertise shared by lecturers, particularly pedagogical lecturers and ESD-related lecturers, among university departments and other academic units (Kieu et al., 2015). According to Kieu et al. (2015), "ESD lecturers can learn from their colleagues to improve their teaching skills as regards interactive teaching techniques, content, monitoring and evaluation, while pedagogic lecturers can integrate newly obtained sustainability knowledge into their pedagogical practices" (p.869). What is more, student teachers can also have exposure to sustainability themes from non-formal settings due to the external collaboration among NGOs, local communities, industry partners, global organizations such as UNESCO or World Bank (Kieu et al., 2015). According to Leal Filho et al. (2008, as cited in Nguyen et al., 2024), transformative education initiatives increase the impact and reach of sustainability efforts by fostering synergies with stakeholders such as NGOs or industry partners.

Regarding training material shortage, Yu et al. (2024) suggest creating and sharing Open Educational Resources (OERs) that emphasize the sustainability of ELT. One example of OER being implemented is the

Open Resources for English Language Teaching (ORELT) in Kenya (Orwenjo & Erastus, 2021). According to Orwenjo & Erastus, 2021, the usage of OERs has the potential to expand access to and enhance the quality of education globally.

## 4. Conclusion

This study highlights the critical need to integrate sustainability principles into EFL teacher education programs within the Vietnamese higher education system. Drawing on global practices, the findings underscore the potential of interdisciplinary curricula, transformative pedagogy, and community engagement to cultivate sustainability-oriented competencies among future educators. However, despite policy directives from Vietnam's MoET, implementation remains fragmented due to limited resources, traditional teaching methods, and insufficient faculty training. These barriers point to a pressing need for systemic reform that aligns EFL education with the broader goals of sustainable development. The review identifies significant opportunities for advancing the integration of sustainability into EFL teacher education. Central to this is the necessity of curriculum innovation that incorporates sustainability as a cross-cutting theme. Furthermore, fostering partnerships with stakeholders and leveraging community-based projects can enhance the practical application of sustainability in educational settings. By embedding these approaches into teacher preparation programs, educators can play a transformative role in equipping students with the skills and mindsets needed to address global challenges.

Future research should delve deeper into contextualizing international models to fit Vietnam's unique sociocultural and economic landscape. Longitudinal studies are needed to evaluate the long-term impact of sustainability-focused teacher training on both pedagogical practices and learner outcomes. Additionally, the integration of digital tools into sustainability education offers exciting possibilities for expanding its reach and effectiveness. Finally, further exploration is required into how policy and institutional frameworks can be mobilized to support and scale these efforts across the higher education sector. By bridging the gaps between policy and practice, this study hopes to contribute to the evolving discourse on sustainability in education. It aims to inspire Vietnamese educators and policymakers to reimagine teacher training programs as catalysts for a more sustainable future.

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# Education for sustainable development in the age of globalization: A literature review

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## Abstract

Education for Sustainable Development (ESD) is a crucial approach to integrating sustainability principles into educational practices, equipping individuals with the knowledge, skills, values, and attitudes necessary to address the complex challenges of sustainable development. ESD is critical for creating a more sustainable and equitable future in an increasingly interconnected and globalized world. This literature review examines various dimensions of ESD, drawing from a broad pool of 120+ research articles published between 2022 and 2024. Key themes include integrating digital teaching materials, community-based learning and teaching, and using augmented reality in ESD. The review also explores the importance of teacher training, the need for adequate resources, and the potential of innovative teaching methods to enhance the effectiveness of ESD. Furthermore, it identifies gaps in current literature and offers recommendations for future research and practice.

*Keywords:* Education for Sustainable Development (ESD), sustainability, globalization, digital teaching materials, community-based learning, teacher training, augmented reality

## Education for sustainable development in the age of globalization: A literature review

### 1. Introduction

Education for Sustainable Development (ESD) is a transformative approach to education that seeks to empower individuals with the knowledge, skills, values, and attitudes necessary to navigate the complexities of sustainable development. In a world increasingly shaped by globalization, ESD plays a vital role in fostering a more sustainable and equitable future for all. This literature review provides a comprehensive analysis of current research on ESD, drawing from a wide range of scholarly work published between 2022 and 2024. The review will explore key themes, identify gaps in the existing literature, and offer recommendations for future research and practice.

The concept of ESD emerged in response to growing concerns about the environmental, social, and economic challenges facing the planet. It is grounded in the understanding that education plays a pivotal role in shaping the values, behaviors, and actions of individuals and communities. (Al-Hazaima et al., 2024; Baskara, 2024; Chavula et al., 2024; Dehtjare et al., 2024; Mahesh et al., 2024; Nqabeni, 2024; Oginni et al., 2024; Shah et al., 2024; Uduigwome et al., 2024; Zhao et al., 2023) By integrating sustainability principles into all levels and disciplines of education, ESD aims to empower learners of all ages to become active agents of change. (Al-zoubi et al., 2024; Alshamsi et al., 2024; Entenza et al., 2024; Guo et al., 2024; Kale et al., 2024; Kottara et al., 2024; Mokotso, 2024; Muthoifin et al., 2024; Shah et al., 2024).

This study incorporates a survey of 300 educators conducted in Ho Chi Minh City, Vietnam, from October to December 2024, to analyze the integration of sustainability principles in teaching practices. The survey results provide empirical insights into the challenges and opportunities faced by teachers, particularly in implementing community-based learning (CBL) and augmented reality (AR) methodologies. ESD emphasizes a holistic and transformative approach to education, encompassing not only the acquisition of knowledge but also the development of critical thinking skills, problem-solving abilities, and a sense of responsibility for the planet and its people. (Acosta-Castellanos et al., 2024; Badiah et al., 2024; Doley, 2024; Elfaki & Ahmed, 2024; Forsler et al., 2023; Fridberg & Redfors, 2024; Kang et al., 2023; Mardomi & Mardomi, 2023; Olaitan, 2021; Popescu & Šebestová, 2024) It encourages learners to critically examine the interconnectedness of environmental, social, and economic issues and to explore innovative solutions for a more sustainable future. (Alazemi et al., 2024; Balogun & Jacob, 2024; Dziatkovskii & Dzyatkovskaya, 2023; Hübscher et al., 2023; Kale et al., 2024; Mane, 2024).

In the age of globalization, ESD takes on even greater significance. (Abdulsalam et al., 2024; Addow, 2023; Annet, 2024; Bedianashvili, 2024; Davidova et al., 2024; Fayda-Kinik & Kirisci Sarikaya, 2024; Foguel & Lopes, 2024; Gawande & Rashid, 2024; Hasanova & Safarli, 2024; Hübscher et al., 2023) The interconnectedness of the world's economies, societies, and ecosystems demands a global perspective and collaborative action to address sustainability challenges. (Chaname-Chira et al., 2024; Elfaki & Ahmed, 2024; Gasimli et al., 2022; Kiarie, 2024; Muthoifin et al., 2024; Nwadiokwu, 2024; Ochure & Ukpata, 2024; Okoliko & Adebayo, 2024; Samuels, 2024; Shakirova et al., 2023) ESD provides a framework for fostering global citizenship and empowering learners to participate in the creation of a more just and sustainable world. (Caringal-Go et al., 2024; Das & Halder, 2024; Dube et al., 2024; Dyantyi et al., 2024; Fomenko & Hrinchenko, 2024; Jarrar, 2024; Kohl et al., 2024; Lagoudaki et al., 2024; Lamanauskas, 2024).

This literature review will delve into the various dimensions of ESD, examining current research trends, identifying gaps in the literature, and offering recommendations for future research and practice. It will explore the role of teacher education, curriculum development, community-based learning, and technology in advancing ESD. The review will also consider the challenges and opportunities associated with implementing ESD in

different contexts, with a particular focus on the implications of globalization. To explore these dimensions further, the following subsections examine critical areas of ESD implementation: teacher education, curriculum development, community-based learning, and technology integration.

## 2. Literature Review

The literature review section provides an in-depth analysis of existing research on Education for Sustainable Development (ESD), particularly in the context of globalization. Drawing insights from over 120 scholarly articles published between 2022 and 2024, this review identifies key themes such as teacher education, curriculum development, community-based learning, and the integration of technology. Furthermore, it highlights research gaps and explores the interplay between globalization and sustainable education. This section establishes a foundational understanding of the current landscape of ESD while linking its challenges and opportunities to the need for future research and innovation.

### 2.1 Current Research

2.1.1 Teacher Education and ESD:

A significant focus in the literature is on the importance of teacher education and professional development in effectively implementing ESD. (Entenza et al., 2024; Guo et al., 2024; Kang et al., 2023; K.M et al., 2024; Nqabeni, 2024) Studies emphasize the need for teachers to be equipped with the necessary knowledge, skills, and pedagogical approaches to integrate sustainability principles into their teaching. (Alali et al., 2023; Badiah et al., 2024; Doley, 2024; Elfaki & Ahmed, 2024; Fomenko & Hrinchenko, 2024; Forsler et al., 2023; Fridberg & Redfors, 2024; Hübscher et al., 2023; Jarrar, 2024; Kohl et al., 2024; Lagoudaki et al., 2024; Lamanauskas, 2024; Linta, 2024; Mahesh et al., 2024; Mokotso, 2024; Muthoifin et al., 2024; Oginni et al., 2024; Shah et al., 2024; Uduigwome et al., 2024; Zhao et al., 2023).

The survey of educators in Ho Chi Minh City, conducted from October to December 2024, revealed that 60% of participants had not undergone training related to ESD methodologies, such as CBL and AR. This highlights the need for localized professional development programs that consider the specific challenges and resources available in Vietnam. While teacher education forms the backbone of effective ESD, the integration of sustainability principles into curricula across disciplines plays an equally vital role. The next subsection discusses the strategies and challenges associated with curriculum development for ESD.

2.1.2 Curriculum Development and ESD:

Research highlights the integration of ESD into curricula across various disciplines and educational levels. Studies explore how sustainability concepts can be embedded in subjects like science, technology, engineering, mathematics (STEM), and the arts. Beyond classroom strategies and curriculum changes, engaging learners through community-based learning has emerged as a key approach. Practical steps for implementing sustainable development education include organizing hands-on projects such as school gardens, recycling initiatives, and community partnerships. Shah et al. (2024) advocates for community-based learning approaches, which engage students in solving real-world problems while building civic responsibility and fostering collaboration between schools and local communities.

### 2.2 Significance and real-world applications in fostering sustainability.

2.2.1 Community-Based Learning (CBL) and ESD

Several studies emphasize the value of CBL in ESD, providing students with opportunities to engage with their communities, address real-world sustainability challenges, and develop civic responsibility. Community engagement offers localized solutions, but technology provides opportunities for scalable and innovative approaches to ESD. The survey findings from Ho Chi Minh City, collected between October and December 2024,

indicate that teachers who implemented CBL projects, such as community gardening and waste management initiatives, observed increased student engagement and civic responsibility. However, 40% of respondents cited resource limitations, particularly in urban educational settings, as a significant barrier to effective implementation. The subsequent subsection examines the role of digital tools and emerging technologies in enhancing ESD outcomes.

2.2.2  Technology and ESD

The literature explores the role of technology in enhancing ESD, examining the use of digital teaching materials, augmented reality, and online platforms to create more engaging and effective learning experiences. Among the surveyed educators in Ho Chi Minh City, from October to December 2024, 30% reported using augmented reality tools in their classrooms, finding them effective in engaging students. However, the lack of access to adequate digital infrastructure and technical support was noted as a significant obstacle by 40% of respondents. Despite the advancements discussed in these themes, significant research gaps remain. The following section identifies these gaps and proposes future research and practice directions.

*2.3  Gaps for the Paper to Fit In*
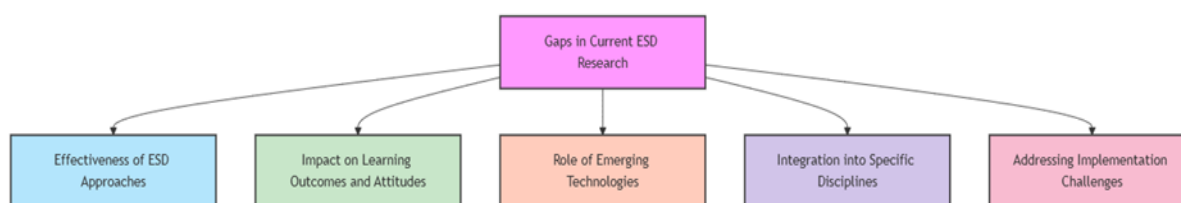


Figure 1. Gaps in Current ESD Research

This figure illustrates key areas where research on Education for Sustainable Development (ESD) remains insufficient. It highlights gaps such as evaluating ESD effectiveness in diverse contexts, assessing long-term impacts, exploring emerging technologies, integrating ESD into specific disciplines, and addressing implementation challenges.

- **Effectiveness of ESD Approaches in Diverse Contexts:** More research is needed to compare and evaluate the effectiveness of various ESD approaches across different cultural, socioeconomic, and educational settings. For example, studies could examine how ESD is implemented in both developed and developing countries, and in both rural and urban areas.

- **Impact of ESD on Learning Outcomes and Attitudes:** Further investigation is needed to assess the long-term impact of ESD on students' knowledge, skills, values, and attitudes related to sustainability. This research could track students over time to see how their attitudes and behaviors change as a result of ESD.

- **Role of Emerging Technologies in ESD:** More research can explore the potential of emerging technologies, such as artificial intelligence and virtual reality, to enhance ESD teaching and learning. This could involve developing and testing new digital teaching materials and online platforms.

- **Integrating ESD into Specific Disciplines:** Further studies can examine how ESD can be effectively integrated into specific disciplines, such as business, healthcare, and the arts. This research could identify the key sustainability challenges and opportunities within each discipline and develop ESD curricula that address these issues.

- **Addressing Challenges in Implementing ESD:** Research can focus on addressing challenges such as lack of teacher training, limited resources, and overcrowded classrooms, particularly in developing

countries. This could involve developing new teacher training programs and identifying innovative ways to use limited resources.

The literature review has underscored the pivotal role of Education for Sustainable Development (ESD) in addressing contemporary sustainability challenges, especially in a globalized world. Key themes include the importance of well-trained educators, interdisciplinary curricula, and innovative pedagogies like community-based learning and technology integration. However, challenges such as resource limitations, implementation barriers, and insufficient research on the long-term impacts of ESD persist. This review highlights the need for future research to address these gaps, particularly by evaluating ESD effectiveness in diverse contexts, exploring emerging technologies, and enhancing teacher training. By bridging these gaps, ESD can fulfill its transformative potential, empowering individuals to drive sustainable development globally.

## 3. Methodology

This paper employs a literature review methodology to analyze the current state of research on Education for Sustainable Development (ESD). A systematic review of scholarly articles was conducted to identify key trends, challenges, and gaps in the implementation of ESD across diverse educational contexts. The literature selected for this study spans a wide timeframe, specifically focusing on research published between 2022 and 2024, ensuring the inclusion of the most recent findings and developments in the field. The review encompasses a total of 120+ unique research articles derived from reputable journals, conferences, and institutional publications. These articles were carefully categorized based on their publication year to observe the growth of interest in ESD research.
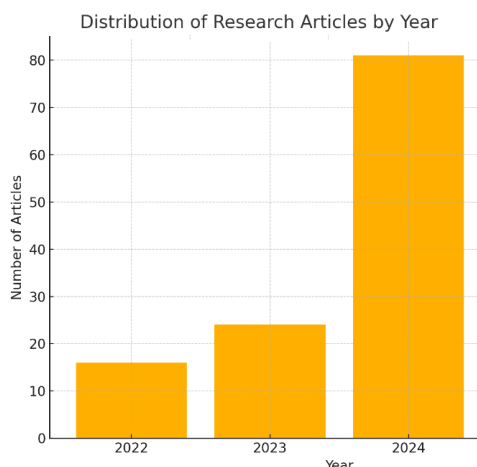


Figure 2. Distribution of Research Articles by Year

This bar chart shows the distribution of 120+ research articles surveyed between 2022 and 2024. It reflects a significant increase in publications in 2024, indicating growing research interest in ESD during this period.

To ensure a comprehensive understanding of the research landscape, the paper examined articles utilizing diverse methodologies. These approaches included quantitative studies, such as surveys, statistical analyses, and econometric modeling; qualitative studies, including interviews, focus groups, and case studies; and mixed-methods studies, which combined both quantitative and qualitative techniques. Additionally, several articles employed narrative and systematic reviews, bibliometric analyses, and conceptual research focusing on theoretical frameworks, policy analysis, and model development. This methodological diversity, illustrated in Figure 3, underscores the multifaceted nature of ESD research and its adaptability to different academic and practical contexts.
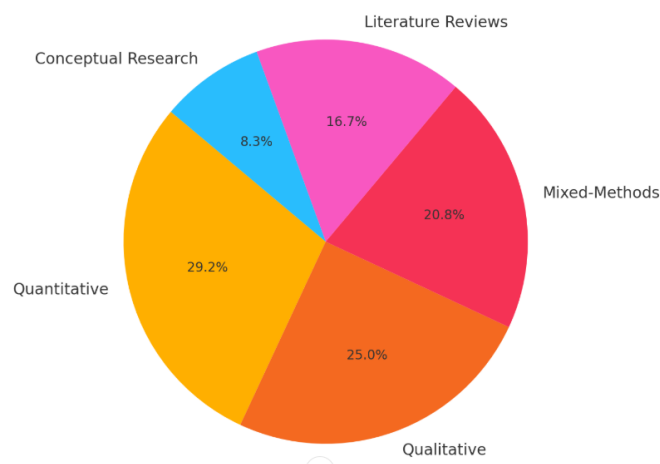
Figure 3. Methodologies Used in Reviewed Articles

This pie chart categorizes the methodologies employed in the analyzed articles. It includes quantitative studies, qualitative studies, mixed-method approaches, literature reviews, and conceptual research, showcasing the diversity of research approaches in ESD. The methodological process involved reviewing, analyzing, and synthesizing the content of these articles to identify recurring themes, emerging trends, and critical research gaps. Special attention was given to studies addressing the effectiveness of ESD approaches, the role of teacher education, the integration of technology, and the importance of interdisciplinary and community-based learning methods. By categorizing these findings systematically, the paper provides a clear overview of the current knowledge base and highlights areas requiring further investigation.

In summary, this literature review methodology offers a structured approach to analyzing the growing body of ESD research. By focusing on recent studies published between 2022 and 2024 and examining a variety of research methodologies, the review establishes a foundation for understanding the challenges and opportunities associated with implementing ESD globally. The findings not only contribute to academic discourse but also provide practical recommendations for educators, policymakers, and researchers aiming to advance sustainable development through education.

## 4. Findings

The analysis of the 120+ research articles revealed several prominent themes and findings related to ESD:
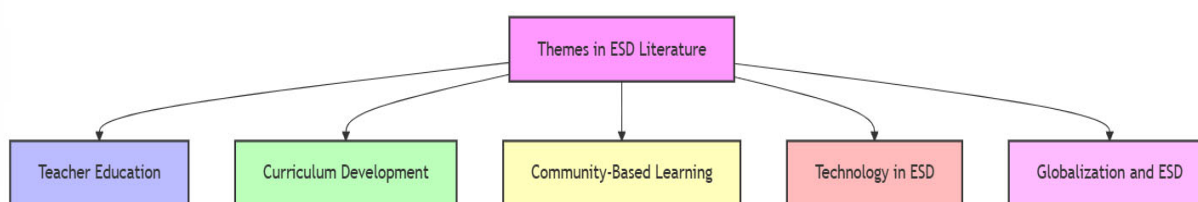


Figure 4. Themes Identified in ESD Literature

This diagram summarizes the main themes that emerged from the literature review. Themes include the role of teacher education, curriculum development, community-based learning, the use of technology, and the impacts of globalization on ESD.

### 4.1 The Pivotal Role of Education

Education is consistently recognized as a cornerstone of sustainable development, empowering individuals, communities, and societies to address complex sustainability challenges. (Dehtjare et al., 2024; Elfaki & Ahmed,

2024; Entenza et al., 2024; Fayda-Kinik & Kirisci Sarikaya, 2024; Foguel & Lopes, 2024; Forsler et al., 2023; Fridberg & Redfors, 2024; Guo et al., 2024; Hasanova & Safarli, 2024; Hübscher et al., 2023; Kang et al., 2023; K.M et al., 2024; Kohl et al., 2024; Lagoudaki et al., 2024; Lamanauskas, 2024; Linta, 2024; Mahesh et al., 2024; Mokotso, 2024; Muthoifin et al., 2024; Nqabeni, 2024; Oginni et al., 2024; Shah et al., 2024; Uduigwome et al., 2024; Zhao et al., 2023).

### 4.2 Teacher Education and ESD

Effective implementation of ESD hinges on comprehensive teacher education and professional development programs that equip educators with the necessary knowledge, skills, and pedagogical approaches to integrate sustainability principles into their teaching (Elfaki & Ahmed, 2024; Fomenko & Hrinchenko, 2024; Forsler et al., 2023; Fridberg & Redfors, 2024; Jarrar, 2024; Kohl et al., 2024; Lagoudaki et al., 2024; Lamanauskas, 2024; Linta, 2024; Mokotso, 2024; Muthoifin et al., 2024; Oginni et al., 2024; Shah et al., 2024; Uduigwome et al., 2024).

### 4.3 Interdisciplinary Approaches

ESD necessitates interdisciplinary approaches that transcend traditional subject boundaries, fostering collaboration and a holistic understanding of sustainability challenges. (Linta, 2024; Nqabeni, 2024). For example, Linta (2024) highlights a successful interdisciplinary project in Croatia where teachers collaboratively designed teaching scenarios on sustainability. These scenarios addressed SD outcomes while maintaining relevance to specific subject areas, such as Mathematics, Science, and Social Studies. Teachers reported improved student engagement through real-world connections and experiential learning opportunities.

### 4.4 Community-Based Learning (CBL)

CBL is frequently cited as a valuable pedagogical approach in ESD, enabling students to engage with their communities, address real-world sustainability issues, and develop a sense of civic responsibility. (Oginni et al., 2024; Fridberg & Redfors, 2024).

### 4.5 Technology as an Enabler

Technology is recognized as a powerful tool for enhancing ESD, facilitating access to information, promoting collaboration, and creating engaging learning experiences. (Shah et al., 2024; Entenza et al., 2024; Guo et al., 2024; Kang et al., 2023; K.M et al., 2024).

### 4.6 Challenges in Implementing ESD

Several studies identify challenges in implementing ESD, including a lack of teacher training, inadequate resources, and resistance to change. (Badiah et al., 2024; Forsler et al., 2023; Doley, 2024).
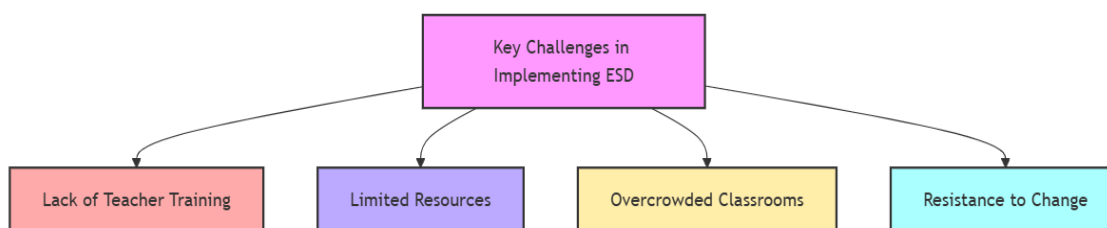


Figure 5. Key Challenges in Implementing ESD

This diagram identifies challenges faced in implementing ESD, such as lack of teacher training, limited resources, overcrowded classrooms, and resistance to change. These issues underscore the need for systemic

support and innovative solutions.

Globalization and ESD: The literature explores the complex relationship between globalization and ESD, recognizing both the opportunities and challenges that globalization presents for sustainable development. (Zhao et al., 2023; Alali et al., 2023; Uduigwome et al., 2024).

## 5. Discussion

This literature review has explored the multifaceted landscape of Education for Sustainable Development (ESD) in the age of globalization. By analyzing a diverse range of research spanning the years 2022 to 2025, several key findings and themes have emerged that shed light on the current state and future directions of ESD. One of the most prominent themes is the critical role of teacher education and professional development in effectively implementing ESD. The research consistently emphasizes the need for teachers to be equipped with the necessary knowledge, skills, and pedagogical approaches to integrate sustainability principles into their teaching practices. This highlights the importance of investing in robust teacher training programs and ongoing professional development opportunities to ensure that educators are well-prepared to champion ESD in their classrooms and schools.

Another significant finding is the need for interdisciplinary approaches to ESD. The complex and interconnected nature of sustainability challenges demands that education move beyond traditional subject boundaries and embrace a more holistic and integrated approach. This underscores the importance of collaboration among educators across different disciplines and the development of curricula that foster a comprehensive understanding of sustainability issues. The literature also highlights the value of community-based learning (CBL) in ESD. By engaging students in real-world sustainability projects and initiatives within their communities, CBL provides opportunities for experiential learning, civic engagement, and the development of practical skills. This emphasizes the need for partnerships between schools and communities to create authentic learning experiences that connect students to the challenges and opportunities of sustainable development in their local contexts. Furthermore, the review underscores the potential of technology to enhance ESD. The use of digital teaching materials, augmented reality, and online platforms can create more engaging and effective learning experiences that connect students to global perspectives and resources. However, the review also recognizes the challenges associated with technology integration, such as the digital divide and the need for adequate training and support for educators.

The discussion also acknowledges the ongoing challenges in implementing ESD, such as a lack of teacher training, limited resources, and resistance to change. These challenges underscore the need for systemic change and ongoing support from policymakers, school administrators, and communities to create an enabling environment for ESD. The survey results, conducted from October to December 2024, highlight critical areas for improvement in the implementation of ESD. Specifically, addressing barriers such as insufficient training, limited resources, and time constraints will be pivotal in scaling innovative teaching methods like CBL and AR, particularly in urban Vietnamese schools. Finally, the discussion emphasizes the complex relationship between globalization and ESD. While globalization presents opportunities for collaboration and knowledge sharing, it also raises concerns about cultural homogenization, economic inequalities, and environmental degradation. This highlights the need for ESD to foster critical thinking and global citizenship, empowering learners to navigate the complexities of globalization and contribute to a more sustainable and equitable future.

## 6. Conclusion

This literature review has provided a comprehensive overview of current research on ESD in the age of globalization. By examining a wide range of scholarly work, the review has identified key themes, trends, and gaps in the literature, offering valuable insights for both researchers and practitioners. The review concludes that ESD is a crucial approach to promoting sustainable development in a rapidly changing world. By integrating

sustainability principles into educational practices, ESD can empower individuals with the knowledge, skills, values, and attitudes necessary to create a more sustainable and equitable future.

The review also highlights the importance of addressing the challenges and opportunities of implementing ESD in different contexts. This includes investing in teacher training, developing interdisciplinary curricula, fostering community partnerships, and leveraging the potential of technology. Based on the survey findings from Ho Chi Minh City, conducted from October to December 2024, it is recommended to establish comprehensive teacher training programs on ESD methodologies, provide targeted funding for resource acquisition, and foster collaborations between schools and local technology providers to enhance the integration of digital tools in classrooms. Furthermore, the review emphasizes the need for ongoing research to deepen our understanding of ESD and its impact on student learning and attitudes toward sustainable development. This includes exploring the effectiveness of different ESD approaches in diverse contexts and addressing the challenges and opportunities presented by globalization.

In conclusion, ESD holds immense promises for creating a more sustainable and equitable future for all. By embracing its principles and investing in its effective implementation, we can empower learners to become active and informed citizens who contribute to a more just and sustainable world. This paper contributes to the growing literature on Education for Sustainable Development (ESD) by proposing innovative teaching methods that integrate technology and community-based learning. Unlike previous studies that focus solely on theoretical frameworks, this paper highlights interdisciplinary strategies that are adaptable across different educational levels and contexts. Furthermore, it emphasizes the importance of real-world applications, such as case studies and technological innovations, to bridge the gap between theory and practice.

## 7. Recommendation

Based on the findings of this literature review, several recommendations for future research and practice emerge:

➢ Further Research on the Effectiveness of ESD Approaches: More research is needed to compare and evaluate the effectiveness of various ESD approaches across different cultural, socioeconomic, and educational settings.

➢ Investigate the Impact of ESD on Student Learning: Further studies should investigate the long-term impact of ESD on students' knowledge, skills, values, and attitudes related to sustainability.

➢ Explore the Potential of Emerging Technologies: Research can explore the potential of emerging technologies, such as artificial intelligence and virtual reality, to enhance ESD teaching and learning.

➢ Address Challenges in Implementing ESD: Further research and practical initiatives should focus on addressing challenges such as a lack of teacher training, inadequate resources, and resistance to change, particularly in developing countries.

➢ Foster Collaboration and Partnerships: Strengthened collaboration among schools, communities, policymakers, and other stakeholders is essential to create a more supportive environment for ESD.

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# Prevention of toddler stunting through nutrition fulfillment on the role of local wisdom Rumoh Gizi Gampong (RGG)

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## *Abstract*

Stunting is one of the global nutrition challenges and problems being faced by people in the world. the problem of overcoming stunting must begin long before a child is born or since the 1000 HPK period and from when the mother is an adolescent to be able to break the chain of stunting in life. The population in this study were mothers who had toddlers with 128 respondents. The sampling technique is total sampling technique, where the entire population is sampled. This study uses an analytical method with a Cross Sectional approach, namely this design aims to determine the relationship between variables where the independent variable and the dependent variable are identified at the same time. Data processing in this study used univariate and bivariate analysis using the Chi Square test. The results of the characteristics of the respondents above show that the majority of respondents are 31-41 years old as many as 89 (69.6%), the majority of respondents' education is high school as many as 70 (54.7%), the majority of mothers' work is housewife as many as 94 (73.4%), the majority of respondents' children are 3 years old as many as 60 (46.9%), the majority of children's gender is female as many as 76 (59.4%), the majority of children's weight is 11-20 kg as many as 121 (94.5%) and the majority of children's TB is 81-90 cm, namely 70 (54.7%). The results of univariate analysis of the majority of good knowledge as many as 78 (60.9%) respondents. negative attitude as many as 66 (51.6%) Respondents. The results of statistical tests using the chi-square test showed a p-value of 0.001 (p-value <0.05) which means that there is an influence of knowledge with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers. There were 45 (35.2%) respondents who had a positive attitude and

followed RGG activities well. The results of statistical tests using the chi-square test showed a p-value of 0.002 (p-value <0.05) which means that there is an effect of attitude with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers. The RGG is an effort to empower communities at the village level in the prevention and handling of stunting, educating the community about the importance of balanced nutrition and how to prevent stunting. Providing information and education on the importance of good nutrition and how to prevent stunting to the community. Monitoring the growth and nutritional consumption of at-risk groups in a structured manner. The establishment of Rumoh Gampong Nutrition (RGG) is a place or forum for conducting socialization and nutrition services as well as Providing Additional Food (PMT) to people affected by nutritional problems. With the existence of Rumoh Nutrizi Gampong (RGG), it is hoped that it can help accelerate the reduction of stunting cases.

*Keywords:* toddler, stunting, local wisdom

# Prevention of toddler stunting through nutrition fulfillment on the role of local wisdom Rumoh Gizi Gampong (RGG)

## 1. Introduction

Stunting is one of the global nutrition challenges and problems being faced by people in the world. The Ambitious World Health Assembly targets a 40% reduction in stunting worldwide by 2025. The Global Nutritional Report 2018 reports that there are approximately 150.8 million (22.2%) stunted children under five years old, which is one of the factors inhibiting human development in the world. The World Health Organization (WHO) determines five subregions of stunting prevalence, including Indonesia, which is in the Southeast Asia region (36.4%) (Bappenas, 2018).

Based on data obtained from the Ministry of Health, it shows that East Nusa Tenggara is ranked first with the number of stunted toddlers reaching 37.8%, followed by West Sulawesi at 33.8%, then Aceh with 33.2% stunted toddlers. The provinces with the lowest level of stunting toddlers in 2021 are Bali with only 10.9%, DKI Jakarta with 16.8%, and Yogyakarta with 17.3%. Aceh is ranked third nationally as an area with stunted toddlers in 2021. This is contained in a pocket book released by the Indonesian Ministry of Health entitled The Results of the Indonesian Nutrition Status Study (SSGI) District / City in 2021. Reporting from Acehtrend.com, the districts / cities in Aceh with the highest level of stunting in 2021 are Gayo Lues with a percentage of 42.9%, followed by Subulussalam 41.8%, Bener Meriah 40.0%, Pidie 39.3%, North Aceh 38.8, and East Aceh 34.4%. Meanwhile, the districts/cities with the lowest rate of stunting are Banda Aceh, which is only 23.4%, Sabang 23.8%, Bireuen 24.3%, Langsa 25.5%, and Simeulue 25.9% (Dinkes Aceh,2019).

Several regions in Indonesia have started to implement innovative programs based on community empowerment. One of these innovative programs is the nutrition post program. The pos gizi program is a proven success in tackling malnutrition based on experiences from various countries. The objectives of the pos gizi program are to recover undernourished children, maintain good nutritional status at home, and prevent malnutrition. The pos gizi program assumes that the solution to nutrition problems in the community can be found in the community itself. The program involves various levels of society to work together to overcome nutrition problems by maximizing the resources, skills and strategies available in the community (Gaffar dkk, 2021).

Local wisdom is a view of life and science as well as various life strategies in the form of activities carried out by local communities in responding to various problems in meeting needs. In handling stunting, local wisdom is used by utilizing local wisdom in fulfilling nutrition, be it in the form of traditions or work programs (Hidayat, 2018). One of the program efforts in Aceh is the establishment of Rumoh Gampong Nutrition (RGC) in each village, this RGC is a place or forum for conducting socialization and nutrition services as well as Providing Additional Food (PMT) to communities affected by nutritional problems. With this rumoh gizi gampong, it is hoped that it can help accelerate the reduction of stunting cases (Norsanti, 2021).

The RGG (Rumoh Gampong Nutrition) concept is the first innovation in Aceh by integrating and integrating all intervention services, both specific and sensitive. The aim of Rumoh Gampong Nutrition is to empower families and communities to improve nutrition services independently by involving various related sectors. To increase the knowledge, skills, and capacity of families and communities in preventing and overcoming stunting. To empower the community in an effort to improve food security and safety, economic empowerment, improve clean and healthy living behaviors in supporting stunting prevention (Kuswanti,I & Azzahra, S.K. (2022).

## 2. Methods

The analytic method used in this study was cross-sectional. The population in this study were mothers who had toddlers with a total of 128 toddlers in the village of Hakim Tunggul Naru, utilizing the Total Sampling sampling approach, where the entire population was sampled using the following criteria: Exclusion; mothers who have toddlers aged 0-59 months, normal zi status toddlers, krang and risk of stunting, toddlers who have participated in the RGG program, willing to be sampled, cooperative. Exclusion; toddlers with chronic conditions, never participated in the Rumoh Gizi Gampong (RRG) service.

This study was conducted on June 5, 2024. The instrument used was a questionnaire consisting of respondent characteristics, knowledge, attitudes and activities of Rumoh Gampong Nutrition (RRG), each variable consisted of 10 questions, the knowledge variable used a Guttman scale with a value of Yes (1), No (0) (Good If $X \geq 5$, Not Good If $X < 5$). The attitude variable uses a Likert scale with values strongly agree (5), agree (4) doubtful (3), disagree (2) and strongly disagree (1) (Positive $X \geq 20$, Negative If $X < 20$). The Rumoh Gampong Nutrition (RGG) variable uses a Guttman scale with values Yes (1), No (0) (Good If $X \geq 5$, Not Good If $X < 5$). Data processing in this study used univariate and bivariate analysis using Chi Square test.

## 3. Result

### Univariate Analysis

**Table 1**
*Frequency Distribution of Respondent Characteristics*

| Respondent Ccharacteristics | Frequency | Percen (%) |
|---|---|---|
| Mothers's Age | | |
| 20-30 Years Old | 39 | 30,4 |
| 31-41 Years Old | 89 | 69,6 |
| Mother's Education Level | | |
| Elementary School | 9 | 7,0 |
| Junior High School | 26 | 20,3 |
| Senior High School | 70 | 54,7 |
| Diploma | 12 | 9,4 |
| Bachelor | 11 | 8,6 |
| Work | | |
| Housewife | 94 | 73,4 |
| Private Employee | 10 | 7,8 |
| Bussiness Woman | 5 | 3,9 |
| Civil Servant | 19 | 14,8 |
| Children's Age | | |
| 3 Years Old | 60 | 46,9 |
| 4 Years Old | 45 | 35,2 |
| 5 Years Old | 23 | 18,0 |
| Gender | | |
| Male | 52 | 40,6 |
| Female | 76 | 59,4 |
| Childern's Weight | | |
| 11-20 kg | 121 | 94,5 |
| 21-30 kg | 7 | 5,5 |
| Childern's Height | | |
| 81-90 cm | 70 | 54,7 |
| 91-100 cm | 43 | 33,6 |
| 101-110 cm | 15 | 11,7 |
| Total | 128 | 100 |

Source : Primary Data 2024

Based on table 1 it is known that the majority of respondents were 31-41 years old as many as 89 (69.6%), the majority of respondents' education was high school as many as 70 (54.7%), the majority of mothers' work was housewives as many as 94 (73.4%), the majority of respondents' children were 3 years old as many as 60 (46.9%), the majority of children's gender was female as many as 76 (59.4%), the majority of children's weight

Prevention of toddler stunting through nutrition fulfillment on the role of local wisdom Rumoh Gizi Gampong

was 11-20 kg as many as 121 (94.5%) and the majority of children's TB was 81-90 cm, namely 70 (54.7%).

**Table 2**

*Frequency Distribution of Mother's Knowledge*

| Knowledge | Frequency | Percen (%) |
|---|---|---|
| Good | 78 | 60,9 |
| Less | 50 | 39,1 |
| Total | 128 | 100 |

Source : Primary Data 2024

Based on table 2 the majority had good knowledge as many as 78 (60.9%) respondents and less as many as 50 (39.1%).

**Table 3**

*Frequency Distribution of Mother's Behavior*

| Behavior | Frequency | Percen (%) |
|---|---|---|
| Negative | 66 | 51,6 |
| Positive | 62 | 48,4 |
| Total | 128 | 100 |

Source : Primary Data 2024

The univariate results of table 3 showed that the majority had a negative attitude as many as 66 (51.6%) and a positive attitude as many as 62 (48.4%) respondents.

***Bivariate Analysis***

**Table 4**

*Frequency Distribution of Maternal Knowledge of Rumoh Gampong Nutrition (RGG)*

| Knowledge | RGG Activities | | | | Total | | P Value |
|---|---|---|---|---|---|---|---|
| | Good | | Less | | | | |
| | f | % | f | % | f | % | |
| Good | 66 | 51,6 | 12 | 9,4 | 78 | 60,9 | |
| Less | 8 | 6,3 | 42 | 21,1 | 50 | 39,1 | 0,001 |
| Total | 74 | 57,8 | 54 | 42,2 | 128 | 100 | |

Source : Primary Data 2024

Univariate results table 4 The majority had good knowledge and followed RGG activities well, namely 66 (51.6%) respondents. The results of statistical tests using the chi-square test showed a p-value of 0.001 (p-value <0.05) which means that there is an influence of knowledge with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers in Hakim Tunggul Naru village, Bener Meriah Regency.

**Table 5**

*Frequency Distribution of Maternal Attitude towards Rumoh Gampong Nutrition (RGG) Activities*

| Behavior | RGG Activities | | | | Total | | P Value |
|---|---|---|---|---|---|---|---|
| | Good | | Less | | | | |
| | f | % | f | % | f | % | |
| Negative | 29 | 22,7 | 37 | 28,9 | 66 | 51,6 | |
| Positive | 45 | 35,2 | 17 | 13,3 | 62 | 48,4 | 0,002 |
| Total | 74 | 57,8 | 54 | 42,2 | 128 | 100 | |

Source : Primary Data 2024

The results of table 5 the majority had a positive attitude and followed RGG activities well, namely 45 (35.2%) Respondents. The results of statistical tests using the chi-square test showed a p-value of 0.002 (p-value <0.05), which means that there is an effect of attitude with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers in Hakim Tunggul Naru village, Bener Meriah Regency.

4. **Discussion**

Univariate results table 2 The majority of mothers who have toddlers have good knowledge as many as 78 (60.9%) respondents. According to Nurha-sanah (2014), providing information or health education has a

significant effect on the level of knowledge. Knowledge about stunting measured in this study includes definitions, impacts, characteristics, causes, prevention efforts and factors that influence the occurrence of stunting. To form knowledge with these indicators certainly requires good reception and understanding skills (Iftika, 2017). The ability to receive and understand information is generally more owned by people with higher education. Research in line with that conducted by Corneles & Losu, concluded that there was a significant relationship between the level of knowledge and education of pregnant women about high-risk pregnancies (Corneles & Losu, 2015). Knowledge about a person's nutritional patterns can determine their attitudes and behavior. Attitude is one of the factors that determine a person's food intake while behavior plays a role in achieving balanced nutrition (Kemenkes RI, 2018).

The results of Table 3 show that the majority of mothers who have toddlers have a negative attitude as many as 66 (51.6%) Respondents. Attitudes related to stunting prevention include maternal efforts to improve (Dinkes Sumut, 2016). behavior is determined by the beliefs a person has about the consequences of a behavior. Poor maternal attitudes towards stunting mean that mothers do not support behavior in overcoming and preventing stunting in toddlers, so that it can result in stunting continuously experienced by toddlers, this may be due to a lack of knowledge of mothers about good nutrition for toddlers. Health behavior is influenced by 3 factors, namely predisposing factors which are manifested in knowledge, attitudes, beliefs, beliefs, values and so on, enabling factors which are manifested in the physical environment, available or unavailable health facilities or facilities, such as health centers, medicines, latrines and so on, and reinforcing factors which are manifested in the attitudes and behavior of health workers or other officers who are the reference group of community behavior. Maternal attitudes including in child feeding are important in preventing stunting. In addition, in efforts to prevent and overcome stunting, including accelerating stunting reduction, families have a very important role, especially in providing good parenting practices and creating a sanitary environment that meets health standards (Notoatmojo, 2014). Attitude is a person's reaction or response that is still closed to a stimulus or object. Attitude clearly shows the connotation of a conformity of reaction to a certain stimulus which in everyday life is an emotional reaction (Notoatmojo, 2012).

Bivariate results table 4 The majority had good knowledge and followed RGG activities well, namely 66 (51.6%) respondents. The results of statistical tests using the chi-square test showed a p-value of 0.001 (p-value <0.05) which means that there is an influence of knowledge with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers in Hakim Tunggul Naru village, Bener Meriah Regency. There are four main activities of RGG, namely:  providing nutrition education and monitoring growth and consumption in a structured manner in at-risk groups (pregnant women, mothers of toddlers, adolescent girls, and others); providing nutrition services and ensuring at-risk groups get health and nutrition services (PMT, nutritional supplementation); increasing family food security and security through the development of stunting-based sustainable food houses (RPL-Stunting); and empowering the family economy which can be implemented through community service programs (Nurmiati, 2021).

Table 5 the majority were positive and followed the RGG activities well, namely 45 (35.2%) Respondents. The results of the statistical test using the chi-square test showed a p-value of 0.002 (p-value <0.05), which means that there is an effect of attitude with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers in the village of Hakim Tunggul Naru, Bener Meriah Regency. the attitude of the mother is positive in participating in the rumoh gizi gampong (RGG) program, which is a place or forum for conducting socialization and nutrition services as well as Providing Additional Food (PMT) to people affected by nutritional problems. The rumoh gizi gampong is expected to help accelerate the reduction of stunting cases. The rumoh gizi gampong (RGG) program is very important in reducing stunting (Kemensos, 2021).

## 5.   Conclusion

Good knowledge and following the Rumoh Gampong Nutrition (RGG) activities with a good category, namely 66 (51.6%) Respondents. Positive attitudes and following the Rumoh Gampong Nutrition (RGG)

activities well were 45 (35.2%) Respondents. There is an influence of knowledge with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers in the village of Hakim Tunggul Naru, Bener Meriah Regency. There is an effect of attitude with RGG activities as an effort to fulfill nutrition on the prevention of stunting in toddlers in Hakim Tunggul Naru Village, Bener Meriah Regency.

*Suggestion -* The results of this study are expected that the establishment of Rumoh Gampong Nutrition (RGG) is a place or forum for socialization and nutrition services as well as Providing Additional Food (PMT) to people affected by nutritional problems. With the existence of Rumoh Nutrizi Gampong (RGG), it is hoped that it can help accelerate the reduction of stunting cases.

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# Consumer behavior of sustainable luxury products in Vietnam

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## Abstract

Nowadays, personal tax policies of countries have changed in many different directions from developing countries to developed countries. The tax policy always supports people to stabilize their lives and develop their careers. However, it also impacts the quality of life in a bad way. In addition, some countries implement higher income tax policies, which means that people pay high personal income tax, the government uses this tax to develop social services and welfare for people, such as health care, education, etc. However, some countries implement low personal income tax policies so people can use the remaining money for higher personal purposes, such as loans to buy houses, cars, living expenses, supporting dependents, etc. In Vietnam, personal income tax policies still have many issues, such as low deductions, welfare, and disproportionate tax rates, with 07 tax brackets and the tax rates from 05% to 35% (Thuy Han, 2024). This research uses qualitative research methods, to collect information of the researches to analyze and evaluate the experience of implementing personal income tax policies in countries. Then, proposing solutions to improve personal income tax policy in Vietnam, contributing to supporting taxpayers to have a higher quality of life in the future.

*Keywords:* income, personal income tax, tax policy

# Consumer behavior of sustainable luxury products in Vietnam

## 1. Introduction

According to Maung (2010), 80% of chief executive officers in many multinational organizations believed that sustainability would be "fully integrated across their global business" in the next 10 to 15 years. Moreover, with a continuous change in the value and aspirations of customers, the responsibility of global businesses with sustainability has become more important (Jain, 2018). In fact, sustainability has been one of the most attractive topics which gain high attention from researchers in different industries. The luxury retail industry is one of the primary industries influenced by the concept of sustainability over the last decades (Moisander & Pesonen, 2002). Many luxury brands are currently attempting to convert into sustainable development for the positive responses to the international appeal (Bendell & Kleanthous, 2007). However, the luxury industry responds to 'sustainability' slowly, although suffering from global criticism (Bendell & Klenathous, 2007).

Today, the demand for sustainable premium products is increasing due to awareness of the environmental and social impact of shopping. Customers are interested in products that are ethically produced, use environmentally friendly materials, and minimize waste. They are willing to pay more for high-quality, durable products that benefit the community. However, the lack of information about products' origin, provenance, and production process makes it difficult for consumers to choose truly sustainable products. In addition, the high price of sustainable premium products is also a barrier for many consumers, especially those with low incomes. In addition, the lack of product choice and the incomplete infrastructure for recycling and reuse are also challenges that need to be addressed to promote sustainable consumption. For the above reasons and with the desire to contribute to society's sustainable development, the research found the behavior of sustainable high-end products by using the quantitative method. Hopefully, through the group's research, discussion, and results on this issue, we can together develop a sustainable economy and protect the environment.

## 2. Literature review and research methods

### 2.1 Literature review

According to the American Marketing Association (1937), consumer behavior is the thoughts, feelings and actions of consumers during the consumption process. Factors such as: opinions of other customers, advertising, information about prices, packaging, appearance of the product... can all influence the emotions, thoughts and purchases of consumers. Moreover, the perception of the luxury brand has fluctuated over time. Nueno and Quelch (1998) stated that luxury brands have an opposite interaction between the low ratio of functional utility to price and the high ratio of intangible utility to price. Furthermore, luxury brands are differentiated with non-luxury goods due to its functionalism, experientialism and symbols interactionism (Vickers & Renand, 2003). Likewise, Miller and Mill (2012) stated that there was a lack of measurement, definition clarification and operationalism of luxury brand.

Based on those evaluations, Keller (2013) defines luxury brand in a comprehensive framework with ten characteristics identification including premium image, intangible brand associations, high quality, brand equity with logo, symbol and packaging; premium price strategy; others association related to personalities, countries, events; brand architecture management; global competition; and trademarks protection in market. Moreover, Vigneron and Johnson (2004) developed a Brand Luxury Index (BLI) which is a scale to measure the degree of luxuriousness of the brand. This index includes three non-personal views (conspicuousness, uniqueness, and quality model) and two personal oriented perceptions (hedonism and extended self). Having the same idea, Miller and Mill (2012) explore a model which can measure brand luxury via various elements of the brand

including brand leadership, the alignment of the brand with its users, brand value and customer's willingness to pay at the high prices.

Over the past decades, many researchers have defined sustainability in many ways. However, the three common elements which relate to sustainability, including society, environment, and economy (Zhou, 2011). Moreover, Joy, et al. (2012) highlighted that sustainability relates to the activities, which meets the current generation's needs without causing harms for future generations as well as for the environment while maintaining the economic factors. With the globalization and complex changing environment in recent decades, the concept of sustainability has been expanded into different dimensions, such as its impact to human livelihoods, well being, ecological, economic and sociopolitical elements that are not only in local but also in the global scale (Seidman, 2007). It is much more concerns about the relationship with ourselves, our society and our organizations.

Under the context of the organization's perspective, sustainability envolves with the triple bottom line concept to pursuit the sustainable development in the market. It is known as a system to develop how indefinitely in the human utility, how efficiency of the resources and energy consumption, how safe in the workplace, how to balance between the environment and humans, etc. (Grossman & Johnson, 2015). The concept of sustainability has significant impacts on the fashion industry over the last decades (Moisander & Pesonen, 2002). Therefore, there is an increase in the number of fashion organizations having a strong commitment to producing sustainable products. Each company should set their own definition of sustainable products with certain criteria. In fact, sustainable products are also known as green products which align with the environmental friendliness, such as non-toxic, recycled materials that used during the design and manufacturing process and pollution prevention (Ottman, et al., 2006).

It is no secret that humans are harming and eroding the environment's capacity with some evidence of global warming and climate change over the last decades. Understanding those urgent signals from the environment, many international organizations like UNICEF and the UN Global Compact has intervened to find many ways to protect the environment through the policies to ensure not only the country but also the company's sustainable development in the long run. Besides that, the society and customer's demands have become higher, many well-known luxury brands have been adapting and considering sustainability as an important part of the luxury essence and put it in their business strategies in order to gain more competitive advantages in the fashion industry (Hennigs, et al., 2013). Corzine (2018) states that 40% of organizations have a strong commitment to incorporating their business model with eco-friendly products.

To illustrate, Chorpad- Swiss jewelry and watch luxury manufacturer has introduced the campaign " The Journey to sustainable luxury" with the new standard of environment and society in their internal production process (Corzine, 2018). Besides that, Louis Vuitton – a French handbag luxury provider has co-operated with the UNICEF to launch "Make a promise" campaign by donating 40% of the bracelet's revenue to protect vulnerable children globally. By doing this, Louis Vuitton can show its commitment to social responsibility as their key business strategies successfully in 2018 (Louis Vuitton, n.d). Thus, it can be seen that all luxury brands have high awareness and pay high attention of the challenges of sustainability in the global business context through their marketing strategies as well as their internal sustainability reports annually (Kapferer & Michaut, 2014).

Moreover, sustainable luxury products refer to high-end items that are created and marketed with a strong commitment to environmental and social responsibility. These products are designed to meet the demands of consumers who seek premium quality, but with a focus on sustainability throughout their life cycle—from production to disposal. Unlike traditional luxury goods, which may prioritize aesthetics and craftsmanship while overlooking environmental or ethical concerns, sustainable luxury products integrate eco-friendly materials, ethical labor practices, and resource-efficient production methods (Kapferer & Michaut, 2014).

## 2.2 The research methods

The general objective of the research is to identify and evaluate the factors affecting the decision to use sustainable high-end products in Vietnam, to propose solutions to develop a sustainable economy, and to protect the environment in Vietnam in the future. To achieve the general objective required by the topic, the research group has set out the following specific research objectives: (1) Identify and count consumers who influence the decision to buy high-end sustainable products in Vietnam. (2) Build and synthesize a scale of the identified factors. (3)Propose some recommendations for businesses and consumers about high-end sustainable products, as well as improve consumer behavior. Quantitative research was conducted using a survey method of at least 500 customers in Vietnam, using The questionnaire via Google Forms. After obtaining the results, the author synthesized descriptive statistics and analyzed them based on the information obtained from the survey. Then, the collected data was put into Excel to encode and process the data and check the reliability of the scales through SPSS software.

### The previous researches

The young consumer group, born between 1995 and 2012, is also gradually becoming the most generous consumer group. Statistics from KPMG show that 21% of consumers are willing to spend 16% of their income on luxury items. This generosity is making consumers the top target of brands in the country of a billion people. The consumer behavior of is a combination of the desire to express themselves and environmental protection awareness (KPMG, 2022).

According to some international surveys by YPulse, more than 70% of customers surveyed prioritize buying products from high-end brands that respect ethical values; 65% of them try to find out information about everything they buy (origin, materials and production) and 80% of customers refuse to buy from companies that have been involved in some kind of scandal. So in the fashion industry today and in the future, it is essential to be kind. Over 70% of customers prefer to shop from brands that respect ethical values. This shows that they care about issues such as environmental impact, labor conditions, and corporate social responsibility. In addition, 65% of them learn about the origin, materials and production of products before buying. They want to know clearly about the impact of products on the environment and people. They avoid scandals, 80% of them refuse to buy from companies involved in scandals. They tend to boycott brands that are unethical and not transparent. They cares about sustainability and wants brands to demonstrate their commitment to the environment. They support brands that are socially responsible, use eco-friendly materials, and have sustainable manufacturing practices. They are willing to pay more for high-quality, ethically sourced products.

Regardless of whether they are rich or poor, many young consumers are actually more conscious of the environmental impact of their purchasing decisions and are more likely to buy from brands that align with their personal values. According to a Nielsen study, 73% of customers said they would be willing to pay more for a premium sustainable product if it came from a sustainable or socially responsible brand. Today's youth, especially, are increasingly concerned about environmental issues and climate change. They tend to shop responsibly, prioritizing products that are sustainable, environmentally friendly, and produced by ethical brands. They are willing to pay more for high-quality, responsibly sourced, and sustainably produced products. More over, they actively seek information about the environmental impact of products and brands before making a purchase (KPMG, 2022).

*Research model*

From previous studies and theories, the research chose the research model as the theoretical basis:

```
┌─────────────────┐
│      Price      │───┐
└─────────────────┘   │
┌─────────────────┐   │
│   Reputation    │───┤
└─────────────────┘   │
┌─────────────────┐   │    ┌─────────────────────┐
│    Material     │───┼───▶│  Consumers' behavior│
└─────────────────┘   │    └─────────────────────┘
┌─────────────────┐   │
│  Communication  │───┤
└─────────────────┘   │
┌─────────────────┐   │
│    Influence    │───┤
└─────────────────┘   │
┌─────────────────┐   │
│    Awareness    │───┘
└─────────────────┘
```
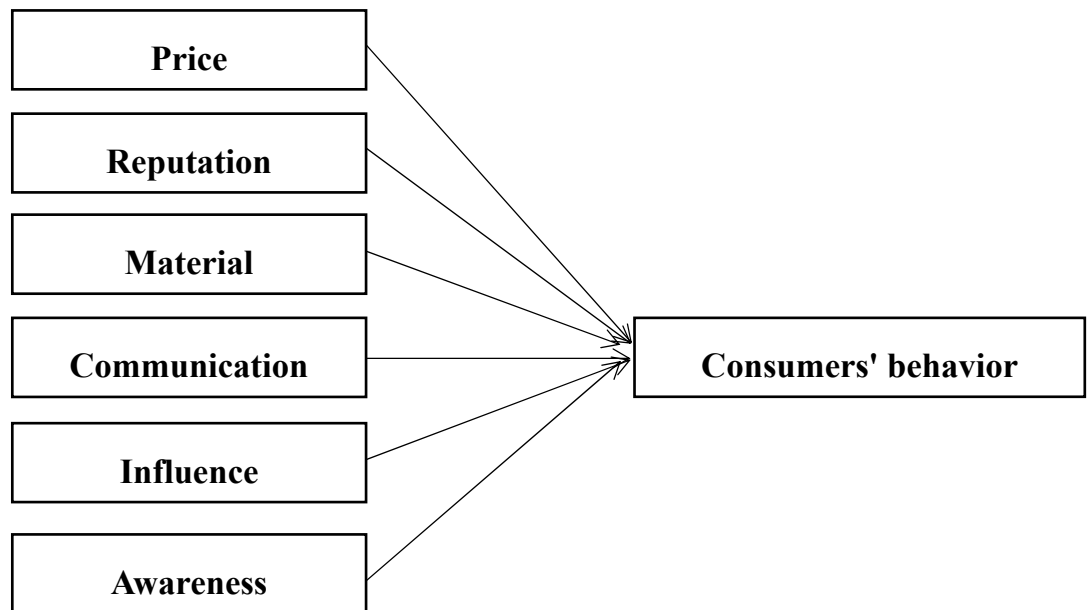
**Figure 1: Research Model**

➢ H1: Hypothesis 1 (GC): Price affects consumers' behavior of using sustainable products.

➢ H2: Hypothesis 2 (UT): Reputation - brand affects consumers' behavior of using sustainable products.

➢ H3: Hypothesis 3 (CL): Material - material affects consumers' behavior of using sustainable products.

➢ H4: Hypothesis 4 (TT): Communication affects consumers' behavior of using sustainable products.

➢ H5: Hypothesis 5 (AH): Influence affects consumers' behavior of using sustainable products.

➢ H6: Hypothesis 6 (NT): Personal awareness affects consumers' behavior of using sustainable products.

## 3. Result and discussion

### 3.1 Data analysis results

The young generation from the middle class increasingly tends to purchase luxury products. In Vietnam, the luxury brand market is still small-scale with 5-6 major company distribution (Hamy, 2018). The feedbacks from interviewees show that luxury purchasing behaviors are different from gender. Females care more about the status and value of luxury products, while male highly focuses on its materials. An interesting phenomenon is that males will buy luxury which is driven by communication and influence variables. The young generations aged between 20 and 28 are frequently luxury customers since they desire to chase after reputation and price. In recent years, the consumption of luxury products has dramatically grown in the world. The finding result was collected from participants' interviews in order to illumine purchasing experiences in luxury brand with the diversity of the demography. Through the interview, customers purchasing behavior are different in age. Participants from 20 to 25 age frequently buy the luxury product as weekly and monthly. While the ages between 26 to 33 years old purchase luxury one about 2 to 6 times a year. The reason for the two gaps of age is that the younger generation has a passion for following trendy and unique fashion. Moreover, they have strong financial support from wealthy families. In contrast, people, who are above 26 years old, need to consider their income

levels and the necessity of luxury products. In the customers' behaviors, the main factors to buy luxury products are considered as three elements consisting of awareness, reputation, and material.

Regarding the process of decision-making, there is 33.3% of participants searched for information about the sustainability of the brand before purchasing luxury products. Those consumers who consider the material products made up, such as animal skin or testing products on the animal. It is a good action of Vietnamese people that helps to improve the awareness of consumers in the near future. The rest of the participants did not search for any information on whether these brands are sustainable or not. In addition, another interesting finding result is that consumers tend to purchase sustainable products. There is 37.5% of participants are not willing to buy, they believe that sustainability is equal to low values. However, over 62.5% of participants will consider buying sustainable products, because they think sustainability is similar to the high quality of materials and it is also the trend.

All things considered, the opinion of the future of luxury sustainability is that 80% of interviewees believe the sustainability concept will hurt the success of the luxury brand in the short run, but it will contribute to luxury brands in the long run. Particularly, many competitors nowadays indicate that they will follow a new trend and consumers require higher quality, trendy design in order to minimize the impact on the environment. However, 20% of them think that sustainability will depend on customer awareness and also the balance between the buyers' needs and the brands' orientations.

Overall, approximately 50% of Vietnamese consumers has knowledge about sustainability. However, they do not search for any information about the sustainability of luxury products before purchasing. Moreover, they will consider buying sustainable products in case luxury brands introduce all the information of the product with obvious and attractive campaigns. Finally, they strongly believe that sustainability will contribute to the success of luxury brands in the long run. Hence, these results can help luxury brands understand customer behavior regarding sustainable luxury brand consumption in the future.

After running the SPSS system, the research has the final result below:

Rotated Component Matrix[a]

| | Component | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| **GC1** | .884 | | | | | | Approval |
| **GC2** | .884 | | | | | | Approval |
| **GC3** | .795 | .284 | | .249 | | | Approval |
| **GC4** | .795 | .284 | | .249 | | | Approval |
| **UT1** | | .847 | | .234 | | | Approval |
| **UT2** | .216 | .835 | | | | | Approval |
| **UT3** | | .812 | | | | | Approval |
| **CL1** | .267 | .796 | | | | | Approval |
| **CL2** | | | .866 | | | | Approval |
| **CL3** | | | .840 | | | | Approval |
| **CL4** | | | .832 | | | | Approval |
| **CL5** | | | .681 | | | | Approval |
| **TT1** | .233 | .248 | | .900 | | | Approval |
| **TT2** | .233 | .248 | | .900 | | | Approval |
| **TT3** | .328 | .244 | | .752 | | | Approval |
| **AH1** | | | | | .822 | | Approval |
| **AH2** | | | | | .816 | | Approval |
| **AH3** | | | | | .714 | | Approval |
| **AH5** | | | | | .682 | | Approval |
| **NT1** | | | | | | .817 | Approval |
| **NT2** | | | | | | .803 | Approval |
| **NT3** | | | | | | .770 | Approval |
| **NT4** | | | | | | .566 | Approval |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

After calculating the discriminant value of the scales, all met the condition of being greater than 0.3. Thus, all 5 conditions of the factor analysis model were passed. After KMO and Bartlett's Test and Regression coefficient test (ANOVA). Regression coefficient $R2 = 0.578$ (F=66.302; significant at 0.000), the regression coefficient has a reliability of 100%. In other words, the regression coefficient is statistically significant. Specifically, the 6 independent variables included in the model together explain 58% of the variation in the dependent variable, leaving 42% (100 – 58% = 42%) that this model cannot explain. Thus, the regression model under consideration is quite significant and can be used to draw managerial implications. Hence, the variables of Price, Reputation, Material, Communication, Influence, and Awareness have impacts on the behavior of the customers in using sustainable luxury products.

*3.2 Discussion*

Luxury brands can use "mass luxury" production strategy to increase the impacts of sustainable products on consumers' behaviors. When the trend of sustainability becomes common, it will create a crowd effect on society. In addition, maximizing the consumers' preference for sustainability in order to expand the influences of these products on consumers' behaviors. For instance, in the Vietnam market, one of the main elements is that most participant cares about the impact of sustainability on the environment. Based on this factor, the luxury brand can introduce to customers sustainable produce that is more friendly to the environment. It also helps to attract the interest of consumers and improve the level of sustainability knowledge in the social. To improve the effectiveness of sustainable consumption behavior of high-end products and improve the dependent variable, the research proposed some recommendations and solutions for variables affecting the dependent variable: Influence variable, material variable, and communication variable that having strong impact to the behaviors of customers. Sustainable consumption of high-end products is becoming more and more popular in the context of climate change and environmental degradation. To encourage this positive trend, the cooperation of stakeholders, including businesses, governments and consumers is needed.

## 4. Recommendations

*4.1 Raising consumer awareness*

Businesses need to demonstrate transparency and clarity in their production and business activities. Public disclosure of information on the environmental and social impacts of products throughout the product life cycle will help consumers make more informed choices. Businesses can use sustainability reports, eco-labels or traceability platforms to provide this information. Moreover, Encouraging responsible consumption. Businesses should guide consumers on how to use and preserve products effectively to prolong their lifespan, and provide repair, recycling and reuse services. Promotional programs or incentives for customers using sustainable products can also be applied. Then, businesses can cooperate with non-profit and local organizations to implement educational programs to raise awareness about sustainable consumption, support environmental protection projects and community development.

*4.2 Develop sustainable luxury products*

Developing sustainable luxury products is an essential step for businesses aiming to reduce their environmental impact while maintaining high-quality standards. Companies should prioritize the use of materials that are recycled, reused, or sustainably sourced, such as organic cotton, recycled wood, responsibly sourced leather, and natural fibers. This not only reduces reliance on finite resources but also promotes a circular economy where materials are given a second life. In addition to sustainable material sourcing, businesses should focus on optimizing their production processes by utilizing advanced technologies to minimize material waste and energy consumption. Implementing energy-efficient practices and using water-saving technologies during production processes can significantly reduce a company's overall environmental footprint. It is equally

important to limit or eliminate the use of toxic chemicals in the manufacturing process. By opting for safer, non-toxic materials and chemicals, companies can contribute to both human health and environmental protection. Moreover, adopting environmentally friendly packaging, reducing carbon emissions, and encouraging sustainable transportation methods further support the creation of a truly sustainable luxury product. By incorporating these practices, businesses not only protect the planet but also appeal to an increasingly environmentally conscious consumer base.

### 4.3 Develop the consumer community

Brands should take proactive steps in implementing communication campaigns that not only raise consumer awareness about the significance of sustainable consumption but also introduce premium products that are produced using sustainable methods. These campaigns should be designed to inform consumers about the tangible benefits of choosing sustainable products and how they contribute to a healthier planet. By clearly conveying the brand's dedication to sustainable development through strategic communication, marketing efforts, and public relations activities, companies can establish themselves as leaders in the transition toward a more sustainable future. The messages should emphasize the environmental impact, ethical sourcing, and long-term advantages of sustainable luxury goods. Additionally, brands should establish clear communication channels through which they can engage with consumers directly, providing an open platform for dialogue. This could include answering questions, addressing concerns, and gathering feedback on the company's sustainable products and practices, further fostering transparency and trust.

Beyond the role of individual brands, a more comprehensive approach is needed, requiring close coordination between various stakeholders to promote sustainable consumption behavior for premium products. Governments can play an integral role by enacting policies that encourage businesses to adopt environmentally friendly practices, such as offering tax incentives, subsidies, or grants to companies that produce sustainable goods. These policies can lower the financial barriers for businesses and make sustainable options more accessible. Non-profit organizations also have a vital role to play by organizing educational initiatives and public awareness campaigns. These programs can help shift consumer perspectives and inform the public about the importance of choosing products that have minimal environmental impact. Consumers themselves must also take responsibility for their choices, gradually shifting their consumption habits toward premium products that are ethically and sustainably produced.

Ultimately, the transition to a sustainable consumption future will require a collective effort from businesses, government entities, non-profit organizations, and consumers. By working in harmony to implement these solutions and embrace sustainable practices, we can pave the way for a world where luxury and sustainability go hand in hand, contributing not only to the preservation of the environment but also to the advancement of social equity and community well-being.

### 5. Conclusion

The Earth is currently facing a multitude of environmental challenges, driven by climate change, the degradation of natural resources, and widespread environmental pollution. These issues are becoming increasingly urgent, as the planet's ecosystems and human well-being are being significantly impacted. In this context, sustainable consumption of high-end products emerges not only as an inevitable trend but also as a collective responsibility for every individual to help protect our green planet. Adopting a sustainable approach to consumption is a powerful way to address these challenges while reaping numerous benefits for the environment, society, and individuals. Choosing sustainable products helps to preserve the environment by minimizing waste, reducing the consumption of finite resources, and curbing the negative impacts of climate change. It encourages responsible sourcing and the use of materials that have minimal environmental footprints. Moreover, sustainable consumption can significantly improve public health. By limiting exposure to harmful chemicals, toxic substances, and pollutants often found in conventional products, individuals can safeguard their well-being and

contribute to healthier communities. Additionally, sustainable consumption plays a crucial role in fostering economic development. It promotes green production methods that are both environmentally friendly and economically viable, encouraging businesses to invest in sustainable practices and technologies. This shift toward sustainability can lead to the creation of new jobs in the green sector, thereby boosting local economies and improving the quality of life for many individuals. Beyond the environmental and societal benefits, sustainable products often offer superior quality and durability. These products are designed to last longer, reducing the need for frequent replacements, and ultimately saving money in the long run. As a result, consumers can enjoy the long-term value of high-end sustainable goods, which are built to withstand the test of time. By choosing sustainable products, individuals contribute to a future where the economy, society, and the environment are all in harmony. It is a shared responsibility to spread awareness about the importance of a green lifestyle and to actively make choices that prioritize sustainability. Together, we can create a better future, not only for ourselves but for future generations, ensuring that they inherit a planet that is healthy, thriving, and capable of sustaining life for years to come. Let's unite in the mission to promote sustainable consumption and help pave the way for a brighter, greener future for all.

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# The role of social media influencers with regard to enhancing revisit intention among spiritual tourists

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## *Abstract*

The development of social media influencers marketing has been significantly impact on the variety of tourism, including spiritual tourism. This study aims to investigate the role of social media influencers in shaping the behavior and preferences of tourists in the context of spiritual tourism. Employing SMIs concept and source credibility theory, the research explores the antecedents of spiritual tourism, focusing on the interplay between social media marketing and tourism dynamics. Specifically, it examines how source credibility and content quality that are key characteristics of social media influencers, affect tourists' revisit intentions. Employing Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from a sample of 300 respondents who actively engage with social media content related to spiritual destinations. The findings reveal that both source credibility and content quality significantly influence tourists' cognitive and affective evaluations of spiritual destinations. The study provides valuable insights for destination marketers and tourism stakeholders, highlighting the importance of leveraging influencer partnerships to promote spiritual tourism effectively in a competitive digital landscape. This research contributes to the growing literature on social media marketing and tourism by addressing a unique and underexplored niche.

*Keywords:* revisit intention, social media influencer, source credibility, spiritual tourism

# The role of social media influencers with regard to enhancing revisit intention among spiritual tourists

## 1. Introduction

Spiritual tourism is a niche form of travel where individuals seek transformative experiences that connect them to a higher purpose, inner peace, or spiritual growth (Roof, 2001). This type of tourism often involves visiting sacred sites, participating in rituals, or engaging in practices like meditation, yoga, and mindfulness (Smith & Diekmann 2017). Destinations range from ancient temples and pilgrimage routes to wellness retreats and nature sanctuaries. Heintzman (2008) stated that spiritual tourism caters to the growing demand for meaningful and reflective travel, offering opportunities for personal renewal and cultural exploration. It plays a vital role in preserving heritage and fostering a deeper understanding of diverse spiritual and cultural traditions.

In light of the considerable transformations in the search for transcendence in human life, travel has become an important activity in the emerging spiritual market (Heelas & Woodhead, 2005). Paul Brunton is acknowledged as a pivotal contributor to the Western understanding of Eastern spiritual practices. Through his travels, he closely studies the teachings of various gurus, mystics, and spiritual guides to shed light on their wisdom. Brunton's spiritual journey, first published in 1934, not only predicted the emergence of spirituality as a driving force for tourism but also greatly motivated and supported readers in expanding their spiritual views while traveling. Roof (2001) refers reflexive spirituality as which can be seen as a cultural trend or modern outlook on spirituality that promotes the use of reason in exploring different spiritual traditions. This thoughtful and evaluative approach to spiritual paths is seen as a key aspect of today's spiritual movement, with spiritual tourism being just one of its many forms (Besecke, 2014).

Social media influencers strive to impact various aspects of their audience's lives. Examples of this include endorsing particular brands or services, using their influence to change habits, perceptions, and behaviors related to diet, lifestyle choices, and even communication styles and vocabulary adopted by their followers (Ryan, 2014; Solomon, 2020). Recent studies increasingly show that digital influencers are crucial for young people, largely because teens spend a lot of time online, making them more receptive to the wide array of content shared by influencers. Additionally, teenagers are forming stronger bonds with social media influencers (SMIs), looking for not just entertainment, but also useful information, advice, connection, and comfort. As a result, there is a constant and evolving relationship between teens and SMIs, which is reinforced every day and integrated into the core activities of adolescents' lives. Earlier studies illustrate that entertainment plays a crucial role in attracting individuals to social media platforms. For instance, Shao (2009) suggests that the desire for entertainment is a powerful driving force behind how people engage with content on social media. Additionally, Park, Kee, and Valenzuela (2009) view entertainment as a key reason that draws people to regularly visit social media sites. In conclusion, Muntinga, Moorman, and Smit (2011) identify enjoyment, relaxation, and leisure as the main factors that enhance the engagement with brand content among users of social media.

Previous research lied in the use of just twelve primary sources to develop the key coding categories (Abdul Halim, Tatoglu, & Mohamad Hanefar, 2021). This study may include additional sources that cover a broader range of spiritual tourism topics. Moreover, there may be certain contexts where some of the established dimensions are not suitable. Nevertheless, this research aims to provide valuable insights to both the tourism and spirituality sectors, positively affecting everyone involved, whether directly or indirectly. While it's clear that social media influencers (SMIs) have greatly influenced the lives of young individuals, assessing the extent of this effect is challenging, and possibly even impossible, which complicates our understanding of its overall impact on society (Charles, Isobel, & Aiden, 2021). This research aims to shed light on the role of spiritual tourism within the marketing sector by examining how social media influencers shape the experiences of travelers, especially the younger demographic. It also explores how destination brands engage these influencers

to market their offerings and content (Webster & Watson, 2002). To build a foundation for expanding knowledge, presenting varying perspectives, and summarizing key findings, this study employs a literature review as a methodological approach to find out the list of antecedents of spiritual tourism in SMIs. To handle these research gaps, this study would conduct an empirical research to answer these questions:

➢ How do social media influencers impact the tourists' perceptions and behaviors on spiritual tourism destinations?

➢ How do source credibility and content quality of social media influencers' impact tourist revisit intentions in the context of spiritual tourism?

➢ What are the key antecedents of spiritual tourism behavior in the context of social media marketing?

## 2. Literature review

### 2.1 Theoretical background

*Spiritual tourism -* Several studies have highlighted the role of spirituality in managing downtime (Gosselink & Myllykangas 2007; Heintzman 2008). Research indicates that one's spiritual outlook influences their ability to navigate difficulties both during and after recreational or travel experiences. Certain elements appear linked to the capacity for spiritual coping: transformative spiritual experiences, overall spiritual health, healing, personal psychological growth, significant encounters, and self-reflection aimed at spiritual cleansing (Cheer, Belhassen, & Kujawa, 2017; Heintzman, 2013; Del Castillo & Alino, 2020; Morgan 2010; Smith & Diekmann 2017). These findings indicate that spiritual coping can occur both in the midst of and following leisure or travel events. Further affirmation of the ability to cope during leisure is provided by Heintzman's (2002) findings. Heintzman claims that both deliberate and accidental leisure and travel occurrences can offer chances for "grounding" or 'processing' challenges that enhance one's spirituality.

The difference between secular and religious influences is important, as highlighted by the emerging topics in the articles of this Special Issue and previously noted by Norman (2011). To begin with secular motivations, we find that underlying various specific factors are self-serving motives, with the most typical reasons being wellness, adventure, and leisure. Often, there's also an aim for some kind of spiritual gain, such as finding inner peace or experiencing a different state of consciousness. Furthermore, the commercialization of spiritual travel experiences whether as a vacation package or as expenses for specific services (like lodging and food) affects these chances. Secular incentives for spiritual tourism, which focus on the individual, are inherently about consumption and contribute favorable outcomes for the traveler.

In contrast, the key motivators associated with religious tourism stem from practices of religious observance, rituals, reinforcement of identity, and cultural expressions, mainly drawing on connections to faith (Cheer, Belhassen, & Kujawa, 2017). In this context, the reasons for engaging in spiritual tourism relate to honoring and feeling a bond with a higher power or deity, with the benefits of religious activities stemming from structured and genuine participation that brings advantages beyond the individual. The primary emphasis is on the formal or religious structures that guide travel for these purposes. This conceptual approach seeks to establish broad conclusions while recognizing that there will be some practical exceptions that either do not fit or just marginally fit within the outlined categories. It is believed that these structures are adaptive and will evolve in response to emerging trends in the field.

*Social media influencers -* As noted by (Freberg, Graham, McGaughey, & Freberg, 2011) p. 90, social media influencers are described as "a new category of independent third-party endorsers who influence audience perspectives through blogs, tweets, and other social platforms." Recognized as leaders in thought, they can effectively disseminate the information they both obtain and share (Jalilvand, 2017; Uzunoğlu & Kip, 2014). Studies from areas outside of tourism, such as culture (Magno, 2017) and fashion (Halvorsen, Hoffmann,

Coste-Manière, & Stankeviciute, 2013), have highlighted the rising significance of digital influencers and their ability to influence the beliefs and decisions of their audiences. This research note aims to enhance awareness of this issue within the travel sector. Nevertheless, tourism research has largely overlooked how followers are influenced by content produced by the specific category of users known as social media or digital influencers (Kapitan & Silvera, 2016; Zhang, Moe, & Schweidel, 2017; Ge & Gretzel, 2018). Magno and Cassia (2018) assert that in this context, travel bloggers as social media influencers impact the travel intentions of their audience.

*2.2 Conceptual framework and hypothesis development*

**Spiritual tourism antecedents -** Spiritual tourism involves a journey of discovery and self-exploration, providing an opportunity for calming reflection. As stated by Smith and Diekmann (2017), it has transformed into a means of achieving balance and unity among the mind, body, and spirit. Individuals may embark on a spiritual journey for numerous reasons, and the spiritual experience or sense of connection may manifest before, during, or after the journey or visit. Meanwhile, Heintzman (2002) proposed a conceptual model suggesting that leisure activities can lead to spiritual development. This approach helps individuals enhance their spiritual awareness and tackle spiritual obstacles. The framework allows travelers to recognize both their inner selves and the outside world, highlighting the strong correlation between leisure (external) and spiritual wellness (internal). Developing a theoretical structure for spiritual tourism follows academic standards by integrating complex, diverse, and evolving concepts to build essential insights that facilitate scholarly dialogue and future research (Cheer, Belhassen, & Kujawa, 2017). This study acknowledges the developing split between viewing spiritual tourism primarily through a social media lens and interpreting it as a SMIs marketing activity. From a conceptual view, this illustrates the progression of theories and guides the formulation of a framework for further exploration of spiritual tourism.

**Infrastructure -** Heintzman (2002) also noted that various factors of leisure, including activity type, motivation, surroundings, and timing, can differently affect spiritual wellness. Additionally, the specific type of leisure activity pursued can influence spiritual health. Mannell (2007) likewise argued that engaging in leisure activities positively affects one's spiritual, mental, and physical well-being. In a related study, Cutler and Carmichael (2010) explored one of the most important dimensions of spiritual tourism perspectives of infrastructure. These are based on tourists' experiences before, during, and after a particular journey or tour, with external factors encompassing physical and social elements as well as products and services.

**Spiritual transformation -** This part will explore the different facets of spirituality related to travel, such as self-discovery, spiritual change, rejuvenating surroundings, reasons for travel, individual development, health, and recovery, among many other factors. For instance, Heintzman (2013) along with Ponder and Holladay (2013) discovered that participating in travel experiences offers meaningful spiritual benefits and results, such as a sense of happiness (eudaimonia), personal spiritual growth (an improved self), transcendence (a bond with a higher power), and plenty of additional advantages.

**Natural Environment -** As noted by Johnson (2000), feeling a sense of re-engagement or connection with the environment can be seen as a spiritual experience. He identifies four key areas personal, communal, environmental, and transcendental in which building harmonious relationships is vital for achieving spiritual wellness. This highlights that engaging with a higher power or the natural world can bring about spiritual satisfaction. Similar research by Steiner and Reisinger (2006) showed that tourism encourages a close bond between the earth, sky, humanity, and the divine (integrity and authenticity). Ultimately, reaching transcendental aspirations can be possible through our ability to connect with various entities and beings. This growth will lead to improved job prospects, enhanced travel experiences for tourists, respect for local communities, environmental conservation, and numerous other benefits.

**Self-awareness -** A research conducted by Little and Schmidt (2006) identifies four essential aspects of spiritual tourism: powerful experiences, feelings of connection, awareness of oneself, and awareness of others. The

authors state that tourists and travelers felt a deeper bond with a higher power and gained greater insight into themselves, God, or the "other." They also suggested that tourists had significant spiritual leisure experiences, recognizing a range of emotions including awe, amazement, fear, and liberation. It is a common belief that engaging in religious practices allows for self-reflection and spiritual cleansing. Conversely, various studies have shown that non-religious activities, such as those tied to tourism, can also promote self-reflection and spiritual renewal in an indirect way (Cheer, Belhassen, & Kujawa 2017; Coghlan 2015; Cutler & Carmichael 2010; Heintzman, 2013; Little and Schmidt 2006; Morgan 2010; Ponde &Holladay 2013; Smith & Diekmann 2017). These authors explore themes of self-awareness. Based on the authors' examination, tourists and travelers felt a deeper bond with a higher power or a greater existence, along with an enhanced self-awareness, including awareness of God or the "other."

*Sense of connections -* Additionally, they asserted that those on journeys and adventures enjoyed enriching spiritual leisure moments and experienced a range of emotions like amazement, curiosity, anxiety, and liberation. This research indicated that spiritual experiences can emerge from leisure travel, even though they may not be actively pursued or anticipated by society. Walsh (1999) noted that there exists a "sense of meaning, inner wholeness, harmony and connection with others, a unity with all nature and the universe." Likewise, Jarrat and Sharpley (2017) observed that travel experiences, particularly coastal ones, have the potential to provide emotional and spiritual significance. The findings highlight various themes, including connection, awe, timelessness, and emptiness, which imply a spiritual aspect to experiences by the sea. Fisher, Francis, and Johnson (2000) suggested that feelings of reconnection or connection to the surrounding environment can also be viewed as spiritual, supporting the conclusions of Jarrat and Sharpley.

*Positive emotion -* Coghlan (2015) examined the ways in which travel experiences encourage uplifting feelings, involvement, and significance, which in turn enhance the well-being of individuals, reinforcing these results. Collectively, these studies clearly indicate that tourism has been recognized for quite some time for its ability to promote recovery, pleasure, and overall well-being effects, significantly contributing to personal spirituality and inner psychological growth (Morgan, 2010).

*2.3 SMIs attributions*

*Source credibility -* To enhance their purchasing choices, buyers in the digital era are increasingly looking online for details about products and services (Alalwan, 2018; Dwivedi, Kapoor, & Chen, 2015; Lee, Park, & Han, 2008; Shareef, Mukerji, Dwivedi, Rana, & Islam, 2017; Shiau, Dwivedi, & Lai, 2018). During their internet searches for product and service information, consumers often come across a multitude of electronic word-of-mouth (eWOM) messages. To help navigate these eWOM messages, individuals can evaluate the credibility of the source (Dou, Walden, Lee, & Lee 2012; Metzger, Flanagin, & Medders, 2010). Earlier studies in this area have mostly focused on how the credibility of a source impacts the individual receiving the information (Luo, Wu, Shi, & Xu, 2015). The effectiveness and persuasive nature of eWOM messages can be affected by the traits of the information source. When the information is trustworthy, the recipient tends to regard the source as reliable (Chaiken, 1980). Thus, the hypotheses are suggested:

H1a: Infrastructure has positive impact on source credibility of SMIs

H2a: Natural environment has positive impact on source credibility of SMIs

H3a: Spiritual transformation has positive impact on source credibility of SMIs

H4a: Self-awareness has positive impact on source credibility of SMIs

H5a: Sense of connections has positive impact on source credibility of SMIs

H6a: Positive emotion has positive impact on source credibility of SMIs

***Content quality -*** As noted by Carlson, Rahman, Voola, and De Vries (2018), the quality of content refers to the extent to which consumers perceive the information regarding a brand on its social media platforms as trustworthy, thorough, pertinent, and up-to-date. Prior research indicates that consumers tend to be more interested in and attracted to brands when they encounter innovative and visually appealing content (Berger & Milkman, 2012). Moreover, scholars have proposed that content quality serves as an environmental signal that significantly impacts the actions of online shoppers (O'cass & Carlson, 2012; Nambisan & Baron, 2009). This was illustrated by Barreda, Bilgihan, Nusair, and Okumus (2015), who explored the travel industry and found that the quality of content shared by companies on social media affects individuals' awareness of the brand over time, helping them recognize and recall the brand. Thus, the hypotheses are suggested:

H1b: Infrastructure has positive impact on content quality of SMIs

H2b: Natural environment has positive impact on content quality of SMIs

H3b: Spiritual transformation has positive impact on content quality of SMIs

H4b: Self-awareness has positive impact on content quality of SMIs

H5b: Sense of connections has positive impact on content quality of SMIs

H6b: Positive emotion has positive impact on content quality of SMIs

### 2.4 Revisit intention

Nekmat and Gower (2012) and Zhang, Zhao, Cheung, and Lee (2014) explore the relationships between the expertise of the source and the effectiveness of electronic word-of-mouth (eWOM) (González-Rodríguez, Martínez-Torres, & Toral, 2016; Jamil & Hadnu, 2013; Lee, Law, & Murphy, 2011), the likelihood of making a purchase (Park and Kim, 2008; Saleem & Ellahi, 2017; Zainal et al., 2017), the acceptance of information (Wang, Wei, & Teo, 2007), and the credibility of the source (Fang, 2014). The effectiveness of online reviews is heavily influenced by how trustworthy the source is perceived to be (Cheung, Luo, Sia, & Chen, 2009). Lis (2013) uses theories related to plan behavior and reasoned action, which suggest that a positive emotion can lead to intentions, to argue that trust can be viewed as the readiness or intention to depend on someone else. This implies that having confidence in the source may lead to a greater intention to purchase (Saleem & Ellahi, 2017). Purchase intention refers to a customer's likelihood of buying a specific product or brand as well as their interest level in that item. As stated by Lloyd and Luk (2010), it is closely associated with a person's attitude and preferences regarding a certain product or brand. The intention to buy is considered an essential indicator that predicts actual purchasing behavior (de Magistris & Gracia, 2008) since it reflects the cognitive factors that guide how a consumer is likely to buy a specific brand (Huang & Su, 2011). Based on the analysis, we propose the following hypotheses:

H7: Source credibility has positive impact on revisit intention

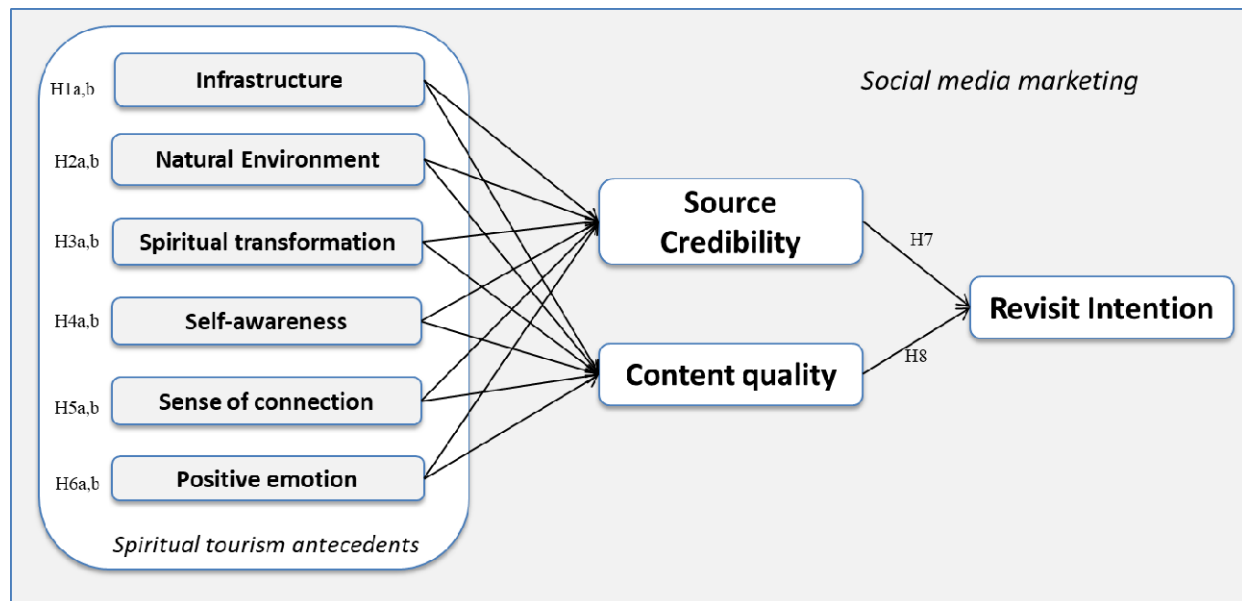H8: Content quality has positive impact on revisit intention

*Figure 1*. Proposed research model *(Source: the authors)*

## 3. Methodology

*Sampling method -* The study focuses on exploring the revisit intentions of tourists to spiritual destinations in Ho Chi Minh City. The target population comprises residents and visitors in Ho Chi Minh City who have experience visiting or showing interest in spiritual destinations, such as temples, pagodas, and other culturally significant religious sites. An inconvenience sampling method was employed due to the challenges of accessing a structured sampling frame for this specific group. This non-probability sampling approach allowed the researchers to collect data efficiently by targeting individuals available and willing to participate at the time of the survey. Despite its limitations in generalizability, this method was suitable given the context and resource constraints of the study.

*Measurement scale -* The measurement scales utilized in the research were primarily based on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale was chosen to measure respondents' perceptions, attitudes, and behavioral intentions toward spiritual destinations in a structured and easily interpretable manner. Key constructs measured include cognitive image, affective image, overall destination image, satisfaction, revisit intention, and religiosity. Items for each construct were adapted from validated scales in prior research to ensure content validity while being contextually tailored to spiritual tourism in Ho Chi Minh City. For example, items measuring cognitive image included aspects such as the natural environment, infrastructure, and spiritual ambiance, reflecting the unique characteristics of these destinations. The study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data. This technique was chosen for its robustness in handling complex models with multiple latent variables and its ability to accommodate smaller sample sizes. PLS-SEM is particularly effective in exploratory research where the goal is to maximize the explained variance of the dependent constructs and assess the predictive relevance of the model. Before analysis, the dataset was screened to ensure data quality, with missing values, outliers, and reliability issues addressed. Constructs were tested for reliability and validity, including internal consistency (Cronbach's alpha and composite reliability), convergent validity (Average Variance Extracted - AVE), and discriminant validity (Fornell-Larcker criterion)

## 4. Data analysis and results

*Measurement model evaluation -* Initially, the study utilized the outer loadings to test the internal reliability

of measurement items. Table 1 indicates that all the outer loadings are higher than 0.708 (Hair, Anderson, Black, & Babin, 2016) that means satisfying the threshold of internal reliability with the range of [0.740, 0.950]. Thus all the items would be kept for further analyses. Next, this study moves to evaluate the reliability and validity of measurement scale.

**Table 1**
*Loading, reliability and convergent validity testing*

| Items | Outer Loading | Cronbach's Alpha | Composite Reliability | Average Variance Extracted (AVE) |
|---|---|---|---|---|
| CONQUA1 | 0.777 | | | |
| CONQUA2 | 0.906 | | | |
| CONQUA3 | 0.809 | | | |
| CONQUA4 | 0.853 | 0.859 | 0.904 | 0.702 |
| INFRA1 | 0.854 | | | |
| INFRA2 | 0.866 | | | |
| INFRA3 | 0.938 | 0.869 | 0.917 | 0.787 |
| NATUR1 | 0.891 | | | |
| NATUR2 | 0.905 | | | |
| NATUR3 | 0.891 | 0.876 | 0.924 | 0.802 |
| POSEM1 | 0.812 | | | |
| POSEM2 | 0.740 | | | |
| POSEM3 | 0.792 | | | |
| POSEM4 | 0.809 | 0.803 | 0.868 | 0.622 |
| REVIS1 | 0.822 | | | |
| REVIS2 | 0.821 | | | |
| REVIS3 | 0.923 | | | |
| REVIS4 | 0.891 | 0.887 | 0.922 | 0.749 |
| SECON1 | 0.874 | | | |
| SECON2 | 0.924 | | | |
| SECON3 | 0.919 | | | |
| SECON4 | 0.950 | 0.938 | 0.955 | 0.841 |
| SELF1 | 0.802 | | | |
| SELF2 | 0.791 | | | |
| SELF3 | 0.860 | | | |
| SELF4 | 0.884 | 0.855 | 0.902 | 0.698 |
| SOUCRE1 | 0.818 | | | |
| SOUCRE2 | 0.781 | | | |
| SOUCRE4 | 0.780 | | | |
| SOUCRE5 | 0.808 | 0.808 | 0.874 | 0.635 |
| SPIRI1 | 0.788 | | | |
| SPIRI2 | 0.873 | | | |
| SPIRI3 | 0.942 | 0.862 | 0.903 | 0.757 |

To measure the reliability, this study employs Cronbach's Alpha and Composite Reliability (CR) indexes (Table 1). First, the Cronbach's Alpha of all constructs range from 0.803 to 0.938 which exceed the standard of 0.7 (Chin, 1998). Second, the CR values of all constructs also are higher than 0.7 with the range of [0.868, 0.955]. From the results of Cronbach's alpha and CR, this study proved that the measurement scale guarantees the reliability. According to the validity test, this study clarifies into convergent and discriminant validity (Hair et al., 2016). To test convergent validity, Average variance extracted (AVE) index is consumed to compare with the threshold of 0.5 (Henseler & Sarstedt, 2013). Table 1 illustrates that all construct's AVE are greater than 0.5, hence the convergent validity is assured.

Next, this study examines the discriminant validity of measurement scale by Fornell-Larcker criterion and Heterotrait-Monotrait ratio (HTMT). The Fornell-Larcker criterion tends to compares the square root of the variance extracted AVE with the correlation coefficient of two latent variables (Henseler, Ringle, & Sinkovics, 2009). To prove the validity, the square root of the AVE of a factor must be greater than the largest correlation coefficient between that factor and the other factors. Table 2 shows the entire square root of the AVE of a factor in bold number which higher than all correlation coefficient between that factor and the other factors.

**Table 2**
*Fornell-Larcker criterion.*

|  | CONQUA | INFRA | NATUR | POSEM | REVIS | SECON | SELF | SOURCRE | SPIRI |
|---|---|---|---|---|---|---|---|---|---|
| CONQUA | **0.838** | | | | | | | | |
| INFRA | 0.194 | **0.887** | | | | | | | |
| NATUR | 0.251 | 0.302 | **0.895** | | | | | | |
| POSEM | 0.113 | -0.079 | 0.019 | **0.789** | | | | | |
| REVIS | 0.406 | 0.025 | 0.236 | 0.274 | **0.865** | | | | |
| SECON | -0.015 | -0.048 | -0.017 | 0.066 | 0.005 | **0.917** | | | |
| SELF | 0.155 | 0.02 | 0.358 | -0.046 | 0.354 | -0.127 | **0.835** | | |
| SOURCRE | 0.342 | 0.127 | 0.236 | 0.357 | 0.552 | 0.047 | 0.262 | **0.797** | |
| SPIRI | 0.118 | 0.062 | 0.315 | -0.153 | 0.13 | 0.022 | 0.347 | 0.272 | **0.87** |

**Table 3**
*Heterotrait-Monotrait ratio (HTMT).*

|  | CONQUA | INFRA | NATUR | POSEM | REVIS | SECON | SELF | SOURCRE | SPIRI |
|---|---|---|---|---|---|---|---|---|---|
| CONQUA | | | | | | | | | |
| INFRA | 0.211 | | | | | | | | |
| NATUR | 0.274 | 0.346 | | | | | | | |
| POSEM | 0.137 | 0.141 | 0.102 | | | | | | |
| REVIS | 0.461 | 0.044 | 0.266 | 0.317 | | | | | |
| SECON | 0.055 | 0.067 | 0.026 | 0.071 | 0.047 | | | | |
| SELF | 0.173 | 0.108 | 0.405 | 0.168 | 0.403 | 0.139 | | | |
| SOURCRE | 0.407 | 0.14 | 0.279 | 0.425 | 0.65 | 0.05 | 0.312 | | |
| SPIRI | 0.121 | 0.082 | 0.304 | 0.233 | 0.113 | 0.057 | 0.379 | 0.277 | |

To enhance the discriminant validity, HTMT ratio is employed. Table 3 indicates that HTMT coefficient between the indicators of both latent variables are lower than 0.85 (Henseler, Hubona, & Ray, 2013). Thus all pairs of variables of measurement model are guaranteed the discriminant validity. From the analysis, the discriminant and convergent validity of measurement scales are assured to transfer the structural model evaluation.

*Structural model evaluation -* Before hypotheses testing, this study diagnoses the collinearity phenomenon that might occur in the internal relationship among independent variables. Inner VIF values for each pair of variables were employed to test the collinearity. Following that, all VIF values also are lower than 2.0 that satisfy the threshold of there no occurrence of collinearity in this model.

**Table 4**
*Inner VIF*

|  | CONQUA | INFRA | NATUR | POSEM | REVIS | SECON | SELF | SOURCRE | SPIRI |
|---|---|---|---|---|---|---|---|---|---|
| CONQUA | | | | | 1.132 | | | | |
| INFRA | 1.125 | | | | | | | 1.125 | |
| NATUR | 1.347 | | | | | | | 1.347 | |
| POSEM | 1.044 | | | | | | | 1.044 | |
| REVIS | | | | | | | | | |
| SECON | 1.030 | | | | | | | 1.030 | |
| SELF | 1.272 | | | | | | | 1.272 | |
| SOURCRE | | | | | 1.132 | | | | |
| SPIRI | 1.232 | | | | | | | 1.232 | |

By bootstrapping method, hypotheses are tested based on P-values, 97.5% confident interval bias corrected, and original sample (Table 5). Results indicated that the paths of NATUR -> SOURCRE, SECON -> CONQUA, SECON -> SOURCRE, SELF -> CONQUA, and SPIRI -> CONQUA are not supported because of p-values higher than 0.05 with 0.341, 0.953, 0.391, 0.136, and 0.472, respectively. By contrast, the rest of nine paths (CONQUA -> REVIS, INFRA -> CONQUA, INFRA -> SOURCRE, NATUR -> CONQUA, POSEM -> CONQUA, POSEM -> SOURCRE, SELF -> SOURCRE, SOURCRE -> REVIS, and SPIRI -> SOURCRE) are significant with the all P-values lower than 0.05. Moreover, there is no zero number that falls in the 97.5% confident interval bias corrected (Hair, Hult, Ringle, Sarstedt, Danks, & Ray, 2021).

**Table 5**

*Hypotheses testing results*

| Hypotheses | o | m | d | t | p | CIBC 2.50% | 97.50% | Mark up |
|---|---|---|---|---|---|---|---|---|
| H8:CONQUA -> REVIS | 0.246 | 0.247 | 0.052 | 4.747 | 0.000 | 0.140 | 0.345 | Significant |
| INFRA -> CONQUA | 0.152 | 0.151 | 0.057 | 2.673 | 0.008 | 0.037 | 0.259 | Significant |
| INFRA -> SOURCRE | 0.129 | 0.13 | 0.05 | 2.591 | 0.010 | 0.028 | 0.223 | Significant |
| NATUR -> CONQUA | 0.157 | 0.156 | 0.071 | 2.196 | 0.028 | 0.015 | 0.295 | Significant |
| NATUR -> SOURCRE | 0.047 | 0.046 | 0.049 | 0.952 | 0.341 | -0.046 | 0.146 | Not Significant |
| POSEM -> CONQUA | 0.135 | 0.136 | 0.064 | 2.117 | 0.034 | 0.003 | 0.251 | Significant |
| POSEM -> SOURCRE | 0.41 | 0.411 | 0.044 | 9.389 | 0.000 | 0.318 | 0.489 | Significant |
| SECON -> CONQUA | -0.004 | -0.001 | 0.075 | 0.058 | 0.953 | -0.132 | 0.145 | Not Significant |
| SECON -> SOURCRE | 0.045 | 0.046 | 0.052 | 0.857 | 0.391 | -0.065 | 0.136 | Not Significant |
| SELF -> CONQUA | 0.084 | 0.087 | 0.06 | 1.394 | 0.163 | -0.045 | 0.196 | Not Significant |
| SELF -> SOURCRE | 0.182 | 0.184 | 0.058 | 3.112 | 0.002 | 0.058 | 0.286 | Significant |
| SOURCRE -> REVIS | 0.468 | 0.469 | 0.043 | 10.776 | 0.000 | 0.377 | 0.548 | Significant |
| SPIRI -> CONQUA | 0.051 | 0.054 | 0.071 | 0.719 | 0.472 | -0.13 | 0.167 | Not Significant |
| SPIRI -> SOURCRE | 0.248 | 0.249 | 0.058 | 4.26 | 0.000 | 0.141 | 0.351 | Significant |

Note: o: original sample; m: sample mean; d: standard deviation (STDEV); t: t-statistics (|O/STDEV|); p: p-values; CIBC: 97.5% confident interval bias corrected.

Lastly, to test the quality of structural model, R-square, Q-square, and f-square are employed to show the explanation, prediction, and impact power, respectively (Hair et al., 2016; Henseler et al., 2016). Following that, all six factors of INFRA, NATUR, POSEM, SECON, SELF, and SPIRI can explain 10.3% the variation of CONQUA (Table 6). Likewise, INFRA, NATUR, POSEM, SECON, SELF, and SPIRI can explain 29.1% the variation of SOURCRE. REVIS is explained by CONQUA and SOURCRE of 35.9%. According to out-of-sample predictive power, results show the model has predictive correctness with all $Q^2$ values higher than zero; however those powers are quite fragile. According to impact power, INFRA has the strongest impact on CONQUA following by NATUR and POSEM. Similarly, POSEM has the highest impact on SOURCRE following by SPIRI, SELF, and INFRA.

**Table 6**

*The quality of structural model*

| Endogenous constructs | $Q^2$ | $R^2$ | Exogenous constructs | $f^2$ |
|---|---|---|---|---|
| CONQUA | 0.063 | 0.103 | INFRA | 0.023 |
| | | | NATUR | 0.02 |
| | | | POSEM | 0.019 |
| | | | SECON | 0.00 |
| | | | SELF | 0.006 |
| | | | SPIRI | 0.002 |
| SOURCRE | 0.174 | 0.291 | INFRA | 0.021 |
| | | | NATUR | 0.002 |
| | | | POSEM | 0.227 |
| | | | SECON | 0.003 |
| | | | SELF | 0.037 |
| | | | SPIRI | 0.071 |
| REVIS | 0.261 | 0.359 | CONQUA | 0.083 |
| | | | SOURCRE | 0.302 |

## 5. Discussion and implication

### 5.1 Discussion

From the results of data analysis (Figure 2), this study conclude that 5 hypotheses are rejected (H2a, H5a, H5b, H4b, H3b) and 9 hypothesis are supported (H1a-b, H2b, H3a, H4a, H6a-b, H7, H8). Thus, sense of connection does not have significance in the model of SMIs in spiritual tourism. Spiritual transformation has highest impact on source credibility, although has no impact on content quality. Infrastructure, Natural Environment, Self-awareness, and Positive emotion also have significant on SMIs attributions. Source credibility and content quality, under impacting of spiritual tourism antecedences, influence positively on revisit intention.

Therefore, spiritual tourism dimensions in SMIs can be defined as five factors: Spiritual transformation Infrastructure, Natural Environment, Self-awareness, and Positive emotion.
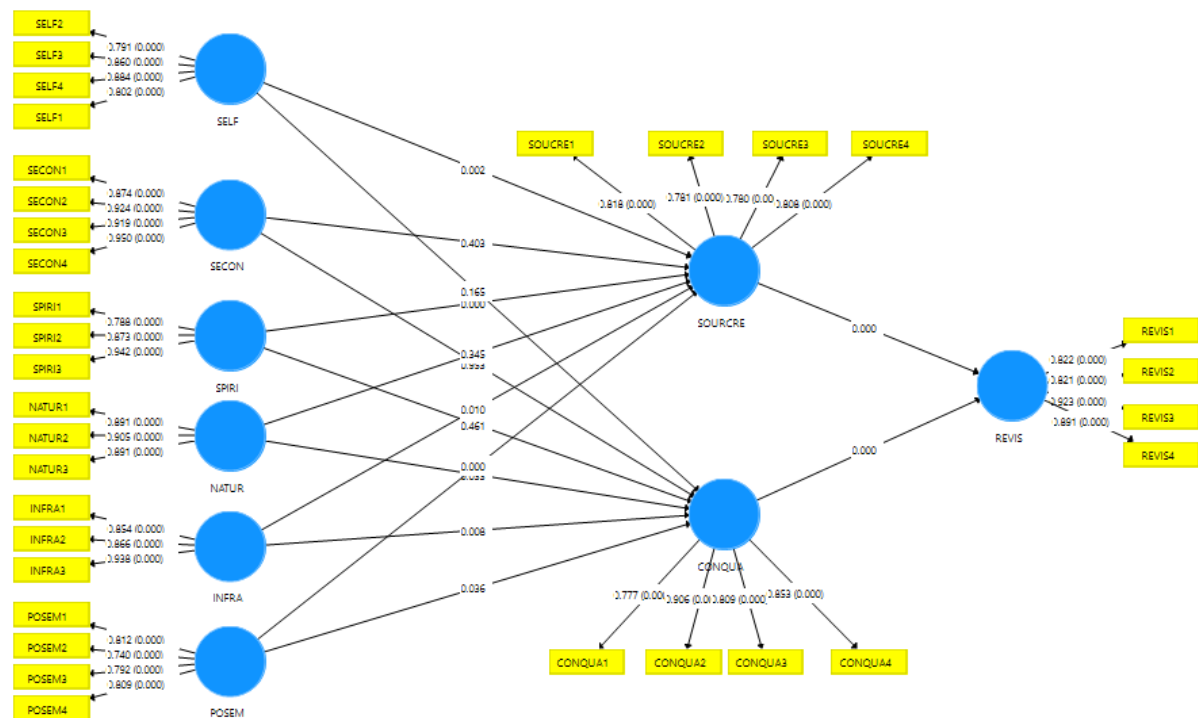


*Figure 2.* Bootstrapping outcome

### 5.2 Implications

**Theoretical contributions -** This study expands the application of the Source Credibility Model within the domain of spiritual tourism. It demonstrates how trustworthiness, expertise, and attractiveness of SMIs influence revisit intentions, contributing to the growing literature on influencer marketing. The research provides insights into the psychological and emotional factors driving revisit intentions among spiritual tourists. This adds depth to existing theories on consumer behavior in niche tourism markets. Second, by focusing on the underexplored context of spiritual tourism, the study bridges gaps in influencer marketing literature. It establishes a foundation for further academic inquiry into the impact of SMIs on specialized tourism sectors. The research sheds light on how young travelers engage with influencer-driven content in the spiritual tourism context. This contributes to theoretical frameworks examining generational differences in tourism marketing effectiveness. Lastly, the study proposed a framework of spiritual tourism with five dimensions for analyzing the interplay between influencer characteristics, destination branding, and consumer behavior. It encourages scholars to expand on these findings by incorporating diverse dimensions of spirituality and testing the applicability of built dimensions across various cultural contexts.

**Managerial contributions -** Tourism firms and marketers can gain several practical implications from this study. First, this research highlights how social media influencers (SMIs) can be effectively integrated into marketing strategies for spiritual tourism. By leveraging influencers who resonate with the target demographic, such as young travelers, destination brands can foster deeper engagement and enhance their appeal. This enables tourism operators to craft more authentic and personalized promotional campaigns, leading to increased revisit intentions. Second, this study emphasizes the importance of aligning influencers' values and online personas with the spiritual dimensions of the destination. Selecting SMIs whose content reflects themes of spirituality, tranquility,

or cultural authenticity can bolster the credibility of marketing efforts and attract travelers with a genuine interest in such experiences. Third, tourism marketers can optimize budgets by collaborating with niche influencers who have a loyal follower base rather than solely focusing on high-profile celebrities. This targeted approach enhances efficiency while ensuring impactful outreach to the intended audience.

*Limitations -* The study on spiritual tourism combined with SMIs has variety of both theoretical and practical contribution. Researchers and managers in the field of tourism marketing can based from this research to develop their scholar outcomes as well as outstanding business. However, there are some limitations that need to consider and resolve in the future. First, several dimensions identified in the study might not be universally applicable to all cultural or regional contexts. Spiritual tourism is inherently tied to local beliefs and practices, which may limit the generalizability of the findings across different markets. Further research should explore in a diversity of culture and regional areas to define a comprehensive framework. Second, the perception of influencers' credibility, attractiveness, and trustworthiness can vary significantly among individuals and demographics. This subjectivity poses challenges in standardizing conclusions about their impact on revisit intentions. In the future, researcher should analyze the impact of respondents' demographic on the influencers' credibility, attractiveness, and trustworthiness for higher source credibility.

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# Teaching integrated with cultural and social contexts for sustainable development goals

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## *Abstract*

In the context of globalization and the current environmental crisis, education for sustainable development has become a central priority for the international community. Modern educational goals now emphasize fostering student awareness of resource conservation, addressing social challenges, and preserving cultural heritage. The unique cultural and social contexts of each locality play an essential role in implementing sustainable development education, providing students with opportunities to connect with their communities and cultivate a sense of responsibility toward their environment. This paper presents a theoretical study on culturally and socially contextualized teaching, alongside a case study involving the instruction of physics to 10th and 11th-grade students in Vietnam's Central Highlands. The study successfully developed instructional frameworks for two main topics: (1) Designing a solar energy model and (2) Crafting and preserving the traditional musical instrument ChingKram, used by the indigenous peoples of the Central Highlands. These topics not only foster student responsibility for renewable energy usage but also contribute to the preservation of cultural heritage through engagement with traditional musical instruments. The findings underscore the importance of integrating science education with social and cultural contexts as a pathway to sustainable development, enhancing student responsibility toward cultural and social issues. The teaching framework established in this study offers a valuable resource for educators implementing Vietnam's 2018 national education program, reinforcing the alignment of theory with practice to advance sustainable development goals.

*Keywords:* cultural and social contexts, education for sustainable development, the central highlands, students' awareness

# Teaching integrated with cultural and social contexts for sustainable development goals

## 1. Introduction

In the current era of globalization and escalating environmental challenges, the international community is increasingly focused on advancing Education for Sustainable Development (ESD). Modern education now aspires not only to convey knowledge but also to cultivate students' awareness and sense of responsibility regarding resource conservation, environmental stewardship, and socio-cultural issues (Heath, 1992; Pedretti, 1996). This goal is particularly pressing in developing countries, where resource protection and cultural preservation are vital and must be deeply embedded within educational programs. Culturally and socially contextualized teaching plays a critical role in educating students about environmental conservation and the preservation of traditional culture (Beatty & Schweingruber, 2018; Radwan, 2022; Javed et al., 2021). This approach not only reinforces the connection between knowledge and real-world practice but also enhances students' sense of responsibility toward community values (Teshager et al., 2021). When students learn through authentic, culturally relevant experiences linked to their local communities, they gain a foundation in sustainable development, meeting educational goals that emphasize individual and community responsibility (Amsudin et al., 2023). This method shows significant promise for cultivating environmental and cultural responsibility among students.

The Central Highlands of Vietnam is a region distinguished by its unique cultural heritage and renewable energy potential. Home to various ethnic minorities, this region preserves a rich cultural legacy, including folk music traditions and unique musical instruments like the ChingKram, gongs, and Đinh Tut (Nguyen Tien Thanh, 2024). Additionally, the Central Highlands has substantial potential for renewable energy development, especially in solar energy. Integrating science education with local cultural heritage not only contributes to the preservation of valuable cultural assets but also enhances students' awareness of sustainable energy practices. This rich cultural and social landscape offers an ideal context for educators to integrate into the Physics curriculum for 11th and 12th-grade students, in alignment with Vietnam's 2018 national education program. Drawing on this context and these educational imperatives, this paper seeks to address the following questions: What instructional processes are required for the topics "Designing a solar Energy Model" and "Crafting the ChingKram musical instrument"? Additionally, does the proposed instructional process foster students' sense of responsibility toward cultural and social issues?

## 2. Related Literature

### 2.1 Teaching within Cultural and Social Contexts

Context-based teaching, a method extensively researched and developed by various scholars with differing perspectives, focuses on embedding concepts and skills within real-world situations closely tied to students' lives (Acar & Yaman, 2011; Peşman & Özdemir, 2012). This approach typically initiates with the presentation of a relevant everyday scenario or issue, which in turn makes learning both necessary and meaningful. Here, curriculum content is utilized as a tool for addressing the scenario or problem, enabling students to connect academic concepts with their lived experiences (Acar & Yaman, 2011). Empirical studies indicate that context-based teaching can enhance scientific education by improving students' learning outcomes and preparedness through varied real-world contexts (Nail Ilhan et al., 2016). According to Whitelegg and Parry (1999), this approach can be understood at two levels: broadly, it encompasses the entire cultural and social environment in which students and teachers interact; more narrowly, it focuses on specific applications of scientific concepts that require development and reinforcement. Sutman and Bruce (1992) propose that context-based teaching utilizes real-life materials and resources, such as pertinent social issues, as foundational

elements for the teaching and learning process. Teacher-student dialogues play a critical role in facilitating the linkage between academic concepts and practical contexts. Aikenhead (2006) highlights that context-based teaching emphasizes the application of scientific knowledge as a tool for fostering understanding of the natural world and enhancing student competencies.

The social constructivist theories of John Dewey and Lev Vygotsky, as well as Albert Bandura's cultural-social learning theories, endorse context-based teaching. Dewey (1930) underscored that students are active constructors of knowledge, with learning occurring in a collaborative setting where information emerges from problem-solving. Context-based learning is thus viewed not merely as a process of information acquisition but as one of knowledge transformation and restructuring to fit the realities in which it is applied. In Vietnam, Phuong et al. (2023) define context-based teaching as the application of real-life situations to facilitate learning activities aimed at achieving objectives related to knowledge, skills, and attitudes. This process, in turn, fosters essential competencies and personal development in students. These perspectives reveal diverse approaches to context-based teaching, contingent upon the characteristics of each subject and situation. In this study, we adopt a social constructivist approach to context-based teaching, emphasizing that the context should be situated within the cultural and social environments relevant to students' lives. Teaching within cultural and social contexts, therefore, involves leveraging events, issues, or situations rooted in local cultural and social practices that embed scientific knowledge and can be developed into educational scenarios. This process aims to equip students with not only knowledge but also the skills and attitudes necessary to engage with cultural and social issues in real-life contexts.

## 2.2 The Effect of Context-Based Teaching within Cultural and Social Environments on Student Responsibility Development

Research has consistently shown that context-based teaching positively influences students' self-esteem and fulfills their social needs. Maslow argued that integrating relevant contexts into teaching reduces the authoritarian nature of the learning process, allowing students to feel respected and thereby enhancing their confidence and active participation in learning (Whitelegg & Parry, 1999). Notably, Whitelegg and Parry (1999) emphasize that employing contexts tied to cultural and social issues not only elevates students' awareness but also fosters their social responsibility toward community matters. Murphy and Whitelegg (2006) further support that real-life contexts increase student motivation, confidence, and enthusiasm by connecting curriculum content with the social issues that matter to. This approach is crucial for cultivating and advancing students' cultural and social responsibilities.

## 2.3 The Framework for Context-Based Teaching in Cultural and Social Contexts to Enhance Student Responsibility toward Cultural and Social Issues

The development of a framework for context-based teaching in cultural and social contexts is grounded in the following theoretical perspectives: Firstly, this approach draws from constructivist theory as presented by Finkelstein (2005) and the social constructivist framework of Vygotsky (Jaramillo & James A, 1996). In Finkelstein's social constructivist model, context is continuously integrated within the learning process, embedded in every phase of instruction. Here, students build upon prior knowledge and experience to actively construct new understanding through a problem-solving instructional model. Social constructivist theory, on the other hand, stresses that students' cognitive processes and the environment in which they learn are inseparable, meaning that the learning context should stem from students' familiar environments or from the local communities where they live and study.

Secondly, this framework utilizes Aikenhead's (1996) Science-Technology-Society (STS) teaching model. Aikenhead asserts that the STS model aims to explore and understand the complex interactions between science, technology, and society. STS emphasizes analyzing the ways social, cultural, and political factors influence the development and application of science and technology and, conversely, how science and technology affect

society. Research suggests that the STS components are optimally organized in a sequence as illustrated in Figure 1.
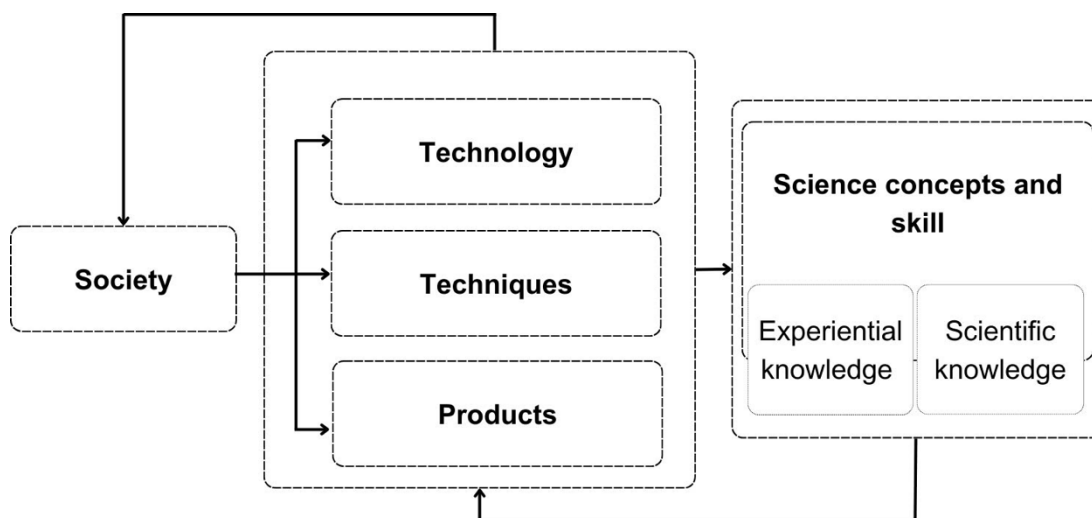


*Figure 1.* Guidelines for Applying the STS Approach in Teaching by Aikenhead (1996)

Drawing from the theoretical foundations outlined above, we developed a context-based instructional process for cultural and social contexts, comprising five primary stages:

**Stage 1: Identifying the learning context and defining - The Issue** Through experiential activities, investigations, and surveys, students identify relevant cultural and social issues occurring within their local community that require resolution, thereby pinpointing the specific issue to be addressed.

**Stage 2: Proposing solutions -** Addressing cultural and social issues demands both theoretical knowledge (S) (encompassing experiential and scientific knowledge) and technological solutions (T). With guidance from the teacher, students select the most feasible solution aligned with the instructional content.

**Stage 3: Solution implementation -** This phase involves implementing the chosen solution, which includes exploring knowledge and developing products according to proposed design plans.

**Stage 4: Solution evaluation** - Students test their products and analyze their impact on society (by examining STS factors), allowing them to critically evaluate their approach to addressing local cultural and social issues and draw essential conclusions.

**Stage 5: Decontextualization -** Upon acquiring the relevant scientific knowledge, students transition from the original context, applying their scientific understanding and experiences to similar cultural and social situations or explaining related scientific phenomena.

## 3. Methodology

*Research Design -* This study proceeded in two primary phases:

**Phase 1**: Building on the theoretical foundation outlined in Section 2, the study developed specific instructional procedures for two topics: (1) Solar energy model design, targeting 10th-grade students; (2) Crafting and preserving traditional ChingKram musical instruments of the Central Highlands' indigenous ethnic groups, aimed at 11th-grade students.

**Phase 2**: The designed instructional procedures were applied through pedagogical experiments with the selected student sample (see Section 3.2). Following implementation, a questionnaire was administered to

evaluate students' development of responsibility towards cultural and social issues (see Section 3.3).

**Research Subjects -** The study sample comprised students residing and studying in Dak Lak Province, selected to ensure consistency in living and educational conditions, thus minimizing external bias. Specifically, the sample included students from two grade levels with similar academic profiles: Class 10A (45 students) from Viet Duc High School, Cu Kuin District, and Class 11A3 (47 students) from Tran Dai Nghia High School, Buon Don District, Dak Lak Province. The selection of these groups ensures representativeness and enables a feasible comparison of the instructional methods' impact on the development of students' sense of responsibility within the local cultural and social context.

**Assessment Tool and Reliability -** In this study, we applied the responsibility scale model structure (Figure 2) proposed by Conrad and Hedein (1985) to develop our questionnaire (Conrad & Hedein, 1985). The questionnaire includes 14 items rated on a 4-point Likert scale with response options: 1 = Completely untrue for me; 2 = Untrue for me; 3 = Mostly true for me; 4 = Completely true for me.



*Figure 2:* Social Responsibility Model Structure by Conrad and Hedein (1985)

To evaluate the reliability of the questionnaire, we conducted a pilot survey with 97 tenth-grade students at Buon Ma Thuot High School in Dak Lak Province. The survey yielded a Cronbach's Alpha of 0.899, indicating high reliability within the acceptable range of 0.8 to 1. This suggests that the questionnaire reliably measures students' sense of responsibility toward cultural and social issues. Additionally, no item demonstrated a Cronbach's Alpha if Item Deleted higher than the overall Cronbach's Alpha, and all Corrected Item–Total Correlation values were acceptable (all above 0.3). These findings confirm that the questionnaire items are strongly interrelated and jointly measure a single latent variable—students' responsibility regarding cultural and social issues. Consequently, no items were removed from the final questionnaire.

**Data Analysis Method -** The questionnaire was administered to students both before and after the pedagogical intervention. Data from the questionnaire was analyzed using SPSS (version 26), a widely recognized software for statistical analysis. Descriptive statistical techniques, including calculations of means and standard deviations, were employed to quantify the data. To assess the growth in students' responsibility regarding cultural and social issues, a T-Test was conducted to compare the mean scores from the pre- and post-intervention questionnaires. The hypotheses tested were as follows:

➢ H0 (Null Hypothesis): The instructional approach for Topic 1 (or Topic 2) does not significantly enhance students' responsibility toward cultural and social issues.

➢ H1 (Alternative Hypothesis): The instructional approach for Topic 1 (or Topic 2) significantly enhances students' responsibility toward cultural and social issues.

## 4. Results and Discussion

### 4.1 Proposed Teaching Process

The specific instructional process for the two topics, "Designing a Solar Energy Model" and "Crafting and Preserving the Traditional ChingKram Instrument of Indigenous Ethnic Groups in the Central Highlands," was developed following the teaching process proposed in Section 2.3 and is presented in Table 1.

**Table 1**
*Specific instructional process for the two topics*

| Stages | Topic 1: Designing a solar energy model | Topic 2: Crafting and preserving the traditional musical instrument ChingKram, used by the indigenous peoples of the Central Highlands. |
|---|---|---|
| Stage 1 | Teachers organize experiential, investigative, and survey activities to help students recognize local energy and environmental issues. Through these activities, students will identify problems such as reliance on traditional energy sources, their environmental impact, and the need for renewable energy development. | eachers organize field trips or experiential activities to local cultural sites where students can observe and learn about traditional musical instruments, particularly the ChingKram—a unique instrument of the Central Highlands' indigenous communities. Through these activities, students realize the growing importance of preserving these traditional instruments as local cultural values gradually fade. |
| Stage 2 | Students are guided to study the theory of solar energy, the operating principles of solar panels, the process of converting solar energy into electricity, and some basic applications. They are encouraged to propose measures and ideas for building a solar energy conversion model. | Students study the physics principles related to sound, frequency, resonance, and the materials of the ChingKram, thereby learning how this traditional instrument produces its unique sound. Under the teacher's guidance, students discuss and propose solutions for recreating the instrument and suggest preservation methods to maintain its sound quality over time. |
| Stage 3 | Students proceed to construct the solar energy model according to the proposed plan and design. This process includes selecting materials, assembling, and adjusting the model to optimize energy conversion efficiency. The teacher provides support and guidance throughout the implementation. | Students proceed to craft the ChingKram instrument according to proposed plans, including selecting suitable materials, assembling, and testing to ensure accurate sound production. The teacher provides technical support and guides students through each step, from crafting to testing. |
| Stage 4 | Students test the constructed solar energy model and analyze its efficiency. They then assess the model's environmental and social impact, comparing it with traditional energy sources. The teacher guides students in using the STS model to understand the interconnections between science, technology, and society. | Students test the crafted ChingKram instrument, analyzing sound quality and the effectiveness of each crafting step. They then evaluate the impact of preserving this instrument on society and the community, using the STS model to understand the connections between science, technology, and cultural values. |
| Stage 5 | Students discuss and apply the knowledge they have learned to other contexts. They are encouraged to think about how scientific knowledge and experiences from the solar energy model can be used to explain or address similar issues, such as utilizing solar energy in other regions or exploring additional forms of renewable energy. | Students are encouraged to consider how they can apply their scientific knowledge and skills to preserve other musical instruments or to delve deeper into traditional cultural forms. |

### 4.2 Results of the Pedagogical Experiment

After conducting surveys using questionnaires before and after the pedagogical experiment on 44 students in Class 10A (Topic 1) and 47 students in Class 11A3 (Topic 2), we obtained the data presented in Table 2 below:

**Table 2**
*Data from the Pre-test and Post-test Questionnaires for Both Classes*

| Value | Class: 10A (N=44) | | Class: 11A3 (N= 47) | |
|---|---|---|---|---|
| | Pre-test | Post-test | Pre-test | Post-test |
| Mean | 36.27 | 41.16 | 33.68 | 36 |
| Standard deviation | 4.09 | 3.23 | 4.42 | 4.11 |

Based on the data in the above table, the average scores of students in Classes 10A and 11A3 in the pre-test and post-test questionnaires show a difference after the pedagogical experiment. The results of the hypothesis tests for H1 and H0 (as presented in section 3.4) are shown in Table 3.

**Table 3**
*T-Test Data Results*

| Class | T-test | p-value |
|---|---|---|
| 10A | Pre-test with Pro-test | $9.9.10^{-8}$ |
| 11A3 | Pre-test with Pro-test | 0.0117 |

Based on the analysis results in Tables 2 and 3, we reject the null hypothesis (H0), indicating a statistically significant difference in the mean questionnaire scores before and after the pedagogical experiment following the designed instructional processes ($p < 0.05$). This demonstrates that the two instructional processes had an impact on developing students' responsibility toward cultural and social issues.

## 5. Discussion

The findings indicate that the instructional processes designed for the topics "Designing Solar Energy Models" and "Crafting and Preserving the Traditional ChingKram Instruments of Indigenous Peoples in the Central Highlands" effectively engaged students with cultural and social issues through a scientific perspective. These processes not only fostered students' responsibility towards renewable energy use but also enhanced their awareness of cultural heritage preservation. These results align with prior research on the benefits of context-based learning, particularly when applied to local cultural and social concerns (Arroyave et al., 2021; Theila Smith et al., 2022). Compared with previous studies, this research underscores that integrating science education with cultural contexts extends beyond improving scientific understanding; it actively involves students in cultural preservation efforts (Bellocchi et al., 2016; Mustafaoğlu & Yücel, 2022). The solar energy model project heightened awareness of renewable energy's significance, while the traditional instrument crafting activity deepened students' appreciation for cultural heritage. These findings further support the argument that socially and culturally integrated teaching can be an effective approach for developing student responsibility in the context of sustainable development (Hutchison & McAlister-Shields, 2020; Nail ilhan et al., 2016).

Additionally, the results demonstrate that engaging students in real-world problems through targeted activities enables them to apply scientific knowledge practically while fostering social responsibility. This is increasingly relevant in modern education, where global issues like environmental conservation and cultural preservation demand urgent attention. The outcomes indicate that context-based learning is a powerful strategy for building student responsibility and community engagement with practical issues (Kuhn & Müller, 2014; Bennett et al., 2007). However, this study has limitations. The sample was restricted to selected schools in Dak Lak Province, limiting the generalizability of the results to other regions. The short study duration also constrained a comprehensive evaluation of students' long-term responsibility development. Future research should explore the application of this instructional approach across different locations to assess its efficacy in diverse cultural contexts. Extending the study period would enable a more thorough evaluation of the method's impact on student responsibility development, providing more robust evidence for the benefits of incorporating cultural and social contexts in education to promote sustainable development.

## 6. Conclusion

This study successfully designed and implemented instructional processes for two topics, "Designing Solar Energy Models" and "Crafting and Preserving the Traditional ChingKram Instruments of Indigenous Peoples in the Central Highlands," with the aim of developing students' responsibility towards cultural and social issues. These topics not only deepen students' awareness of the importance of renewable energy and environmental protection but also enhance their consciousness about preserving local cultural heritage. The research findings demonstrate that integrating social and cultural contexts into science education can be highly effective in fostering student responsibility, encouraging them to engage with practical community issues. This approach aligns with sustainable development goals, helping to cultivate younger generations who are environmentally conscious and appreciative of cultural heritage. However, the study also identified some limitations, such as its focus on a specific area and the short research duration. For more comprehensive development, future research

should consider expanding the application of this instructional approach to other regions and extending the follow-up period to assess its long-term impact on students.

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# Reflections on integrating the worksheet "Responsible Seafood Consumption - Case Study of SDG 14" into the Philosophy of Life curriculum

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## *Abstract*

In recent years, educational materials and discussions integrating the Sustainable Development Goals (SDGs) into daily life have become increasingly prevalent. Can we design worksheets to help university students more closely connect their lives with sustainable practices through their coursework? This study aims to utilize the worksheet "Responsible Seafood Consumption—A Case Study of SDG 14" in teaching, to encourage students to reflect on the relationship between food and life and to bridge the gap between theory and practice. Through content analysis, we used six group worksheets and eight individual assignments as references for designing learning activities. The results showed that the worksheet effectively promoted students' reflection on the topic and their practical abilities, as well as growth in knowledge and attitudes. Subsequent to this reflection, the content of the worksheets and lesson plans might be changed and improved in the future. These changes will make the worksheets more useful.

*Keywords:* SDG 14, worksheet, philosophy of life, teaching strategies

# Reflections on integrating the worksheet "Responsible Seafood Consumption - Case Study of SDG 14" into the Philosophy of Life curriculum

## 1. Introduction

The aim of this study is to determine whether a worksheet on SDG14 can facilitate a connection between Sustainable Development Goals (SDGs) and the daily lives of college students. In the event that circumstances permit, what would the students contemplate and undertake? In this paper, we utilize the study sheet entitled "Responsible Seafood Consumption - A Case Study of SDG 14"as a pedagogical instrument to assist students in applying the SDGs in their daily lives. It is anticipated that this initiative will contribute to enhancing students' capacity to apply sustainability principles in their daily lives.

The realization of the SDGs necessitates the collective action of the global community; it is not a matter that can be achieved in the short term. As stated by the United Nations:

> *The Goals and targets will stimulate action over the next 15 years in areas of critical importance for humanity and the planet.* (*UN, 2015*)

The implications of the SDGs are far-reaching, affecting the lives of people across the globe and shaping the course of future generations. Consequently, the issue of sustainable development and its associated goals have become a focal point for nations worldwide. In recent years, there has been an increasing prevalence of educational materials and discussions that integrate the SDGs into daily life.

Universities have been recognized as pivotal institutions in this regard, playing a significant role in promoting the realization of these objectives. In SDSN Australia/Pacific (2017), universities have some main contribution for SDGs, such as "Learning and teaching, Research, Organisational governance, culture and operations of the university, External leadership." (SDSN, 2017, p. 8) The provision of professional knowledge in the classroom is complemented by a variety of professional courses, thereby facilitating the integration of students' academic learning with the SDGs. The present study is grounded in the Philosophy of Life course. The study is founded on the Philosophy of Life, encompassing ten units: Philosophical Thinking and Methods, Holistic View of Life, Know Yourself, Relationships with Others, Marriage and Family, Sense of Beauty and Life, Social Justice, Environmental Change and Development, Life and Death, and Faith and Religion. The objective of this course is to facilitate the application of students' theoretical knowledge to daily life scenarios. Students have the option of integrating the ten units of the Philosophy of life course with the SDGs, particularly in the unit on environmental change and development, through the "Responsible Seafood Consumption—A Case Study of SDG 14." The study sheet serves as a foundational starting point, facilitating students' in-depth exploration of their individual consumption patterns of seafood and its environmental impact. This inquiry is undertaken as part of the required course on Philosophy of Life.

This worksheet is a planned component of the Philosophy of Life course from September 2023 to June 2024, which is designed for juniors. The class is divided into eight groups; however, only six groups completed it. In addition, eight students not enrolled in the program attempted to use the worksheet to analyze and reflect. The present article analyzes the content of the fourteen collected worksheets and draws the results.

## 2. Literature Review

In recent years, an effort has been made to integrate the concept of sustainability with action and life in the teaching process. The adoption of straightforward and sustainable methods has been a prevailing trend among educators, with some incorporating the SDGs into their respective curricula. In addition, we have developed comprehensive lesson plans and study materials, providing students with pertinent discussion topics and

activities. Our objective is for these materials to become an integral part of students' daily lives, facilitating the integration of sustainability into their practical activities.

The integration of the SDGs into university courses is of paramount importance. The fundamental objective of education is to impart to students a profound comprehension of the significance of sustainability and the methodologies for its implementation, while also facilitating the integration of these principles within their respective professional domains. Because students' learning is still closely related to university education, we must encourage them to:

> *Once students know more about the SDGs, they can develop their knowledge, value, belief and perspectives on sustainable development, which can help them develop the skills to solve emerging world problems.* **(Lei, Chi-Un; Chan, Wincy; Wang, Yuyue, 2024)**

In order to make the SDGs content more in-depth in teaching, we adopt the Pedagogies method proposed by Patrick Baughan (2021) in The Urgency of Sustainability in Higher Education: Drivers, Strategies and Pedagogies for Change. He cites three methods, "1. Frameworks for action, 2. Specific curriculum change approaches 3. Diversity and inclusion" (Baughan, P., 2021, p. 3-4), This study used the Frameworks for action pedagogy to integrate the content of the course with the sustainability goals, and to understand from the students' feedback what they wanted to be taught, whether it was already being practiced or just what they wanted to be taught It also seeks to innovate teaching methods through specific curriculum changes approach to find diverse, broader and more effective ways of delivering the curriculum, whether in the classroom or outside the school. As well as focusing on Diversity and inclusion, which looks at the possible impacts and implications of issue across ethnic groups, rather than at the surface level.

The main purpose of the worksheet is to promote active learning and thinking among students. Students do not just receive knowledge, theories, or scribble down notes in the classroom, they also have more opportunities to apply what they have learned and improve their abilities. "They must read, write, discuss, or be engaged in solving problems." (Kubiatko, M., 2017) Especially when it comes to content that is relevant to their lives and requires real-world experience for deeper reflection. Additionally, the worksheet prompts students to engage with problem-solving, fostering critical thinking skills. These questions also stimulate their inner curiosity and creativity. Inquiry-based worksheets are a good example. "Learning activities using inquiry-based worksheets can develop concepts and high-level thinking skills." (Muskita, M., Subali, B., & Djukri. 2020, p. 520)

The utilization of worksheets facilitates the application of knowledge acquired in academic settings to real-world problems, thereby fostering the development of creative and critical thinking skills. It is anticipated that this approach will enable students to integrate their prior experiences with the study of the SDGs prior to university, to assess their learning progress, and to employ creative thinking. Additionally, the course design and development of Enberg, Katja. (2021) at the University of Bergen was referenced to facilitate student interaction as a group, cultivate critical thinking and collaboration skills, and engage in in-depth reflection by exploring issues related to SDG14. Furthermore, to assist students in selecting appropriate products when purchasing or ordering from the "Responsible Seafood Consumption - A Case Study of SDG 14" study sheet, the significance of SDG14.4, 14.6, and the related Marine Stewardship Council (MSC) was highlighted to ensure the suitability of the products. The students were introduced to SDG14.4, 14.6, and the related Marine Stewardship Council (MSC) (Marine Stewardship Council - Sustainable Seafood. 2014) to facilitate their understanding of how they can contribute to the protection of our oceans by selecting fish and seafood products bearing the blue MSC label.

The MSC program is designed to detect whether the aquatic products purchased or consumed are legal, thereby ensuring that the fish and seafood products comply with the established standards and combat illegal, unreported, and unregulated (IUU) fishing. The MSC program's capacity to detect the legality of the products they procure or consume is instrumental in ensuring that fishery products meet the established standards and combating IUU fishing.

In terms of the implementation of this worksheet in a classroom setting, its pedagogical approach is rooted in the teaching strategy outlined by Huang, K. C. (2024). "Why we should integrate SDGs into Philosophy of Life course? Take SDG 14 as an example". This article also provides a detailed description of the integration of the lesson plan into the classroom environment. The subsequent section delves into a reflective analysis of the practical implementation of the aforementioned strategy in a classroom setting. The design of this study sheet is informed by the aforementioned journal article.

## 3. Research Methodology

This study uses content analysis because it "focuses on language and linguistic features, meaning in context, is systematic, and verifiable" (Cohen, L., Manion, L., & Morrison, K., 2011, p. 563). In fact, this study focuses on the content in the students' worksheet, and to extract as much information as possible from the text. "The qualitative part of content analysis starts with bodies of text." (Tunison, S., 2023).

*3.1 Experimental Design*

The experimental design is multifaceted, integrating classroom discussions and activities with an exploration of specific SDGs within the Philosophy of Life program during the academic year. The content of the experiment is straightforward and pertinent to students' lives. The objective of the study is to augment pedagogical methods with the "Responsible Seafood Consumption - A Case Study of SDG 14" worksheet, thereby facilitating a more profound connection between theoretical concepts and practical applications by engaging students in a reflective examination of the nexus between sustenance and existence. The feedback from students was analyzed through a review of the returned worksheets, of which a total of 6 group worksheets and 8 individual worksheets were received. The group worksheets were from students who participated in the design and implementation of the experimental course, and the eight individual worksheets were from other classes (students who did not participate in the experimental course). The 14 worksheets were then subjected to a content analysis.

In order to facilitate this learning activity, the course was introduced to students during the first week of the first semester, emphasizing the significance of selecting food and ingredients that align with sustainability criteria. Students were informed that they would be obligated to undertake the "seafood experience corresponding to SDG 14" during the independent study week of the subsequent semester. Students can elect to carry out this activity in either a store or their own home. Last semester's curriculum also included classroom activities in the relevant modules of the Philosophy of Life course to help students reflect on and experience SDG 12.3, 12.8, 14.4, and 14.6.

### 3.1.1 Study Subjects

The class size for this teaching experiment course design is 37 people, mostly Fu Jen Catholic University third-year students studying Philosophy of Life (only 2 fourth-year students and 1 student from another department). A central tenet of this study is the implementation of team-based learning (TBL), wherein students are divided into eight groups to engage in a year-long course through collaborative interaction. The objective is to subsequently collect six groups of valid worksheets during the subsequent semester. A total of eight worksheets were received from students from other classes and departments who did not participate in the course's experiential activities.

### 3.1.2 Worksheet Content (refer to Annex 1)

The worksheets provide students with more concise clues, thereby encouraging active thought regarding the problem. These worksheets offer students straightforward indications, facilitating active problem-solving.

1.For those with allergies or vegetarian, substitutions are permitted.

2.Groups can choose to either pick a restaurant and give the name of the meal, or they can cook the meal at home.

3.A description of the restaurant's environment and hygiene practices is also necessary.

4.Take pictures of the meal and the menu.

5.It is imperative to determine whether the ingredients have food traceability or not.

6.Describe the situation and the resulting experience.

The form should be completed collectively by the group

### 3.1.3 Define codes

Provide partial student IDs. Groups list student IDs and their number, while individual groups have only student IDs.

### 3.1.4 Reference guides

There are three types of reference guides for students to use:

@1Seafood Guide Taiwan https://fishdb.sinica.edu.tw/seafoodguide/

@2 Sustainable Seafood Shopping Guide Summer/Winter https://act.gp/3DuFHDv

@3 McDonald's McFish/ Filet-O-Fish is MSC certified https://news.mcdonalds.com.tw/food_safety/20220905/

The contents of the collected worksheets are summarized below:

### 3.1.5 Table 1 Groups

| Group | Member | Eating/buying places Reference Guide | Food for analysis | Have food traceability or not | Content includes units/projects | Keywords related to SDGs and Philosophy of Life curriculum in reflection | Go to Tamsui River Mangrove Nature Reserve |
|---|---|---|---|---|---|---|---|
| G.1 5 people | ****5005* ****5039* ****5040* ****5073* ****5071* | Chinese Restaurant @1, @2 | Salmon Sashimi Salmon Sushi Steamed Monkfish Snakehead Fish Pangasius | ☒ | ☑SDG14.4 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Russo-Ukrainian war, climate, Food Trade, season, local economy, Sustainable Fisheries Development, Environmental and Social Responsibility, Carbon Footprint, product origin | ☒ |
| G.2 4 people | ****5014* ****5019* ****5059* ****5063* | Hot Pot Restaurant, Italian Restaurant @1, @2 | Snapper, Clams, Milkfish, Spicy basil garlic shrimp noodles, Creamy Pasta with Shrimp | ☑ | ☑SDG14.4 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Food Traceability, Freshly caught fish, Common Fish Species, Organic Farming, Seasonal Ingredients | ☑ |

| G.3 6 people | ****5030* ****5050* ****5057* ****5060* ****5021* ****5075* | Sushi Restaurant @1 | Grilled cheese salmon, large raw shrimp, fish roe, grilled teriyaki salmon, deep fried shrimp tempura seaweed wrap | ☑ | ☑SDG14.4 ☑Environmental Change and Development ☒ Life Practice | Seafood carbon footprint, Imports, local agriculture, Marine Conservation | ☒ |
|---|---|---|---|---|---|---|---|
| G.4 5 people | ****5006* ****5009* ****5018* ****5029* ****5067* | Hot Pot Restaurant, Sushi Restaurant @1 | Healthy Vegetarian Hotpot, Squid Feet, Tuna Sushi, Saury Sushi | ☑ | ☑SDG14.4 ☑SDG14.6 ☑Environmental Change and Development ☑ Life Practice | Deep-sea fish, carbon footprint, Apex Predators, hard-to-recovery resources, Wildlife Resources, Skills to protect the marine environment | ☒ |
| G.5 3 people | ****5007* ****5046* ****5054* | Sushi Restaurant @1 | Grilled salmon with cod roe, shrimp tempura sushi, aged tuna sushi, shrimp sushi, grilled large shaved eel | ☑ | ☑SDG14.4 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Responsible fish trade, Sourcing, Sustainability Certification, sustainable fish species, environmentally friendly, marine ecology, Show respect for the environment, conscious choice | ☑ |
| G. 6 2 people | ****6024* ****5087* | Teppanyaki @1 | Teppanyaki Shrimp | ☒ | ☑SDG14.4 ☑SDG14.6 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Buy wisely, Cook moderately, reduce transportation carbon footprint, source local ingredients, choose sustainable seafood, buy certified sustainable seafood, avoid overfishing, IUU, fair trade | ☒ |

### 3.1.6 Table 2 Personal Assignments

| # | Student ID | Eating/buying places Reference Guide | Food for analysis | Have food traceability or not | Content includes units/projects | Keywords related to SDGs and Philosophy of Life curriculum in reflection |
|---|---|---|---|---|---|---|
| 1 | ****5082* | Fish Market @1 | Mullet (cooked in soup) | ☒ | ☑SDG14.4 ☑SDG12.8 | pollution, suppliers, consumers, carbon |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | ☑Environmental Change and Development ☑ Life Practice | emissions, local economies, marine interests, sustainability |
| 2 | ****3025* | McDonald's @1, @2, @3 | Filet-O-Fish | ☑ | ☑SDG14.4, ☑SDG14.6 ☑Environmental Change and Development ☑ Life Practice | Food Traceability, meal packaging materials, 100% FSC™ (Forest Stewardship Council) certification, sustainable forest, to ensure the sustainable development of fishery resources, production in accordance with Marine Stewardship Council standards to avoid ecological imbalance |
| 3 | ****8034* | McDonald's @1, @2, @3 | Others (allergic to seafood) Chicken McNuggets, potato chips | ☑ | ☑SDG14.4 ☑SDG14.6 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Carbon emissions, transparent production and food traceability, commitment to environmental sustainability, green living |
| 4 | ****8006* | Hot Pot Restaurant @1 | Taiwan Sea Bream Fillet | ☑ | ☑SDG14.4 ☑SDG14.6 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Food sources, food traceability, environmental protection, sustainable environmental protection |
| 5 | ****8007* | PX Welfare Center @1, @2, @3 | Taiwan snapper jaw, milkfish balls | ☑ | ☑SDG14.4 ☑SDG14.6 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | SGS Certified, Seafood Trade, Sustainable Development, Carbon Footprint, Origin, Fish Species, Growth Process, HACCP, ISO22000, primary producers, Local Catch, Seasonal Fishing, Protected Species, Environmental Impact, McDonald's, Protect the Ocean |
| 6 | ****3049* | McDonald's @1, @2, @3 | Filet-O-Fish Set | ☑ | ☑SDG14.4 ☑SDG14.6 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Sustainable development, Eco-friendly, seasonal fish, MSC, fishing, overfishing, IUU, imbalance of marine ecology, Sustainable development of marine fisheries, Food Sustainability, Food Inequality, Diet Plan |
| 7 | ****3059* | Buffet @1 | Pan fried fish | ☒ | ☑ Life Practice | Not mentioned |
| 8 | ****3026* | McDonald's @1, @2, @3 | Filet-O-Fish Set | ☑ | ☑SDG14.4 ☑SDG14.6 ☑SDG12.8 ☑Environmental Change and Development ☑ Life Practice | Environmental impact, overfishing, ecological imbalance, protection of sustainable development of marine fisheries, MSC, (FSSC) 22000, HACCP, ISO 22000, |

| | (QMS)ISO 9001, (EMS)ISO 14001, local farming, primary producers, with sustainable label, traceability record, ecological protection |
|---|---|

In the group section, "Responsible Seafood Consumption - A Case Study of SDG 14" from the previous semester was explained and promoted (the content also provided alternatives for people with seafood allergies and vegetarians, as the goal of the assignment was to have students work in groups to experience "eating a meal where the source of the food is known, analyzing the ecological cost of the food, and reflecting on it." In the final section of choosing a place to eat, two hot pot restaurants, one Chinese restaurant, one Italian restaurant, and two hot pot restaurants, one Chinese restaurant, one Italian restaurant, and one Italian restaurant were listed. The reference guide is based on the Seafood Guide Taiwan, and each group was referenced, except for G.1 and G.6, where the ingredients of each group were food traceability. With the exception of students #1 and #5, who opted to cook independently, the remaining students elected to dine out. McDonald's emerged as the predominant choice among these individuals. A total of four students (50%) selected McDonald's as the designated venue for their dining experience. In a manner consistent with the group, each of these students also referenced the Seafood Guide Taiwan.

After reviewing the feedback from all students after the discussion or reflection, the feedback was: some of the items that they liked and often ate were listed as not recommended for consumption because these ingredients often have high carbon emissions. Most students thought that they should eat more seafood that was caught locally. They also learned that they should do their homework before eating. This can not only protect the ocean, but also allow us to eat delicious seafood in the future. A win-win situation is the best. I deeply realized that choosing sustainable fish species is not only responsible for the environment, but also for our own health. The store clearly marked the source and sustainability certification of each sushi, so that we can enjoy the food while also doing good for the environment. Doing their part to protect the marine ecology and using seasonal seafood ingredients not only allows customers to enjoy the best fresh taste, but also supports the sustainable development of the local economy and fisheries. Such restaurants demonstrate their attention to the environment and social responsibility and deserve encouragement and support.

## 4. Results and Discussion

The objective of the experiment design using this worksheet is to facilitate students' realization of the correlation between the Sustainable Development Goals (SDGs) and the Philosophy of Life course. The objective is to facilitate a discussion among students regarding real-life occurrences within the classroom setting, while concurrently prompting them to engage in reflective practices. Students are encouraged to engage with SDGs-related topics throughout the academic year, with a submission deadline for their respective worksheets occurring during the final two weeks of the semester.

A reflection on the implementation of the aforementioned worksheet reveals its potential benefits. The incorporation of worksheets into the course curriculum has been observed to encourage students to engage in deeper thinking. However, the efficacy of this approach is contingent upon their cooperation and readiness to expand their experiential learning. Students who are committed to the experiential learning approach will encounter a more profound level of engagement than what is typically offered in conventional classroom settings. For instance, when the topic of fisheries as a source of food was introduced in class, the first group of students recorded their reflections on the worksheet, citing the impact of the Russian-Ukrainian war on the sourcing of the store's aquatic products. In another instance, groups 1 and 2 allocated particular attention to the seasonality of the seafood they consumed. Additionally, some students uncovered pertinent information, such as sustainability, ingredient sourcing, and legal certificate sources, during the meal and discussion process, which was regarded as an ancillary benefit. The "Responsible Seafood Consumption—A Case Study of SDG 14" employed in this study

facilitated the preparation of instructions and the assignment's learning materials prior to the commencement of the semester. These materials were uploaded to the online teaching platform, ensuring students had ready access to them at their discretion.

However, the "Responsible Seafood Consumption—A Case Study of SDG 14" is not without its flaws. There are some areas that need improvement. 1. Specifically, the structure design could benefit from enhanced intricacy. Some groups and students did not grasp the key points, leading to a tendency to rely on the teacher's recommendations or emphasize the deliciousness of the food. It is plausible that students may have disregarded the instructions provided prior to the learning sheet. The key points to be discussed, such as the corresponding parts from SDG 14, require further elaboration. Allowing students to explore these issues in greater depth is essential for effective learning. 2. It is imperative to devise strategies that will motivate students to integrate the SDGs into their daily lives.

*4.1 The following is a synopsis of the key results*

(1) In the group, all six responses were deemed valid. However, in the individual group, one assignment (#6) was deemed almost invalid. Additionally, as the group was undertaking the "Responsible Seafood Consumption—A Case Study of Before SDG 14," a series of related courses was administered over the course of one semester. These courses centered on the mutual influence of the overall relationship. Conversely, the individual group's focus was predominantly on the intricacies and content pertaining to legal fishing certification.

(2) The initial course plan recommended that the students consult with the store regarding the pertinent information. However, it is possible that due to their arrival coinciding with the peak dining hour, only one group engaged in a discussion with the store about the impact of the Russian-Ukrainian war on ingredient sourcing. It is imperative for individuals to introspect on methods to promote environmental sustainability in their daily lives, encompassing not only dietary choices but also various other products and activities.

(3) Some students (#1, 6, 8) and groups (1, 5, 6) mentioned reflections related to environmental justice and emphasized that when making choices, they should pay attention to whether the transaction process is in line with justice and the rights of fishermen. In the course of deliberations concerning fishing, fish species, pollution, and related topics, students were prompted to introspect and consider their level of global citizen awareness.

(4) In accordance with the established protocol, the group was recommended to visit the mangrove reserve in Tamsui to assess the prevailing conditions of the proximate coastal region, appraise the indigenous ecological environment, and examine the interaction between the local populace and the environment. Two groups (2, 7) proceeded to the site for observation; however, they did not incorporate their observations into their respective worksheets.

*4.2 A commentary is required on each of the aforementioned key results (questions) concerning the enhancement of the identified issues.*

In all the worksheets, students endeavored to establish a connection between the "sustainable perspective" and their daily lives. However, from the standpoint of course planning, certain students in the individual group demonstrated a more profound integration of the "sustainable perspective" with their personal experiences. However, whether students can finally put the "sustainable perspective" into practice in their lives, this worksheet should be adjusted.

(1) The utilization of case studies in the educational process facilitates students' comprehension of the subject matter of SDG14, thereby enhancing their ability to interpret the content of the worksheets and discern the underlying issues and the necessity for legislative action. This approach also enables students to recognize the impact of life choices on the environment.

(2) In the worksheet, students are instructed to observe the environment of the store and are advised to converse with the store owners. Potential starting points might include stores with online narratives, particularly those aspiring to attain sustainable outcomes. This approach facilitates prior learning about the store, thereby enhancing the students' experience upon their arrival. It is imperative to establish a foundation of understanding, emphasizing the significance of businesses in responsible trading practices, and subsequently apply this knowledge to a broader range of consumer behaviors.

(3) The students' comprehension of environmental justice and their awareness of global citizenship related to SDG14 will be augmented in the classroom to foster comprehensive awareness.

(4) With regard to the observation of mangroves, which was not thoroughly addressed, the pertinent details will be introduced in the classroom at a later time. Students will be instructed to document their observations on the designated worksheet. This exercise will require them to compare and contrast the environmental characteristics of the store, each group, and each individual. It is imperative to note that all participants will be expected to complete the same set of tasks. Additionally, they will be tasked with conducting a search for pertinent information regarding the local context.

*4.3 Research Results and Impact*

The worksheet in question facilitated a connection between sustainability and the students' lives, prompting introspection regarding the environmental implications of their dietary choices and inciting action in support of SDG14. Between June 2024 and the present, students have engaged with a series of related educational materials, acquiring pertinent knowledge. The dissemination of this study sheet to other life philosophy classes during the same period also encouraged a broader reflection on related fields by other students. This worksheet still has its limitations, such as the understanding of the practical direction of SDGs, the understanding of the topic, and the consideration of execution time. Therefore, the scope and conditions must be strengthened to make the subsequent content more rigorous and practical. In addition to the design of the SDG14 worksheet, we also found from the students' responses that students responded better to simple tasks and interesting questions. Therefore, it is considered that if SDG13 and 15 are also included in the worksheet, let them love the earth with actions in their lives and give them more diverse choices. After all, food is only part of sustainability. They should also pay attention to how to be environmentally friendly in other aspects of their lives. (Because the learning only focuses on eating fish, some students only stay at the level of choosing fish and being friendly to the ocean, and do not go further to other areas of daily life).

## 5. Conclusion

This study utilizes content analysis to examine the efficacy of a worksheet in facilitating the connection of college students to SDG14 in the context of their academic lives. The objective is to enable students to engage with the concept of purchasing seafood and other foods and to introspect on their personal relationships with their lives. Concurrently, the study will also ascertain whether the students are actively engaged in thinking and learning. The results indicate that the majority of participants have achieved active learning and reflection on the relationship between sustainability and life. However, the findings also suggest a need for preparatory measures prior to the initiation of the study. The incorporation of additional content, such as online research for businesses adhering to sustainability practices, refinement of the format to offer greater choices, and guidance in reflecting on their overall actions and lives (as opposed to merely asking them to reflect) is recommended. Future research directions include integrating the concept with the living environment, providing options related to SDG13, 14, and 15, and facilitating a reflection on the concept of eco-friendliness. The rationale behind the choice to consume fish in a sustainable manner must also be addressed. The impact of behavior on ecology, and the impact of ecology on organisms. This approach enables students to comprehend the comprehensive content, identify eco-friendly behaviors that are both necessary and feasible, and develop a more profound understanding of "Responsible Seafood Consumption—A Case Study of SDG 14." The significance of human behavior in

ensuring environmental sustainability is highlighted in this worksheet.

**Annex 1 Responsible Seafood Consumption—A Case Study of SDG 14 (original vision)**

| Responsible Seafood Consumption—A Case Study of SDG 14 | |
|---|---|
| Preparation | □It is requested that the seafood purchasing guide be consulted, which is divided by season.<br><br>1.Seafood Guide Taiwan https://fishdb.sinica.edu.tw/seafoodguide/<br>2. Sustainable Seafood Shopping Guide Summer/Winter https://act.gp/3DuFHDv<br>3. McDonald's McFish/ Filet-O-Fish is MSC certified<br>https://news.mcdonalds.com.tw/food_safety/20220905/<br>□Note-taking supplies (cell phone, pen, paper…)<br>□Money (enough to pay for consumption)<br><div align="right">☑ Please make sure you have the above prerequisites ready.</div> |
| The present status of implementation on the ground: | Store Name: _____ (You can also cook at home)<br>Store environment and hygiene conditions: _____<br>What I ordered (you can take a picture of the menu and mark it in the photo):<br><br>_____<br>Does the ingredient have Food Traceability (plus points for attaching photos)? _____<br>Food photos (with check-in proof)<br><br><br>**\*Vegetarians and those with seafood allergies should order white rice and boiled vegetables.**<br>\*Specify the name of the seafood or dish in question, along with a detailed description, when submitting the photograph for evaluation. |
| Post-event discussion and reflections | |

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# Smart teacher application for supporting sustainable development in teaching and differentiated learning

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## Abstract

There are still difficulties for teachers in designing learning that suits the needs of students. Designing learning according to student needs takes a long time for teachers, so technology is needed that can help teachers create learning by detecting student needs in the classroom. This research aims to develop an innovative SMART Teacher application to support the achievement of the Sustainable Development Goals (SDGs) in education. This application is designed to facilitate differentiated learning so that it can meet the diverse learning needs of each student. The features are designed to be integrated, including learning materials relevant to the SDGs, adaptive assessment tools, and collaboration features to improve interaction between teachers and students. Based on the results of a study on 160 junior high school students and teachers in urban areas, it was found that the SMART Teacher application is proven to improve the quality of learning, encourage active student participation, and contribute to the achievement of SDGs.

*Keywords:* sustainable development goals, differentiated learning, teaching

# Smart teacher application for supporting sustainable development in teaching and differentiated learning

## 1. Introduction

Quality education is the foundation for achieving sustainable development goals (Ariyani & Nugraheni, 2024). In other words, quality education will easily accomplish other sustainable development goals. However, realizing quality education is not an easy task, so various supporting factors are needed in the effort to achieve it. Each country undertakes efforts to improve the quality of education in different ways. In Indonesia, efforts to achieve quality education are carried out through curriculum improvements. The government developed the Kurikulum 2013 into the Kurikulum Merdeka to adapt to global developments (Gifari & Arifin, 2024). Kurikulum Merdeka is a new curriculum in Indonesia that aims to give more flexibility and autonomy to schools and teachers (Purwati & Sukirman, 2024). Gifari et, al also clearly explain that Kurikulum Merdeka is expected to develop students' potential and abilities through critical, quality, expressive, applicative, varied, and progressive learning (Gifari & Arifin, 2024). Meanwhile Endang et, al defined Kurikulum Merdeka is an innovation in the world of education that requires teachers to play an active role in developing their competencies (Purwati & Sukirman, 2024).

The implementation of the Kurikulum Merdeka is expected to allow students to develop according to their potential and abilities so that the implementation of the Kurikulum Merdeka gets critical, quality, expressive, applicative, variation, and progressive learning (Gifari & Arifin, 2024). The Kurikulum Merdeka aims to optimize the spread of education in Indonesia with diverse intracurricular learning (Inayati, 2022) Through the Kurikulum Merdeka, the government initiated the independent learning program (Arung et al., 2023; Gifari & Arifin, 2024). However, the succes of the students in the classroom learning process can not be separated from the role and competency of teacher (Hakim, 2015). Therefore, teacher must able to know their background students as well such as learning readiness, learning style, and students' learning profile before they teach them. But, learners differ in their prior educational experiences, knowledge, interests, learning styles, personal experiences, readiness levels, motivation levels, and in their aptitudes (Desinguraj & Gnanam, 2021). Students also come from differing cultures and have different learning styles, differing levels of emotional and social maturity, even their interests differ greatly, both in topic and intensity (Tomlinson, 2001). Tomlinson reveal student's differences become important elements in teaching and learning as well (Tomlinson, 2001). That is why teacher needs teaching based on differ students profile what we know then as differentiated instruction (Tomlinson, 2001).

Safriana et, al stated teacher face several common obstacles when implementing different learning strategies (Safriana et al., 2024). One significant challenge is time constraints, as many teachers find it difficult to allocate enough time to plan and execute different lessons effectively (Napitupulu et al., 2023). Safriana noted the main obstacles faced by junior high school teachers in implementing different learning, from various studies such as (1) Conceptual and technical understanding, (2) Time and resource constrains, (3) Classroom management and student engagement, and (4) Professional development and support. In other hand, if teacher want their students to excel, they must use the above ICT tools for teaching and learning (Siddiqui, 2024). That is because technology in the classroom allows teachers to experiment more (Siddiqui, 2024). Siddiqui et, al also reveal that teaching methods and frequent feedback of student which makes education more interesting and more effective (Siddiqui, 2024). But,

To deal with that situation, we created Smart Teacher Application. Smart teacher application is a digital innovation platform in education aims to overcome teacher problems in design differentiated instruction. Smart teacher was equipped with various tools giving teacher many choice learning design based on their students' profile. Initially, this application design based on artificial intelligence, but that process still on going. However,

the integration of digital technologies has become a common practice in education by covid 19 pandemic and technology allows teachers to experiment more as well as empowers teacher and student (Siddiqui, 2024). The findings from this will help teacher in design instruction based on student's characteristic, learning style and their profile. Therefore, this study helps teachers giving alternatif of effective differentiated instruction design. To achieve this goal, this study aspires to answer questions (1) How effective smart teacher application helps teacher in designing differentiated instruction, (2) How teachers' perception after using Smart Teacher application?

## 2. Method

### 2.1 Research Design

This study is qualitative research with a type of case study. The cases studied are the challenges faced by teacher in implementing Smart Teacher Application in designing differentiated instruction. According Cresswel (Creswell et al., 2007), case study research studies an issue explored through one or more cases within a bounded system (i.e., a setting or a context). This research can help in making a decision or coming conclusion about differentiated instruction design. However, this research can help teacher not only know how Smart Teacher Application is effective in designing differentiated learning but also how this application working in giving solution for teacher in any background profile student.
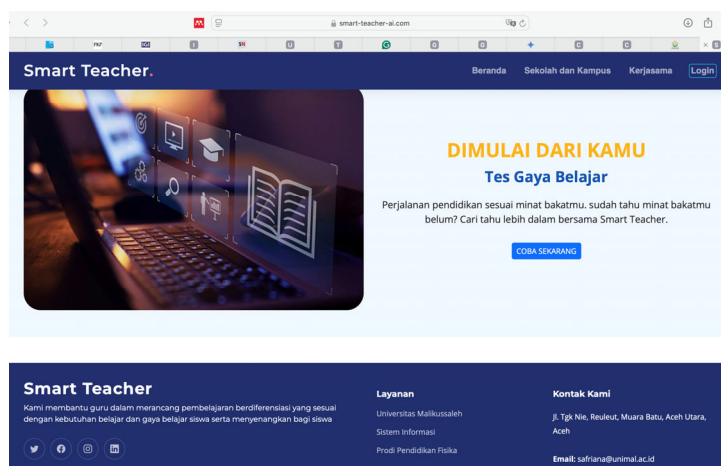


*Figure 1*. Smart Teacher Application (https://smart-teacher-ai.com)

### 2.2 Participant

Purposive sampling was used in this study. Purposive sampling procedures are used in most research papers because they are found in any research paradigm and help in ensuring that quality sample is located without biases so as to increase the reliability and trustworthiness of the findings (Friday & Leah, 2024). The sample was purposively selected from users of Smart Teacher application at one of the junior high schools in Lhokseumawe. This school was chosen as the object of research because it has been an active user of the application and one of the favourite schools in the city of Lhokseumawe. The sample of this study amounted to 160 respondents consisting of 120 junior high school third grade students and 40 teachers.

### 2.3 Research Instrument

The instrument of this study was made by researchers and was discussed among researchers. For this reason, researchers collected data through an online survey consisting of 21 questions among them are 11 questions for student and others for teacher.

The survey instruments used include questionnaires that measure the perception of teachers and students towards the experience of using the application, the relevance of the features, and their impact on the learning process and student motivation. The quantitative data obtained were then statistically analyzed to identify the relationship between the use of the application and the achievement of learning objectives and relevant SDGs indicators, such as education equity and education quality.

*2.4 Data Collection and Analysis*

Data was collected using an online survey. Online surveys are used for reason of the flexibility of compatibility of teachers and students. Fraenkel stated online surveys are easily managed and accessed using various devices (Irfan et al., 2020). The survey was open for a week. The effectiveness of the Smart Teacher application developed is measured after the application of the application in classroom learning. Data on the effectiveness of the developed application were obtained from observations, student response questionnaires, and teacher response questionnaires assessed through a four-point Likert scale (1 = strongly disagree to 4 = strongly agree), where lower scores indicate negative perceptions about the application and higher scores indicate positive perceptions. The data obtained was then analyzed to see the efficiency of the developed application. The average score for each questionnaire is determined by summing the scores for each item on the questionnaire sheet for application in learning and then determining the average. then the average score obtained is converted based on the criteria as in Table 1.

**Table 1**
*Practicality Criteria for Smart Teacher*

| Score | Interpretation |
|---|---|
| $3.5 \leq Sr < 4.0$ | Very Efective |
| $2.5 \leq Sr < 3.5$ | Efective |
| $1.5 \leq Sr < 2.5$ | Not Efective |
| $1.0 \leq Sr < 1.5$ | Very Ineffective |

In this study, the application developed has an effective value if the minimum average score reaches the effective category or the minimum average score falls into the interval of $2.5 \leq Sr < 3.5$.

**3. Result and Discussion**

Based on the study's results, the number of students in school who use application Smart Teacher is 120, with the distribution of data on gender in Table 2.

**Table 2**
*Data on the distribution of students using the Application Smart Teacher*

| Classs | Gender | | Number of Students |
|---|---|---|---|
| | Female | Male | |
| Grade 1st | 30 | 10 | 40 |
| Grade 2nd | 35 | 5 | 40 |
| Grade 3rd | 29 | 11 | 40 |
| Sum | 94 | 26 | 120 |

Table 2 shows the distribution of students by gender across three grades (1st, 2nd, and 3rd). In total, there are 120 students, with a significant gender imbalance. Female students outnumber male students in all grades. Grade 1st has 30 women and 10 men, Grade 2nd has 35 women and 5 men, and Grade 3rd has 29 women and 11 men. This consistent pattern of a higher proportion of female students across all grades suggests a potential area for further investigation and consideration.

Based on the graph, it can be seen that students in grades 1, 2, and 3 generally feel more motivated to learn when teachers use differentiated learning approaches. Grade 1 students showed the highest scores regarding happiness and active participation when this approach was applied. The learning materials presented through the smart teacher application also received good assessments in all three classes, with slightly higher scores in grade

2. The app is considered to help students find out their ability level and learn according to their respective learning styles, with grade 1 feeling most helped in this aspect. All classes agreed that the features in the app are easy to understand, and that the app effectively provides information about their learning style. Overall, this application is considered a useful tool in supporting learning that suits individual needs and helps increase student motivation and participation through learning plans that are recommended by Smart Teacher and implemented by teachers in the classroom. Implementing different strategies based on learning styles, such as kinesthetic, auditory, and visual, has increased student motivation and engagement in subjects such as art (Oktiara et al., 2024). The approach encourages active participation, as students are more likely to engage with material that resonates with their individual learning preferences (Rizki & Ningsih, 2024).
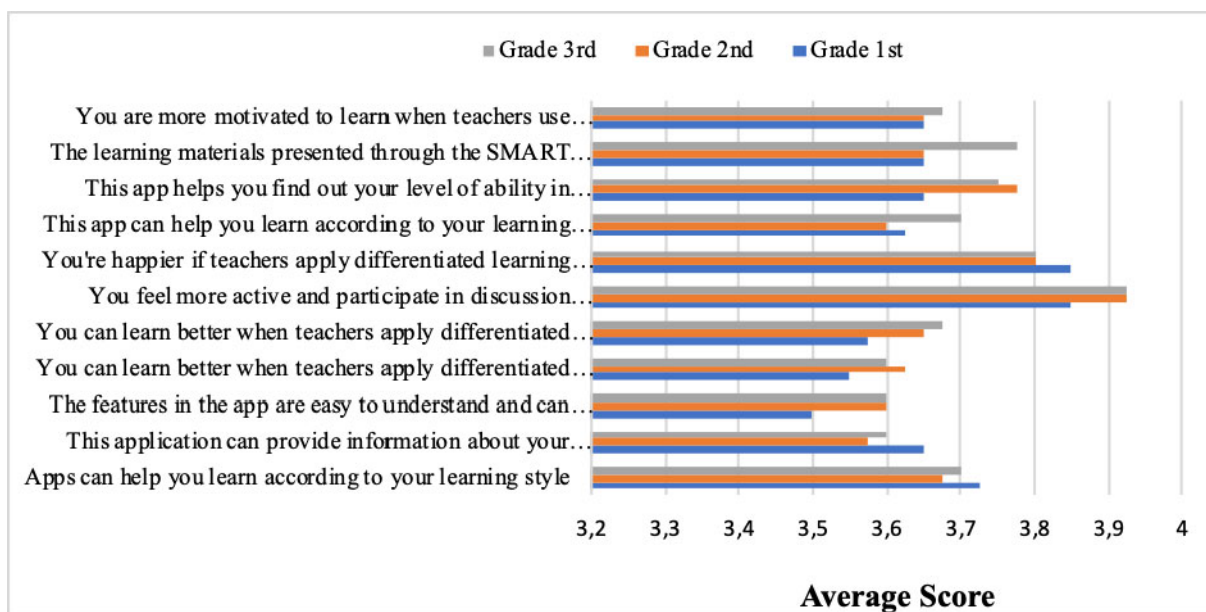


*Figure 2*. Student's perceptions of using Smart Teacher in supporting Differentiated learning. Number of participants grade 1st (n=40), grade 2nd (n=40), grade 3rd (n=40)

In addition, according to students' perceptions, Smart Teachers app can help them find out their learning style and the most effective way of learning for them, as well as measure the extent of their ability to understand the material being taught. This is reinforced by the results of interviews and observations on students who use the Smart Teachers AI app. They stated that the learning style test results generated by the app were very much in line with them. During this time, students realize that how they learn, whether through visual, kinesthetic, or audio, affects their ability to understand the subject matter.

To achieve optimal student learning outcomes, it is very important for teachers to adjust their teaching methods to meet the individual needs of each student. Teachers can design effective and relevant learning by understanding students' initial abilities and learning styles. The use of the smart teacher application allows teachers to continuously monitor student progress, enabling timely adjustments to the learning process.

**Table 3**
*Data on the distribution of teachers using the Application Smart Teacher*

| Gender | | Number of Teachers |
|---|---|---|
| Female | Male | |
| 30 | 10 | 40 |

Table 3 shows the distribution of teachers using the Smart Teacher application by gender. Out of the 40 teachers using the application, 30 are women and 10 are men. This indicates a significant disparity in the usage of the Smart Teacher application between female and male teachers, with women constituting a larger proportion of the user base.

**Table 4**

*Teacher Perceptions after Using the Smart Teacher Application*

| Statement | Average Score | Percentage |
|---|---|---|
| The app helps you in identifying the different learning needs of students | 3,83 | 90% |
| The app helps you in creating learning materials that are tailored to the student's ability level | 3,75 | 85% |
| The app is very effective in helping you provide feedback that suits the individual needs of students | 3,73 | 82,5% |
| The app helps you in creating a more inclusive learning environment for all students | 3,78 | 85% |
| This application can help you in implementing differentiated learning | 3,65 | 77,5% |
| This application is quite complete and supports differentiated learning | 3,78 | 80% |
| This application is quite complete and supports differentiated learning | 3,75 | 82,5% |
| Recommended learning tools according to student needs | 3,88 | 92,5% |
| This app supports continuous and inclusive Education | 3,75 | 80% |
| I felt Comfortable using this app | 3,78 | 82,5% |
| It is an effective app for design learning SDGs | 3,43 | 80% |

Based on the research results shown in the table, this application is considered very effective in supporting differentiated learning processes. Most respondents (90%) stated that this application is very helpful in identifying the different learning needs of each student. Additionally, 85% of respondents also believe this application helps create learning materials tailored to each student's abilities. The feature of providing feedback tailored to individual student needs also received high appreciation, with 82.5% of respondents stating that this feature is very effective. This shows that this application not only helps teachers deliver material but also provides individual support to each student. This approach can also improve teachers' ability to implement learning tailored to student needs (Inthanon & Wised, 2024; Tenenbaum & Ruck, 2007). In the end, this application is able to foster a more responsive educational environment that is in harmony with the needs of teachers and students.

This application is also highly rated for creating an inclusive learning environment. As many as 85% of respondents stated that this application helps create a more inclusive learning environment for all students. Regarding the implementation of differentiated learning, most respondents (77.5% to 82.5%) stated that this application is quite comprehensive and supports the implementation of differentiated learning. This shows that this application has met most of the teachers' needs in implementing learning tailored to the student's needs. these strategies highlight the potential for supporting SDGs in learning, but challenges remain, particularly in ensuring equitable access to technology and resources. Differentiated teaching and learning methods that suit the needs of students can be one of the strategies to include the Sustainable Development Goals (SDGs) in education (Blanco et al., 2024). Addressing these challenges requires sustained investment and policy support to fully realize the potential of education in achieving SDGs. The feature for recommending learning tools tailored to students' needs also received a very good score (92.5%). This shows that the app is able to leverage real-time data to effectively identify and meet the individual needs of students (Farr & Murray, 2016; Vázquez-Verdera et al., 2021). This data-driven approach has proven to be very helpful in designing instructional strategies that improve student understanding and retention (Intaratat et al., 2024; Yadav & Sheoran, 2024). This application demonstrates its ability to assist teachers in selecting the most suitable learning tools for each student.

Most respondents expressed comfort in using the application (82.5%) and recognized its effectiveness in supporting design learning (80%). However, it's important to acknowledge that the score for the SDG indicators, while relatively high at 3.43, still presents opportunities for further enhancement. Technologies, particularly artificial intelligence (AI), play a vital role in facilitating differentiated support for Sustainable Development Goals (SDGs) within the classroom. AI empowers personalized learning experiences, automates administrative tasks, and provides data-driven insights that ultimately contribute to improved educational outcomes for students from diverse backgrounds (Singh et al., 2024).

While learning technologies offer significant potential in supporting SDGs, challenges such as inadequate teacher training, unequal access to technology, and the need for comprehensive professional development

programs must be addressed to realize their benefits fully. Additionally, ethical considerations and data privacy are crucial in the responsible implementation of AI and other technologies in education (Animashaun et al., 2024; Gupta, 2023; Varriale et al., 2024; Yadav & Sheoran, 2024).

## 4. Conclusion

Based on the results of this study, this application has very good potential for supporting differentiated learning processes. This application helps teachers identify students' needs and creates learning materials, provides feedback, and creates an inclusive learning environment. The smart teacher application has opened new opportunities in the world of education. This application allows teachers to track students' initial abilities and learning styles in real-time. This information is valuable for designing learning tailored to students' needs. Thus, the learning process can take place more effectively and sustainably. More research is required to understand the smart teacher application's sustainability and long-term effects. Ensuring that this technology can be utilised to its full potential to raise educational standards is the aim.

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# From MDGs to the concept of education for UN in 2024: How can the concept of Education for Sustainable Development (ESD) be practically linked to education?

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## *Abstract*

The concept of education plays a crucial role in the Sustainable Development Goals (SDGs). Since the Millennium Development Goals (MDGs), education has been identified as a key indicator for achieving these goals. When the SDGs were introduced in 2015, education was again highlighted as a significant indicator and considered an essential soft power for promoting sustainable development. In the post-pandemic United Nations General Assembly, education was also regarded as an important development project. This study follows this line of thought, using literature analysis as the research method to discuss the concept of Education for Sustainable Development (ESD) and explore how the concept of SDGs can be directly and practically linked to teaching. The study will also analyze key United Nations documents on education to discuss how the UN incorporates sustainable elements into the concept of education as a foundation for sustainable development.

*Keywords:* education, ESD, document analysis, SDGs

## From MDGs to the concept of education for UN in 2024: How can the concept of Education for Sustainable Development (ESD) be practically linked to education?

### 1. Introduction

The concept of education plays a crucial role in the Sustainable Development Goals (SDGs). Since the Millennium Development Goals (MDGs), education has been endowed with dual significance: it is both a goal to be achieved and a means to achieve other goals. This dual significance is confirmed in the 2030 Agenda for Sustainable Development: the fourth goal (SDG 4) promotes education, while education itself is also a key method for advancing the overall SDGs. The purpose of this study is to illustrate how, since the MDGs, the United Nations (hereinafter referred to as UN) has linked education with sustainable development in important documents or declarations, forming Education for Sustainable Development (ESD, hereinafter referred to as ESD), and how the UN suggests integrating ESD with the SDGs into teaching practices. We will first explain the methodology of this paper, then describe the UN's perspective on the concept of ESD and its stance on education, with a particular focus on the UN's documents and attitudes from 2023-2024, and finally present the conclusions of the study.

### 2. Methodology of Research

This paper will adopt the Douncument Analysis method as the research methodology. The douncument analysis method is commonly used in qualitative research within triangulation to ensure the validity and reliability of qualitative research results (Merriam and Tisdell, 2021: 200-211). B. Kutsyuruba (2023) believes that this research method was proposed in 1952 and has been used for screening douncument content: through screening, statistics, and coding, the necessary and appropriate evidence is obtained. Bowen (2009) considers douncument analysis to be a systematic method for evaluating documentary data (whether in print or electronic form). This method requires researchers to examine and interpret the materials used to derive meaning and understanding, thereby developing empirical knowledge. Bowen believes that materials come in many forms, and researchers need to first review the douncument, list possible documents, and use past experiences with research literature to organize these data into structured themes or cases.

Regarding the use of methodology, Bowen (2009) identifies five purposes of document analysis:

1.Document data can provide researchers with an understanding of past history through context or relevant background, and this information can be used in future interviews.

2.Analyzing the information contained in the document can help identify questions that need to be raised and situations that researchers should pay attention to and observe during the study.

3.Document can serve as a supplement to data, so researchers need to browse corresponding documents to obtain important data content for analysis.

4.Document data can be used as a tool to track changes and developments in the subject.

5.The results of document analysis can be used to verify research findings or examine evidence from other sources, especially when results contradict each other or with documentary materials, providing a basis for further research and inquiry.

Additionally, documents often helps researchers supplement data and information that the subjects may have forgotten or overlooked. Therefore, he suggests that if document is to be used as an analysis object, the methodology can follow three steps: skimming, reading, and interpreting.

We use the document analysis method as the primary research methodology for the following reasons: When researchers analyze the UN's concepts of ESD or education, the time span may extend up to 50 years, as UNESCO sets the starting point of ESD in 1972. Therefore, the study will use pre-existing documents as research texts, specifically based on documents published on the UN's official website, particularly those available in the UNESDOC digital library. The criteria for selecting documents are:

1.Priority is given to more recent documents. Although the concept of education has always been emphasized and the concept of ESD can be traced back to the 1970s, the richness and promotion of this concept have been more significant in the past 15 years.

2.Priority is given to materials available in multiple language versions, as their importance requires dissemination to different national and ethnic groups worldwide.

3.Priority is given to significant declarations or agendas, especially those promoted or published by UNESCO. Given the vast number of documents published by the UN, this study, due to space limitations, will primarily use UNESCO documents as the research basis.

## 3. Discussion Starting from ESD

Education has always been considered the foundation for promoting the SDGs. When education is linked with sustainable development, it gives rise to ESD, which is endowed with a special mission. ESD is a model continuously promoted by the United Nations in the field of education in response to the current state of the world. ESD is now interconnected with the SDGs, with a particular focus on target 4.7: "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development." To promote ESD, UNESCO has launched a series of related studies, explanations, and guidelines aimed at clarifying the concept of ESD. Since the promotion of ESD involves a set process, we will describe the relevant documents according to different periods.

### 3.1. 2005-2014: The First Decade

The period from 2005 to 2014 was the UN's first decade of promoting ESD. In 2005, UNESCO released the official document UN Decade of Education for Sustainable Development, 2005-2014: The DESD at a Glance, which provided an overview of ESD (UNESCO, 2005). The document mentioned several examples related to ESD, but most importantly, it highlighted that sustainable development is a way of viewing the world differently and suggested that to improve people's quality of life, the way of learning must be changed. Since education is a driving force for change, ESD should be regarded as a priority.

Based on this concept, UNESCO has subsequently released several documents explaining ESD. For example, Wade and Parker, in EFA-ESD Dialogue: Educating for a Sustainable World, mention that the purpose of ESD is to promote changes in people's attitudes and values towards sustainable development through all teaching and learning institutions, as well as their behaviors, actions, and commitments that impact sustainability (Wade and Parker, 2009: 6). This publication, released midway through the first decade of ESD, mainly elaborates on the basic concepts of ESD and the steps for its implementation. Wade and Parker also discuss the concept of the MDGs and link ESD with the MDGs, a point we will discuss later.In 2010, UNESCO released the UNESCO Strategy for the Second Half of the United Nations Decade of Education for Sustainable Development, which served as the foundation for the latter phase of ESD promotion. This strategy advocated for strengthening initiatives and claims in collaboration with partners, developing educational capacities related to ESD, accumulating and sharing knowledge related to ESD, and promoting ESD to enhance global understanding (UNESCO, 2010). We can observe that many of the viewpoints mentioned here were reinforced as fundamental positions during the second decade of ESD promotion.

At the end of the first decade of promoting ESD in 2014, UNESCO released the report Shaping the Future We Want: UN Decade of Education for Sustainable Development (2005-2014); Final Report; Summary (UNESCO, 2014a). The report summarized the achievements and trends of the past decade, highlighting the importance of considering various stakeholders (especially political forces) as ESD drives sustainable development. ESD has already fostered educational innovation and has spread to all levels of education. In the same year, UNESCO published the UNESCO Roadmap for Implementing the Global Action Programme on Education for Sustainable Development, indicating that ESD would enter the next stage of development.(UNSECO, 2014b)

*3.2. From the Last Decade to the Present: Clarification of the ESD Path*

In 2014, the simultaneous publication of a final report on ESD and a new roadmap symbolized the end of one phase and the beginning of a new plan, designed based on the development foundation of the previous decade. UNESCO announced that from this year onwards, it would expand ESD actions, including integrating ESD into education and incorporating education into ESD. To this end, UNESCO declared two goals (UNESCO, 2014b: 14):

➢ Objective 1"to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development"

➢ Objective 2"to strengthen education and learning in all agendas, programmes and activities that promote sustainable development"

The year after this plan was launched, the UN officially introduced the "2030 Agenda for Sustainable Development" as a guideline for the future, with ESD once again playing a crucial role. For example, in 2017, UNESCO released the teaching guide Education for Sustainable Development Goals: Learning Objectives (UNESCO, 2017). This guide sets cognitive learning objectives, socio-emotional learning objectives, and behavioral learning objectives for each SDG, and provides suggested topics and examples of learning approaches and methods as a guide for teachers. The guide defines and explains ESD, stating that its goal is to develop individuals' abilities and skills to examine the global impact of their actions. ESD is considered part of quality education and supports the goal of lifelong learning, making it a product of educational transformation. UNESCO views ESD as a key driver for promoting the SDGs (UNESCO, 2017: 7). This learning guide can be seen as an important document for promoting the SDGs, as UNESCO provides perspectives and statements to help educators focus and guide student learning during the teaching process. As mentioned in the conclusion of this document by UNESCO, " Education officials, policy-makers, educators, curriculum developers and others are called upon to rethink education in order to contribute to the achievement of the SDGs within their timeframe, between now and 2030."(UNSECO, 2017: 58)

Regarding the current ESD roadmap and planning, UNESCO's 2022 publication Education for Sustainable Development: A Roadmap provides clear guidance (UNESCO, 2022). This roadmap highlights five priority action areas that should be particularly implemented, including policy promotion, transforming learning environments, enhancing educator capacities, empowering and mobilizing youth, and accelerating local-level actions (UNESCO, 2022: 26-34). We should pay special attention to the promotion of ESD this year, as the UN also held an education summit in the same year. By combining UNESCO's discourse on ESD with the educational perspectives from this year's summit, we can see the connection between ESD and education. This point will be elaborated on later.

**4. Promotion of Education**

Compared to the timeline for the development of sustainable education and the expansion of its scope, education has been considered instrumental since the MDGs. We should understand this phenomenon as the UN consistently emphasizing the importance of education, because without education as the fundation, many of the world's challenges would be difficult to address.

*4.1. Since the MDGs*

Starting in 2000, the UN promoted the Millennium Development Goals (MDGs) globally, with a timeframe from 2000 to 2015. Among these, MDG 2, "Universal Primary Education", emphasized the importance of basic education. The background for promoting education under the MDGs was based on the UN's observation that many children were unable to attend school or complete their education due to location and gender. In this context, the MDGs' education initiatives focused on primary education, which includes the most essential skills such as basic arithmetic and reading. According to the MDGs Global Report 2015, the MDGs achieved the following in the area of education (UN, 2015: 4):

➢ The primary school net enrolment rate in the developing regions has reached 91 percent in 2015, up from 83 per cent in 2000.

➢ The number of out-of-school children of primary school age worldwide has fallen by almost half, to an estimated 57 million in 2015, down from 100 million in 2000.

➢ Sub-Saharan Africa has had the best record of improvement in primary education of any region since the MDGs were established. The region achieved a 20 percentage point increase in the net enrolment rate from 2000 to 2015, compared to a gain of 8 percentage points between 1990 and 2000.

➢ The literacy rate among youth aged 15 to 24 has increased globally from 83 percent to 91 per cent between 1990 and 2015. The gap between women and men has narrowed.

Although the UN initiated a focus on education through the MDGs and achieved a certain degree of success, it was estimated that, at the time the report was presented, 57 million children worldwide were still unable to attend school. (UN, 2015: 7)

*4.2. The Incheon Declaration*

The emphasis of the MDGs on education has influenced the way many important educational initiatives are carried out by the UN. An example of this is the Incheon Declaration: Education 2030: Towards Inclusive and Equitable Quality Education and Lifelong Learning for All (UNESCO, 2015a) and the Education 2030: Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. (UNESCO, 2015b) The documents holds a special temporal significance: it was proposed and adopted at the World Education Forum in Incheon, South Korea, in 2015, the same year the "2030 Agenda for Sustainable Development" was introduced in September, with SDG 4 focusing on education. The purpose of the Incheon Declaration is to establish a comprehensive, ambitious, and inclusive educational agenda that ensures everyone has access to inclusive and equitable quality education. Under this premise, it emphasizes the core values of education, advocating that education is a fundamental human right. Based on human rights needs, the Incheon Declaration advocates for the provision of basic educational content and ensures that everyone should receive basic education to avoid various forms of violence or gender discrimination. The Incheon Declaration also promotes the concept of lifelong learning. The uniqueness of the Incheon Declaration lies in the fact that through this document, the UN declared the importance of education: this 2015 document illustrates how the UN will adopt bottom-up measures and approaches to promote its work, including the SDGs.

*4.3. Our Common Agenda*

In 2021, during the United Nations' 75th anniversary meeting, UN Secretary-General Antonio Guterres presented the report Our Common Agenda (UN, 2021). The report centers on renewing the social contract, aiming to strengthen solidarity among contemporary and younger generations as well as future descendants. Amid the critical choice between collapse and breakthrough facing humanity, Our Common Agenda proposes a path forward, with its core being the renewal of our social contract, strengthening solidarity with young people and future generations, and establishing a new global agreement (UN, 2021, also see Our Common Agenda

Official website). One of its important purposes is to consider the issues of the next generation of young people and future descendants, making education a key issue. Sections 48-49 of Our Common Agenda specifically address educational issues (UN, 2021: 40-42). Education is recognized as a fundamental human right, but the current state of education is chaotic. Traditional educational methods, although long-standing, fail to address the needs of 258 million children and youth who are unable to receive education. Even those who have received education may struggle to acquire essential skills and tools such as digital literacy, global citizenship awareness, and sustainable development capabilities. The report advocates for compensating for the learning lost due to COVID-19 while initiating educational reforms. In addition to enhancing basic skills, it also emphasizes strengthening digital-related capabilities.

Based on the recommendations of this report, the UN held the Transforming Education Summit in 2022 and subsequently released the "Report on the 2022 Transforming Education Summit" (UN, 2022). This summit focused on five key actions, including:

➢ Inclusive, equitable, safe and healthy schools

➢ Learning and skills for life, work and sustainable development

➢ Teachers, teaching and the teaching profession

➢ Digital learning and transformation

➢ Financing of education

*4.4. Reports of Transforming Education Summit*

Following Our Common Agenda, the UN convened the Transforming Education Summit in 2022 to discuss how to reform education in the future so that more people can acquire essential skills through education. After the summit, the UN released the Reports of Transforming Education Summit. (UN, 2022) The report highlights the current global crisis in the implementation of education: education is neither truly equitable nor inclusive, and it faces quality challenges, especially highlighted during the COVID-19 pandemic. Many children are unable to attend school, and even those who do may not learn basic knowledge. A greater challenge is that the current education system may not provide the next generation with the values, knowledge, and skills needed to navigate today's complex world. Therefore, educational reform must help our next generation recognize the importance of the digital revolution and technology. Changes are needed from teachers to educational systems to ensure that schools can indeed become inclusive learning environments for students.

## 5. 2023-2024: A Transformation

Both education and ESD are crucial for the UN in advancing the SDGs. During the years 2023-2024, the UN began implementing the Transforming Education mechanism: previously, each SDG goal was presented and discussed individually, but during 2023-2024, they were integrated across different fields. For example, in 2023, 11 policy briefs were launched on the Our Common Agenda website, integrating the 17 SDG goals across 11 different fields.

*5.1. Concept of Transforming Education in Policy Briefs*

Although the 2023 policy briefs and the Transformative Actions in the SDG Summit integrated SDGs across specific themes, the concepts of education and ESD have always been an important part of them. In 2023, the UN introduced the concept of Transforming Education in both the Our Common Agenda and the SDG Summit. Our Common Agenda in 2023 elaborated on 11 directions in which Our Common Agenda could be implemented, presenting 11 Policy Briefs on its official website. According to "A Quick Summary of Our Common Agenda," the global problems in education include young people being out of school or not acquiring basic skills. The educational environment is also insufficient to support young people's learning, especially due to "insufficient and inequitable investment in education" (UN, 2023). Against the backdrop of transforming the world through

education, Our Common Agenda promotes educational change through seven main principles and actions, including shifting to a comprehensive and lifelong learning system, practicing equality and inclusion through education, aligning curricula and teaching methods with current and future needs, redefining the role of teachers, leveraging digital tools, making more equitable and effective investments in education, and strengthening international cooperation to achieve SDG 4 (UN, 2023: 10-14).

*5.2. Concept of Transforming Education in SDG Summit*

In the same year, the SDG Summit proposed 12 Transforming Actions to promote the implementation of the SDGs, with Transforming Education being one of the key concepts. Here, education and learning are seen as means to build a better future for everyone. Although education and learning are important for all, they face a dual crisis of equity and opportunity, as well as quality and relevance. While the MDGs focused on basic literacy and numeracy skills, these fundamental skills were still not universally achieved by 2023. The 2022 Transforming Education Summit had already indicated the need to promote various education-related policies. Therefore, the 2023 SDG Summit proposed specific guidelines on how to advance educational reforms, including the tasks that should be undertaken by different countries, levels, and over time.

According to the booklet Transforming Education: Learning to Build a Better Future for All (UN, 2023), three key supports are needed to promote SDG 4: political leadership, accelerated financing for education, and the involvement and support of various groups and levels. The booklet also presents a Roadmap to 2030, outlining a clear timeline and steps to achieve the educational goals by 2030.

*5.3. Pact For the Future*

By the 2024 Future Summit, the concept of education remained important. The final outcome of the 2024 Future Summit was the Pact For the Future, also known as the Summit of Future Outcome Document, which consists of three parts: the Pact For the Future, the Global Digital Compact, and the Declaration on Future Generations. (UN, 2024)All three documents emphasize the importance of education in promoting the SDGs. The content of the Global Digital Compact responds to the previous 2023 initiatives. The spirit of this "compact" is to acknowledge the significant changes digital technology brings to humanity. Therefore, humanity should bridge the digital divide and strengthen risk management. The UN proposed this compact to express principles and commitments to achieve an "inclusive, open, sustainable, fair, and safe digital future" (UN, 2024: 1-4).

The basic background of the Global Digital Compact is as mentioned earlier, so the Global Digital Compact should be adhered to as a form of social contract. This contract should include trust, inclusive protection and participation, and the evaluation of what is important for both humanity and the planet (UN, 2021: 22). In this spirit, the Global Digital Compact first assesses the focus points valued by various stakeholders before drafting the contract content. According to the "Global Digital Compact Official Website," stakeholders include "governments, the UN system, the private sector (including tech companies), civil society, grassroots organizations, academia, and individuals." Additionally, according to the UN's official website, the compact "aims to establish an inclusive global framework, which is crucial for stakeholders to take necessary actions to overcome digital, data, and innovation divides. The compact is expected to outline principles, goals, and actions to create an open, free, safe, and human-centered digital future for all, based on universal human rights and capable of achieving sustainable development goals." Furthermore, according to Policy Brief No. 5 prepared for the 2024 Future Summit: "Global Digital Compact – Creating an Open, Free, Safe Digital Future for All," the GDC aims to set global digital principles, goals, and actions to advance an open, free, safe, and human-centered digital future. This future will be based on universal human rights, making the implementation of the SDGs possible (UN, 2023: 2, 5). This document serves as a common commitment and as an annex to the "Pact For the Future" (UN, 2024).

**6. Conclusion**

In this limited space, we have provided an overview of important UN documents related to ESD and

education. The biggest limitation of this study is the limited space, so we could only select a few important documents for analysis and commentary. If this research is to continue in the future, the primary task will be to reorganize the chronological order of relevant literature for further analysis. Before concluding our analysis, we should add a related conclusion regarding the concepts of ESD and education: ESD was not created to promote the SDGs; the concept of ESD had already formed before the SDGs emerged. The UN reviewed the history of ESD in two documents, the UNESCO Roadmap for Implementing the Global Action Programme on Education for Sustainable Development and Education for Sustainable Development: A Roadmap (UNESCO, 2014:10; 2022: 64-65). The origins of ESD can be traced back to the 1972 Stockholm Declaration, and it has been continuously redefined and given new meanings in subsequent conferences and documents to adapt to the changing world. Although the initial concept of ESD was related to environmental protection, after 2010, ESD gradually aimed to promote the SDGs through education. According to the development history compiled by UNESCO, while the environment remained a key consideration after 2010, various aspects of human existence, including urbanization and consumption, were also incorporated into the education system. Strictly speaking, ESD should be based on holistic and transformative educational innovation, so the future concept of education should integrate ESD into all educational domains (Lee, 2023; Huang, 2024). From this perspective, education should be seen as a tool to promote ESD, and ESD as the educational content that helps the next generation adapt to the environment.

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# Youth awareness of the folk stories behind the Barangays in Tacurong

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## Abstract

This study focused on the Barangays of Tacurong to uncover the hidden folk stories and cultures that prevail in each Barangay. The results contribute significantly to the lives of the people of Tacurong, especially in the field of culture. The study employed a descriptive design using respondents aged forty-five (45) and above who were willing to share and possess sufficient knowledge about the stories. The Barangays of Tacurong exhibit various cultures that influence their daily lives. Different life stories and livelihoods, often starting from nothing, have led to improved lives due to strong community bonds and understanding. The research findings revealed that each Barangay in Tacurong has similar stories, origins, and characteristics. Some common traits observed in each Barangay include being kind, honest, loving, helpful, considerate, hardworking, thrifty, practicing a Bayanihan system, having faith in the Great Creator, and being led by leaders with good intentions for their community and country. The development of a town relies on good, honest leaders dedicated to serving and exceeding the community's expectations. They also believe that collective effort makes tasks easier, embodied in the saying, "One for all, all for one." To make these unique stories more meaningful, it is essential to integrate advancements in science, technology, and literature and to create a proposed pamphlet for teaching literature to the youth. These hidden stories deserve to be published in Philippine literature. Local officials should also recognize the importance of the folk stories from each Barangay, which can benefit future generations. It is hoped that a comparison can be made between the findings of this current study and those from the past to observe the changes in the modern generation.

*Keywords:* awareness, folk stories, barangays, youth, Philippines

# Youth awareness of the folk stories behind the Barangays in Tacurong

## 1. Introduction

Each race and tribe in Mindanao, particularly in Tacurong, boasts a rich repository of folk tales that encapsulate communal values and identity. These narratives serve as entertainment and transmit valuable wisdom, morals, and cultural heritage across generations (Aithor, 2024). Despite the modern advancements Tacurong's citizens enjoy, many of these folk tales remain overlooked by the millennial youth. This neglect poses a risk to preserving local identity and values intricately woven into these stories. Folk tales have been recognized for shaping cultural understanding and community ties. As Eslit (2023) emphasizes, narratives adapt over time to reflect the unique contexts of each generation. For instance, global tales like "Cinderella" reveal how localized retelling can mirror regional traditions while retaining core themes. Similarly, Tacurong's folk stories—filled with mythical creatures such shape-shifting monsters or tree giants—embody lessons that resonate with past and present societal norms.

The educational impact of these folk narratives is profound. Morales and Bond (2020) argue that storytelling fosters equity and builds strong community connections. By engaging younger generations with local folktales, communities can instill a sense of pride in their heritage while promoting unity through shared experiences. Preserving these oral traditions not only safeguards cultural identity but also enriches the collective consciousness of future citizens. Ultimately, culture is pivotal in shaping individual identities within Tacurong's diverse populace. Through understanding local folklore—its themes, characters, and moral lessons—youth can connect more deeply with their roots (Justi, 2023). The challenge lies in reviving interest among millennials to ensure these invaluable stories endure for generations to come, thus preserving cultural integrity and communal bonds. The assertion by S. Keerthika (2018) that literature reflects societal culture and identity resonates with the fundamental role literature plays in documenting human experiences. They emphasize the importance of preserving stories that encapsulate the essence of a place, ensuring that future generations can appreciate their cultural heritage. This perspective aligns with Alfarhan's (2024) argument regarding literature's capacity to enhance empathy and critical thinking, suggesting that engaging with diverse narratives allows readers to confront contemporary issues while fostering a deeper understanding of their societal contexts.

Moreover, Houen (2020) posits that true literature transcends time by articulating universal human emotions in response to everyday struggles. This notion underscores literature's potential to connect individuals across different eras and cultures through shared experiences and aspirations for happiness. As noted in the analysis by Santosa (2023), literary works like Shakespeare's (Hamlet) not only reflect specific societal realities but also illuminate broader human conditions, thus reinforcing the timelessness attributed to significant literary texts. Literature cultivates a space for dialogue about morality, identity, and existence by addressing both personal dilemmas and collective societal challenges. Ultimately, the timeless value of true literature lies in its ability to serve as both a mirror reflecting society's complexities and a lens through which we can envision change. Literature preserves cultural heritage and encourages dialogue about injustices and aspirations for a more equitable world. As such, it remains an essential tool for understanding human emotions across diverse contexts—a testament to its enduring significance in shaping our collective consciousness. Puchner (2018).

Despite their significance in shaping cultural understanding and strengthening community ties, a growing trend of declining interest among millennial youth exists in these traditional narratives. This disinterest can largely be attributed to the pervasive influence of modern advancements and shifting societal priorities that often overshadow local folklore (Eslit, 2023). Consequently, many folk tales are being overlooked, potentially eroding Tacurong's cultural heritage and the vital transmission of values embedded within these stories. However, folk narratives' educational and social value is well-documented (Jirata, 2018). There remains a critical gap in concrete strategies or mechanisms to engage younger generations with these tales or adapt them to contemporary

contexts. This neglect poses a significant risk to the preservation of local identity and the communal bonds that such narratives foster. Therefore, addressing this gap calls for innovative approaches to revive interest in local folklore while ensuring its relevance in today's rapidly changing world.

This study is based on Maugham's Theory (1938), which states that a story is a work that creates an impact by depicting an event. Furthermore, according to Gu et al. (2023), Attention should be given to the details and parts of the story to showcase the artistry and creativity of its composition. This research is based on the concept of a diagram method that illustrates the relationship between two different entities. The diagram assesses the connection between the independent and dependent variables. Its model is used to determine the relationship between the independent variable and the dependent variable. The independent variable is the Folk Stories behind the Barangays of Tacurong, while the dependent variable is the Youth Awareness. This research aims to find answers and evidence that will serve as the study's focus to determine the youth's knowledge based on their cultural background. It includes a variety of stories that will serve as proof of the true essence of the lives of the Tacurongnons. The connection between these two aspects will be analyzed to form hypotheses.

The study presented and described the youth's awareness of the folktales of the barangays in Tacurong. It answered the following questions: 1. What folk stories are collected from the barangays of Tacurong based on storytelling? 2. What is the youth's awareness level based on the collected folk stories when grouped according to age, tribe, religion, and educational attainment? 3. What is the relationship between the respondents' level of awareness and their profile in terms of age, tribe, religion, and educational attainment?

This study is highly significant for the researcher, as it can guide students to understand better the thoughts and messages the author wishes to convey to readers. It can act as a guide or reference for future generations or researchers, as it allows us to witness the essence of their stories, where assumptions can be validated. Thus, it is beneficial for writers and researchers to further expand Filipino literature, particularly in the realm of hidden stories that highlight the vastness of Filipino art and culture.

The results of this study will be helpful for the youth of Tacurong, local officials (community), tourism, the Local Government Unit (LGU), the Department of Education (DepEd), colleges, and researchers. For the youth of Tacurong, it will open their awareness to valuing their own stories. It encourages them to reflect on and examine these stories, sharing them with their fellow youth to ensure they are not forgotten. The printed versions of the stories can be used as a basis for programs aimed at enriching the culture of local officials, especially in the villages where the stories were collected. The tourism office uses them as a source of information within its jurisdiction. In other words, they provide guidance or information, especially to those who are not yet fully familiar with a place. This study can significantly contribute to the Local Government Unit (LGU) by providing evidence for unproven stories and assumptions. Addressing youth concerns can establish peace and support, leading to a prosperous and peaceful community.

For the Department of Education (DepEd), this can greatly contribute to youth awareness, as they can learn about their culture and the truth. They can understand their beliefs and behaviors' strengths and weaknesses, strengthening their identity. It can also allow them to recognize literary flaws and strengths, further nurturing and fostering appreciation for our literature, especially for future generations. For colleges and researchers, this study can enhance the knowledge of students and youth who seek clarity on assumptions, helping to prove and discover the truth. It can also serve as a bridge for readers' awareness and studies in Filipino/English, particularly in cultural and historical contexts.

## 2. Methods

*Research Design -* The research design used in this study is descriptive because the researcher aims to present real and factual stories rather than mere imagination. This design highlights the stories gathered from the barangays within Tacurong to share the youth's awareness of these narratives. The researcher used a direct approach by conducting personal interviews with individuals with extensive knowledge relevant to the research

topic. It focuses on the folktales from selected barangays in Tacurong, specifically from Calean, Kalandagan, Baras, Katungal, and Tina. The respondents of this study are youth in the fifth (5th) and sixth (6th) grades of elementary school, comprising one hundred twenty-six (126) individuals. The study includes oral storytelling contributions from selected respondents aged forty-five (45) and above who have considerable knowledge of the folktales prevalent in their area. The researcher developed a survey questionnaire. The questions were based on Dardo's (2004) thesis on short stories to gather information about selected folktales from Tacurong from the chosen respondents. Purposive sampling was employed for participant selection to obtain the study's requirements.

The research used stratified random sampling to determine the number of respondents. The researcher prepared a letter for the offices that could provide information to address each question. Several informants were interviewed regarding the information required to make the study effective. Hence, the youth were included, as they would answer the questionnaire prepared by the researcher based on their awareness of the stories presented.

*Research Instrument -* The researcher used a survey questionnaire to measure the youth's level of awareness and determine their interest in exploring stories related to the lives of Tacurong. The instrument used to gather data from the respondents was a questionnaire derived from the studies of Aranita (2012) and Dardo (2012), along with additional questions developed by the researcher to assess the new generation's awareness. Several methods were used to collect the data used in the study. The first step taken by the researcher to gather data from the respondents was to request permission from the College of Graduate Studies, obtain authorization from the Administrator of the City Schools of Tacurong, secure approval from the barangay leaders in the area, and conduct actual interviews with elders who know folk stories from the locality. Permission was sought from the school principals, and questionnaires were distributed to the youth to ensure the research was effective and authentic. The researcher interviewed key informants who knew the prominent stories in their respective barangays, such as Katungal, Calean, Kalandagan, Baras, and Tina. After collecting these stories, the researcher shared the entire collection of narratives with the youth in the fifth and sixth grades from each barangay to assess their awareness of the stories. Once all the responses were gathered, they were compiled into a narrative and descriptive format before being analyzed based on cultural methods and categorical statements. Statistical tools are necessary for interpreting the collected data and forming conclusions. After gathering the data, the researcher analyzed it using weighted mean and ANOVA/t-test to assess the study's outcomes.

## 3. Result and discussion

*3.1 This section describes the level of awareness based on the collected story.*

**Table 1**
*Level of Awareness by Age*

| Age | Weighted Mean | Verbal Description |
|---|---|---|
| 10 | 2.98 | Moderate level of knowledge |
| 11 | 3.35 | Moderate level of knowledge |
| 12 | 3.40 | Well aware |
| 13 | 3.19 | Moderate level of knowledge |
| 14 | 3.50 | Well aware |
| Overall Mean | 3.34 | moderate level of knowledge |

**Table 1** presents the collected data on the level of awareness according to the respondents' age. Based on the data, age fourteen (14) had the highest percentage with a mean score of 3.50, described verbally as "well aware." Meanwhile, age ten (10) obtained the lowest rate with a mean score of 2.98, described verbally as a "moderate level of knowledge." The overall mean of 3.34, with the verbal description of "moderate level of knowledge," indicates that the respondents have only sufficient awareness regarding the selected stories from their areas.

**Table 2**
*Level of Awareness by Tribe*

| Tribe | Weighted Mean | Verbal Description |
|---|---|---|
| Ilongo | 3.37 | Moderate level of knowledge |
| Cebuano | 3.07 | Moderate level of knowledge |
| Maguindanaon | 3.18 | Moderate level of knowledge |
| Overall Mean | 3.34 | Moderate level of knowledge |

Table 2 presents the awareness levels according to the respondents' tribes. The collected data shows that the Ilongo Tribe had the highest percentage, with a mean score of 3.37 and a verbal description of "moderate level of knowledge." On the other hand, the Cebuano Tribe had the lowest percentage, with a mean score of 3.07 and a verbal description of "moderate level of knowledge." The overall mean of 3.34 indicates that the respondents from various tribes have a moderate level of knowledge about the local folklore stories.

**Table 3**
*Level of Awareness by Religion*

| Religion | Weighted Mean | Verbal Description |
|---|---|---|
| Catholic | 3.36 | Moderate level of knowledge |
| Protestant | 3.35 | Moderate level of knowledge |
| Islam | 3.18 | Moderate level of knowledge |
| Overall Mean | 3.34 | Moderate level of knowledge |

Table 3 presents the collected data based on the level of awareness according to the respondents' religion. Among the three religions provided, the Catholic respondents achieved the highest percentage with a mean score of 3.36, described verbally as a "moderate level of knowledge." Meanwhile, the Islamic respondents had the lowest percentage with a mean score of 3.18, also described as a "moderate level of knowledge." The collected data received an overall mean score of 3.34, also described as a "moderate level of knowledge."

**Table 4**
*Level of Awareness in Terms of Educational Attainment*

| Educational Attainment | Weighted Mean | Verbal Description |
|---|---|---|
| Grade VI | 3.32 | moderate level of knowledge |
| Grade V | 3.39 | moderate level of knowledge |
| Overall Mean | 3.34 | moderate level of knowledge |

Table 4 presents the data based on the level of awareness according to the grade or educational attainment of the respondents. The fifth grade received the highest percentage with a mean score of 3.39, described as a "moderate level of knowledge." On the other hand, the sixth graders achieved a mean score of 3.32, also described as a "moderate level of knowledge." The data received an overall mean score of 3.34, describing "moderate knowledge."

**Table 5**
*Significance Differences in Levels of Awareness Between Different Ages*

| Age | Mean | F-ratio | p-value | Interpretation |
|---|---|---|---|---|
| 10 | 2.98 | 1.111 | .355 | not significant |
| 11 | 3.35 | | | |
| 12 | 3.40 | | | |
| 13 | 3.19 | | | |
| 14 | 3.50 | | | |

Table 5 presents data on the differences in levels of awareness by age. The relationship between age and level of awareness was determined using the obtained F-ratio and P-value, along with a tabular value of .05. The data above shows an F-ratio of 1.111, which is not significant because the P-value of .355 is much higher than the tabular value of .05. This result means that there is no significant difference in the level of awareness of the respondents regarding the selected stories from Tacurong, even when categorized by age. Consequently, it can be said that age has no correlation or effect on a person's level of awareness about stories.

**Table 6**
*Significance Differences in Levels of Awareness Between Different Tribes*

| Tribe | Mean | F-ratio | p-value | Interpretation |
|-------|------|---------|---------|----------------|
| Ilongo | 3.37 | .983 | .377 | not significant |
| Cebuano | 3.07 | | | |
| Maguindanaon | 3.18 | | | |

**Table 6** presents the collected data on the differences in levels of awareness by tribe. Using the F-ratio, P-value, and tabular value, the relationship between tribe and level of awareness regarding the selected stories was determined. The data shows an F-ratio of .983, which is not significant since the P-value of .377 is higher than the tabular value of .05. This result indicates that there is no significant difference in the level of awareness of the respondents regarding the folk stories of Tacurong, even though they belong to different tribes. Based on the results, it can be said that tribe has no correlation or effect on the level of awareness of the folk stories.

**Table 7**
*Significance Differences in Levels of Awareness Between Different Religion*

| Religion | Mean | F-ratio | p-value | Interpretation |
|----------|------|---------|---------|----------------|
| Catholic | 3.36 | .366 | .695 | not significant |
| Protestant | 3.35 | | | |
| Islam | 3.18 | | | |

**Table 7** presents data on the differences in levels of awareness regarding folk stories by religion. The data show an F-ratio of .366, which is insignificant since the P-value of .695 is higher than the tabular value of .05. This indicates that there is no significant difference in the level of awareness regarding the selected stories of Tacurong, even among those with different religions. Based on the results, it can be concluded that faith, beliefs, or religion have no correlation or effect on a person's awareness of the folk stories of Tacurong.

**Table 8**
*Significance Differences in Level of Awareness Between Different Educational Attainment*

| Educational Attainment | Mean | F-ratio | p-value | Interpretation |
|------------------------|------|---------|---------|----------------|
| Grade VI | 3.32 | .349 | .556 | not significant |
| Grade V | 3.39 | | | |

Based on the data presented in Table 8, the F-ratio of .349 is not significant because the P-value of .556 is higher than the tabular value of .05. Therefore, there is no significant difference in the respondents' level of awareness regarding the folk stories of Tacurong, even when categorized according to their educational level. From this, it can be concluded that educational attainment has no correlation with the respondents' level of awareness concerning the stories.

**Table 9**
*Summary of Students' Levels of Awareness by Age Group*

| Barangay | Age | Weighted Mean | Verbal Description |
|----------|-----|---------------|--------------------|
| | 10 | 2.58 | Low level of awareness |
| | 11 | 3.04 | Moderate level of Awareness |
| Baras | 12 | 2.89 | Moderate level of Awareness |
| | 13 | 2.81 | Moderate level of Awareness |
| | 14 | 3.15 | Moderate level of Awareness |
| Mean | | 2.90 | Moderate level of Awareness |
| | 11 | 2.97 | Moderate level of Awareness |
| Kalandagan | 12 | 2.99 | Moderate level of Awareness |
| | 13 | 3.00 | Moderate level of Awareness |
| | 14 | 3.67 | High level of Awareness |
| Mean | | 3.06 | Moderate level of Awareness |
| | 10 | 4.04 | High level of Awareness |
| Calean | 11 | 3.98 | High level of Awareness |
| | 12 | 4.07 | High level of Awareness |
| | 13 | 3.31 | Moderate level of Awareness |
| Mean | | 3.98 | High level of awareness |

| | | | |
|---|---|---|---|
| Tina | 11 | | Moderate level of Awareness |
| | 12 | | High level of Awareness |
| Mean | | 3.40 | High level of awareness |
| Katungal | 11 | 3.45 | High level of Awareness |
| | 12 | 3.64 | High level of Awareness |
| | 13 | 3.54 | High level of Awareness |
| Mean | | 3.55 | High level of awareness |
| Overall Mean | | 3.34 | Moderate level of Awareness |

Table 9 summarizes students' awareness levels by age in each barangay. It shows that Barangay Baras has an overall mean of 2.90, indicating moderate awareness regarding the stories. Barangay Kalandagan has an overall mean of 3.06, reflecting a moderate awareness level. Barangay Calean has an overall mean of 3.98, signifying a high level of awareness. Barangay Tina has an overall mean of 3.40, indicating a high awareness of the stories. Lastly, Barangay Katungal has an overall mean of 3.55, which is described as having a high level of awareness. It is noticeable that Barangay Kalandagan and Barangay Tina have no respondents aged ten (10). Barangay Tina lacks respondents aged thirteen (13) and fourteen (14), while Barangays Calean and Katungal have no respondents aged fourteen (14). This is based on the data collected from the respondents. Based on the date analysis, the ages not mentioned in the table are irrelevant to the study's results. The overall description based on the study's findings indicates that the youth's awareness of the stories is moderate.

## 4. Conclusions and recommendations

The results on the folk stories in the barangays of Tacurong, which served as the basis for the awareness of the youth, led to the following conclusions: The youth of Tacurong have a moderate level of understanding regarding their folk stories, indicating their appreciation for these stories. Their culture and traditions, which they currently follow, are based on the content of their stories. Furthermore, there is no correlation between their age, tribe, religion, level of education, and the youth's awareness in Tacurong about these tales. The researcher recommends that the collected stories from the barangays of Kalandagan, Katungal, Baras, Tina, and Calean be utilized as foundational materials for teaching literature. Educational resources, such as comic strips, workbooks, modules, plays, and other creative outputs, should be developed using these stories to enhance students' interest and engagement further. Additionally, future researchers are encouraged to explore elements not covered in this study, such as artistic presentation and description, storytelling techniques, and dramatization, to provide a more comprehensive analysis of folktales. Finally, future researchers should continue to explore and document the folktales from the barangays of Tacurong that have not yet been included in this study.

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# Strategy in teaching, critical thinking and student performance key points in physical education during the time of pandemic

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## Abstract

The study aimed to determine the students' performance in physical education during distance learning. Specifically, to present the profile of the respondents and describe the teaching strategies employed by the faculty members, identify student key points in distance learning and determine critical thinking strategies. Utilizing descriptive quantitative research design among 300 students. Results showed that the respondents of this research have an agreement on the listed items pertaining to the teaching strategies employed by the physical education teachers. There is also an agreement on the student key points performance in terms of learning physical education through online modality and on the critical thinking strategies for the student's performance, the researchers proposed action plan to enhance students' performance.

*Keywords:* teaching strategies, student performance, critical thinking

## Strategy in teaching, critical thinking and student performance key points in physical education during the time of pandemic

### 1. Introduction

Teaching using distance learning since the start of pandemic has been utilized and adapted by many universities not just in the Philippines but worldwide. This is used not just in simple academic subjects but also on physical education subjects which resulted to a lot of adjustments and adaptations leading to changes and challenges in terms of student performance and teaching strategies. Unlike other subjects, Physical Education (PE), requires hands on experience and guidance from teachers in order for the students to be able to master the skills necessary not just in terms of their teamwork and collaboration but also the importance and significance of physical education with their health. Activities under physical education subject such as gymnastics, dancing, basketball, volleyball, table tennis, badminton and many others is a challenge to teach specially through distance learning since all requires physical and onsite interaction from the students.

Teaching physical education is a difficult task to do using online modalities. This is a task that requires teachers to be more creative and resourceful in teaching the subject despite the given conditions and restrictions due to pandemic. At the same time, it is also important to consider the different key points in terms of the transition of teaching physical education from face to face to online modality. The technology and the platform to be used in the said endeavor is of great importance since it could influence the academic performance of the students.

According to Vilchez, J.A. BS et al. (2021), pandemic for both teachers and students have shifted to online education. The transfer necessitated modifications to teaching strategies for online learning, examining the best impact on student health, and incorporating views from school health specialists and physical educators. Four main themes emerged: participants believed that providing best physical education through distance education was both essential and feasible; they believed that personalization, creativity, and inclusivity were effective strategies for creating a successful distance learning environment; they believed that professional development, administrative support, and equipment were essential resources for success; and they believed that lessons for the long term were important. Research participants expressed optimism about remote learning and supporting student health while identifying successful teaching practices in physical education during the epidemic, evaluating obstacles, and offering suggestions for future development.

The online PE has been a focus growing presence in education. It marked by the increasing viability of virtual alternatives to brick-and-mortar classrooms and in-person instruction. Distance education and online learning have been gaining momentum in recent years and technologies, such as virtual reality and artificial intelligence, offer new possibilities for education. The past pandemic has merely punctuated the need to explore integrating such innovations into 21st century teaching and learning; thus the delivery of providing quality education for teachers need not be compromised to ensure the holistic development of the students through capitalizing on the inherent interconnectedness between the school, digital technologies, physical education, the family, the community, and students most importantly.

***Objectives of the Research -*** This study determines the Strategy in Teaching, Critical Thinking and Student Performance key points in Physical Education during the time of Pandemic. More specifically, it aims to describe the profile of the respondents in terms of sex, age, and educational level, determine the teaching strategies employed by the faculty members during pandemic, describe student performance key points in distance learning physical education while at home and identify the critical thinking strategies of in terms of the students' performance. Further the researcher proposed action plan based on the identified weakness of this research.

## 2. Review of literature

### 2.1 Teaching Strategy during Pandemic

During the coronavirus pandemic, K-12 physical educators Foye, B. @ Grenier, M. (2021) was switched from in-person to virtual instruction. In online virtual sessions, physical educators talked about the difficulties in reproducing socialization, accountability, student autonomy, and instructional simplicity. For Behzadnia , B. et al. (2022), students use a virtual physical education session during COVID pandemic, a program was shared an opinions about need-supportive and need-thwarting behaviors with their parents and teachers throughout the year. Future patterns display historical trends, which will offer important information for stable market forecasts. While neither parents' nor teachers' need-thwarting or need-supportive behaviors predicted students' intrinsic goal chases, the professors' need-supportive behaviors influenced students' extrinsic goal pursuits. The study identified a positive relationship between motivated goal pursuits and regulated motivation, as well as an advantageous connection between autonomy and motivation. During lockdown, students' motivation gradually increased as a result of parents' need-thwarting actions. Exercise is very important during a pandemic. Students can create extrinsic goals that suit their interests with the help of supportive activities. Furthermore, students were required to pursue intrinsic goals, which could have both positive and negative effects on their autonomous motivation.

Vasquez, E. et. al. (2021), adds that teaching strategies may emphasize responsible social behavior, promoting respect for oneself and others during the pandemic. The study by Murfay et al. (2022) posted how high school PE teachers used online experiences during COVID-19. Their study shows that instructors used more internet films to show physical exercise and less personal modeling. The pandemic's impact on students' health influenced the teaching practices of teachers who promoted online participation in physical education. The study further found that physical exercise can serve as a starting point for understanding how online teaching methods may have affected students' impressions of their experiences. According to Silva-Filho et al. (2020) , the use of distance learning as part of educational techniques in teaching as strategy for teaching in PE. Students were encouraged to immerse an environmental activity at home with interaction, merriment, and improve the immune and cardiovascular system. PE teachers may consider giving a practice of physical exercise as routine activities at home to keep healthy and strong. According to Chen et al. (2018), gamified are active learning resources that can improve engagement, academic performance, and social ties. They evaluate students' perceived value using collaborative wikis and HTML-based games from the learning management system Black Board. Gamified learning exercises can improve performance, offer diverse methods, and cater to diverse student needs.

Vijayan (2021) adapt a measure to make the best use of available resources in teaching strategies had been explored to a limited extent a deployed unprecedented. Finding the main research topics is difficult. These include the following: how the coronavirus disease affects higher education institutions and the difficulties they face; how these institutions use different tools and teaching strategies; how schools and teachers teach and learn; how COVID-19 affects healthcare worker training; what patients learn about COVID-19 and treatment methods; and how COVID-19 and e-learning affect students' mental health. There are valuable lessons acquired about teaching and learning strategies as well as teacher preparation. In order to help the students recognize and make necessary educational adjustments regarding mental health, expert training, and basic education, the teachers employed a variety of resources. Also, Sangeeta and Urvashi T. (2020) found that social influence significantly influences behavioral intention and attitude, potentially affecting educators' acceptance of online learning during the pandemic. The study highlights the significant influence of attitude on behavioral intention and actual use of online instruction during the pandemic, adding to the existing knowledge. Therefore, even in the case of online instruction, stakeholders can examine and ascertain the needs of PE students prior to their graduation.

According to the study, of K.F. Morse et. al. (2021), continuing or increasing leisure time throughout

COVID-19 was a strong predictor of well-being. Some examples of incentives include the desire to pursue artistic pursuits, maintain an active lifestyle, and maintain social connections that are believed to improve wellbeing. There may be preventive advantages to partaking in creative and athletic leisure activities. Mehmet Sezai , M. TÜRK( 2020), introduced remote learning through TRT and EBA with the hashtag "#not a holiday distance education" to overcome the physical limitations of schools during the pandemic. The ministry has enhanced and expedited the production of lecture films for every grade in a matter of weeks using the distance education application.

Sekulic Damir et al. (2020) study found that social distancing regulations during the epidemic directly affected population physical activity levels, with boys experiencing a significant decline in physical activity. However, both boys and girls showed a positive correlation between baseline physical activity and fitness status. Those who engage in activities that enforce social distance norms have the highest levels of physical activity and the best capacity for both anaerobic and aerobic endurance, which directly affects overall physical activity. The study found no significant correlation between anthropometric and fitness characteristics and physical exertion and skills, with male participation in organized sports contributing to gender disparities. Elfirdoussi, S. et al. (2020) Professors and students contend that online learning is not as good as traditional methods; hence, Moroccan institutions have limited online, public, and private schools as a result of the pandemic. However, according to Barnet, L.M. Stodden et al. (2016), the value of holistic physical education and sport development in distant learning fosters mental, emotional, and physical well-being for long-term, sustainable learning.

According to Francisco (2020), Eliademy serves as an online classroom, providing a backup learning resource during emergencies. With "open the link," "lay in," and "log out," this tool facilitates the establishment of web-based classrooms and encourages productivity management, induce, and challenge for users with a good internet connection. Teachers may use on the needs of the learners since platforms have features. Doing this may promote schools' learning management system (LMS) which is required by the different accrediting agencies (e.g. PAASCU, PACUCOA, ISO). Another study of Alawamleh et al. (2021) revealed that majority agree with questions of the study students prefer classroom classes over online due to problem face take online class because of lack motivation, understanding of material, decrease in communication level between students and teachers because they feel isolated when online. Rakhman et al. (2020) added that students learn movement skills through traditional games. This is supported by Banjar (2020), Traditional games foster neuromuscular development, which is the synchronization of voluntary and nerve movements. They also help players learn abilities like kicking, striking, dribbling, and catching a ball, as well as other movement skills like staying in one spot.

The study according to Mishra et al. (2020), teaching and learning methods are facilitating a subsequent semester exam because they will enhance intellectual enrichment and provide opportunities for future academic decision-making in the event of any issues. The global educational system, from elementary school to college, has collapsed as a result of the coronavirus disease-induced lockdown period. According to the recent study of Huber and Helm (2020), because of COVID -19, virus had reached closed in March 2020. Posted the first phase of the school lockdown, educators were allowed only to repeat content that had already been taught. Teaching of new content was not intended. During the school lockdown, however, this has changed, and new curriculum content has been delivered. A digital learning information must be provided instantly to inform education policy and practice.

There are ten strategies to support students and help them learn during corona virus crisis according to Imad (2021). First is to email the students to remind them that you are concern for them, second tell the students the shifting of schedule if it is synchronous or asynchronous. Third is to reflect the meaning of rigor and continue to challenge by supporting the amount of work to them and give them a consideration. Fourth is review lessons of reflect the activities specially those who are missing the class, remind the activities that they had done during asynchronous. Fifth is to use hopeful an optimistic language, help the students look forward to face-to-face learning. Sixth is to offer an opportunity to exchange in messenger for it is a time for interest. Seventh help the

students to consider the sources of their research and beware of too many requirements. Eight, students who are left behind, consider by creating a discussion what is happening in their lives, fear and strain in uncertain times. Nineth is feeling for the students that you are with them in time of needs like counselling to speak to someone. Assisting the students comes in tenth. "There is a field out beyond ideas of wrongdoing and right doing," the Persian poet Rumi states. There, I'll meet you. Try to create space where the students may voice an insight like helping them.

Joaquin J.J. B.et al.( 2020 ), from the Philippine Higher Learning Sector in the Time of Pandemic examines and contrasts policy responses in many nations, including Vietnam, Thailand, and Indonesia. The public responded to news reports about neighbors in Southeast Asia. There are still gaps and difficulties in Philippine higher sector creativity when it comes to using technology to deliver instruction and alternate learning modalities. The significance of e-textbooks, according to Dennis et al. (2016), is professors can annotate passages with extra information. The recommendation is to utilize both multiple-choice and open-ended exam problems for assessing learning in interactive e-textbooks and at higher learning levels. It suggests adopting learning innovations and policy solutions and having a solid understanding of distance learning. Using prepaid mobile data, Baticulon et al.'s (2021), encouraged medical schools to switch to online instruction, concentrating on the study habits, living conditions, and perceived obstacles of developing nations. Out of 1505 students, only 41% believed they were capable of completing online coursework, out of five categories: technological, individual, household, institutional, and community. Importantly, Bruchok et al. (2017) assert that active learning online instruction is beneficial, demonstrating the usefulness of literature as a teaching instrument and assessing students' retrieval abilities rather than comprehension.

Baker, et al. (2019) study comparison group of students completed an online survey on their viewing habits of course lectures, including their web browser and use of headphones or speakers. Chingos et al. (2017) used a random exam to assess students' arithmetic learning in an online summer math program, but a measure can also increase first-year performance, placement and enrollment in fall math programs, and access to math preparation. They found that an online tool did not improve their arithmetic skills because they had to retake the test and improve their results if they earned low scores. According to DeBoer, et al. (2019) the Massive Open Online Courses (MOOC) has lack of substantive integration of hands-on activities into online classrooms. They used a random control trial in MOCC where treatment was based on home lab kits in their own homes. While self-concept growth was not statistically different, the study did find that students in the therapy group had greater exam results and self-efficacy in a particular issue area. This implies that engineering online learning can improve classroom settings.

The study of Kloos, et al. (2019) argue that reading proficiency may attain, to sustain the theory insights an applied to consider the idea of pedagogy the MVRC emphasize the mastery of basic reading skills to support the development of reading fluency because it focuses on basic skills that diverges as goal motivation. There are three conditions to test such as: (1) instruction as usual, (2) instruction with an alternative online reading program, and (3) instruction with MVRC. They assessed reading fluency, phonic skills, and listening vocabulary at two time points: before and after the intervention. Although MVRC greatly improves reading fluency, teachers are concerned about programs that prioritize mastering fundamental skills above promoting reading. A research of MacKenzie, (2019) demonstrates how the use of interactive online learning (IOL) improves learning and produces superior learning outcomes. Teachers may makes the assumption that students with limited time (20 minutes) and limited attempts (2) will actually read the chapters before attempting to finish the interactive online activities, which will increase the link between exam scores and the interactive online activity scores. Students can look up the answers in the textbook without having to study the given chapters thanks to limitless attempts and time. There was a statistically significant correlation between the combined exam results of the experimental groups that had fewer tries and less time spent on the IOL tasks. A formative exam without restrictions did not connect with exam scores; ones with limited tries and time did. Nye et al. (2018) discovered that Auto Tutor enhances user views and learning outcomes by finding a significant correlation between exam scores and fewer attempts and shorter time spent on IOL activities.

Online education in India during pandemic Muthuprasad T. et al. (2021), the educational school all over the world particularly India , posted that e-learning is not clearly understood. Because it is difficult to transition to online learning and necessitates creating a curriculum for the new normal, students in agriculture classes demand a hybrid curriculum for in-person instruction. Hyun-Chul Jeong et al. (2020) examined the difficulties of running online PE classes because of coronavirus disease 19, six teachers were participated in Korea Council School PE promotion, three were recommended to online classes to attend seminars to improve procedures and collect data to analyze the difficulties in monotony of classes monotony of the classes within their limited environmental conditions and limited educational content that did not adequately convey the value of physical education, (2) trial-and-error methods applied nationwide, resulting from a lack of expertise in operating online physical education classes, and (3) very limited evaluation guidelines proposed by the Korea Ministry of Education, which made systematic evaluation with online methods impossible. Through cooperation with PE teachers, they foster teaching competence, communicate value, create interactive content to comprehend online PE characteristics, and promote student participation.

Nasário J.C. et. al (2020) identify PE with health promotion because this subject is inseparable with their performance, the study and survey assess the value of PE and health is only an academic training only. The total number of 942 of PE professionals and undergraduate students considers 86.9% believe about health attain a training for them but for them it is responsibility for childhood to emphasize the value of health to avoid obesity to practice physical activity as external factor for media, family and workers. For the players in school a health is the considered as part of curriculum and strategies to meet the need of good health. According to Reimer F. et al. (2020), teaching and learning present a fundamental adaptive and transformative challenge during a coronavirus sickness, to combat the global coronavirus epidemic the officials developed video-based online demos, established learning objectives, and organized a particular environment. Physical education teachers had created customized fitness regimens, promoted exercise at home, and investigated innovative movement exercises for both online and in-person environments.

According to Kogoya T. et. al. (2023), experts assessed a program that used thirteen traditional games and tools in elementary school instruction to help students at SDN Kebraon I and II Surabaya develop an appreciation for peace. Through playing these games, the students were able to identify, comprehend, and put into practice values that promote peace, like cooperation, tolerance, respect, openness, and care. Tanucan (2021), the study evaluated physical education teachers' readiness to use technical pedagogical content knowledge to implement remote digital teaching in all subject areas. PE teachers have been able to successfully navigate an educational paradigm that emphasizes the use of technology and other digital platforms because they are prepared to undertake remote digital instruction across all subject areas. Educators prepared for the pandemic by integrating topic, pedagogy, and technology knowledge and integrating demographics and backgrounds through capacity exercises.

By restarting regular educational operations, overcoming academic obstacles, and maintaining a comprehensive educational experience, online education helped during lockdown. Teaching strategies during a pandemic may include identifying effective physical education teaching methods, assessing challenges, and making recommendations for future research. Physical activity levels and correlations between activity levels and baseline fitness status demonstrate physical literacy. Establish online forums so that students can interact and help one another. Promote fitness activities for the whole family and work with neighborhood groups to create safe areas for physical exercise. For well-being, incorporate mindfulness exercises into physical education classes. In physical education, emphasize positive reinforcement, address social-emotional learning skills, and continuously evaluate instructional methods. Give educators opportunities for professional growth and be adaptable to the demands of your students.

*2.2 Students' Academic Performance*

According to Camariñas, R. P. et al. (2022), coronavirus disease 19 had a huge impact on higher education

worldwide, causing major changes and school closures in the Philippines. Teaching tactics, students' experiences, support, resource availability, and student-teacher contact are all crucial. Modernizing facilities and equipment is necessary to increase students' enthusiasm for physical education and their educational experiences. Teachers should work in an environment that supports their professional development, engage with students, and use effective teaching techniques when teaching physical education online.

Moustakas L. and Robrade , D. (2022), this study looks at the e-learning resources used in sports and physical education during the SARS-CoV-2. Interaction and variation are essential for effective online learning, according to the results. Teachers find it difficult to inspire their students, though, particularly when there is no visual connection. The study highlights the need for more research and creative thinking by offering possible directions for practice and study to overcome the difficulties in converting sport and physical education to online settings. Antonino et al. (2022), examined the effect of school physical education on teenagers' fitness levels during the COVID-19 pandemic. They compare these students with those from Traditional High School (THS) and find that a normal student participated in physical education (PE) for nearly the entire year 2021, indicating that SHS may have had an effect on teens' fitness levels. Consistent evidence indicated that teens' levels of fitness declined as a result of the COVID-19 quarantine and NPIs. The strength performance of SHS students consequently improved.

Safonov M. A. (2021), one component of the study on the effectiveness of online learning in educational institutions during the SARS-CoV-2 epidemic is a SWOT analysis of the knowledge evaluation system. Management consultation involves scenario analysis and action plan development, but inadequate evaluations from instructors and students contribute to the issue of distant learning in higher education. The current understanding of the state of the distant learning problem has shown the following aspects: the positives include information security, learning process analysis, and feasibility; the downsides include a lack of individualized instruction and practical language training. In order to improve distant learning and create more pertinent curriculum for higher education institutions, it is practical to get a sufficient evaluation of the work done. Patti A. et al. (2022), analyzed the fitness levels of SHS students during COVID-19 quarantine, revealing significant differences in handgrip, surface foot, and cross-body motions compared to traditional high school students. On handgrip and cross-body tests, however, SHS students showed improvements. Surface foot tests revealed moderate correlations with CMJ, whereas handgrip tests indicated substantial connections, according to Pearson's analysis. As a result, COVID-19, isolation, and NPIs all decreased teens' levels of fitness. However, Dutton and Dutton (2005) study examined how well-prepared, motivated, and satisfied online learners were for lectures, assignments, tests, class records, registration records, and surveys were used to gather data. The online and lecture sections differed significantly, according to the results.

Dangle and Sumaoang (2020) draw attention to the difficulties that instructors, parents, and students encountered when B. N. High School and B. City N. High School implemented modular distance learning in 2020–2021. Students struggled with self-study due to a shortage of school revenue for module generation, and families lacked the information necessary to mentor their children. School was faced to challenges in term of resources, preparedness and communication, in this way school has to face future improvement and school guidelines to improve module in distance learning. Gopal et al. (2021) employed four independent criteria to examine the factors influencing students' satisfaction: student expectations, timely feedback, instructor quality, and course design have a beneficial effect on students' satisfaction. The positive impact on performance and satisfaction levels is beneficial for educational management as well. Barrot et al (2021), gives online learning challenges of the students in their learning environments, at home while challenges were in technological literacy and competency. COVID – 19 pandemics had a great impact to the quality of learning in their experience and affect their mental health. The strategies used were resource management, time management, and learning environment and control.

According to Maheshwa (2021) the educational program in Vietnam happened in late January 2020, and since then the Government made a very assertive decision and closed all the educational institutions. The

participants were undergraduate and post graduate students who studied online during pandemic. The result is the institution support and perceived enjoyment satisfied but affect the student's intention to study in online. The infrastructure and access to the internet (ICT) influences the student's intention to learn online by using smart phones, integrate mobile technology, lecture with videos, audios, and messenger to contact students. Other feedback will provide a useful insight design to consider for the students to satisfy in learning. Vonderwell and Zachariah (2005) influenced with different factors: technology and interface characteristics, content area experience, student roles and instructional tasks, and information overload. An effective online learning has in need of interdependence for shared understanding, learning output, performance activities in monitoring task by doing performance task can closely be a pattern of participating in identity student needs and scaffold learning accordingly, by doing through asynchronous and interface design.

For Kaur H. et. al (2020), there are numerous works from home instruction has been pondered and vital concern is health and fitness. The activities have hampered in many aspects of the lives of the people including routine fitness activities of fitness freaks, which has resulted in various psychological issues and serious fitness and health concerns. An alternate exercises and fitness activities at home helped them deal with psychological issues and physical health consequences. A gradual fitness program has been shown for their free time to increase a positive outlook, self-perception, and motivation to overcome their stress and continue exercise at home. Blazer (2016) emphasized the importance of lifelong learning and the interplay between academic and non-cognitive outcomes for a comprehensive understanding of student learning. Students who exercise regularly during lockdown may be able to overcome both fitness and psychological obstacles. The students may use music as an aid during their workouts. It is important to remember that teaching tactics may not always enhance all results.

Khan et. al. (2020) posted that the students were about to adapt a digital leaning experience has emerged as to online learning. The study demonstrates that, as a result of the SARS crisis, students have a favorable attitude toward online learning. Technology has improved learning outcomes, and online education has demonstrated a new method of improving the learning process. But, sports and physical exercise are essential for enhancing students' educational experiences, according to Ho et al. (2017). They employed exploratory factor analysis to evaluate the quality of physical education specialists at various levels. The study found that correlation, internal consistency, and structure are sufficient factors for understanding physical education practices, along with the use of appropriate materials.

While Sison M. O and Bautista S.C., LPT EdD FRIEdr (2021) technology-assisted education offers a platform that makes the learning system more accessible. Under Republic Act No. 10844, the government used information and communication technology to promote all industries. This clause justifies the Commission of Higher Education's (CHED) endeavors to provide accessible and high-quality education, particularly during emergencies. As stated in CHED Memorandum No. 4, Series of 2020, it is now essential to look at alternative cutting-edge learning modalities that will facilitate the shift from traditional to flexible teaching and learning options. The students can compete and have more educational options thanks to online courses. Regardless of whether learning occurs in person or through technology, learning engagement has a beneficial impact on learning efficacy and satisfaction. For radiology technology programs to have a strong online framework model, faculty technical proficiency and instructional design are essential. Professors are confident in their ability to introduce a more accessible learning system through online learning.

Mendoza D. 2021, Challenges emerged along with the new normal of teaching and learning through digital techniques. In terms of coping mechanisms, the majority of students show less interest in engaging in physical activities during online classes. The majority of students find that music helps them unwind, but many also struggle with poor comprehension and internet connectivity when taking lectures online. According to students' experiences with instruction, physical education teachers used online forums to discuss classes and allowed ample time for students to complete and turn in all of their assignments. During online learning, students listened to relaxing music that helped them decompress, but they did not spend as much time stretching for their physical

well-being. Even though students had trouble connecting to the internet when playing online solo and dual sports, they nevertheless demonstrated a high level of comprehension when it came to digital learning in the context of physical activities during the epidemic.

According to Belleza S. et. al. (2021), The foundation of distance learning has been the use of digital tools like email, online courses, and document-sharing websites. The crisis has brought attention to the need for teachers to become more digitally literate. Physical education teachers face difficulties with educational technologies, such as issues with online teaching modalities and platforms, limited internet access, and a lack of technological tools and gadgets. Conversely, physical education teachers' coping strategies include retooling, having an attitude, and offering substitute methods. Numerous agencies, including DepEd, TESDA, and CHED, may conduct online surveys of instructors and students as part of their study of the initiatives' design and execution. According to Paderanga L. (2023), During the COVID-19 epidemic, physical education teachers had prepared a lesson for online instruction. They experimented with customized education, pushed students' creativity, and created creative online PE teaching strategies. COVID-19 improved strength performance but decreased students' levels of fitness. Teaching methods, student experiences, assistance, resource accessibility, and facility modernization are some of the contributing factors. Benefits of distance learning include feasibility and information security; nevertheless, drawbacks include a lack of individualized instruction and hands-on language study.

*2.3 Student's Critical Thinking*

Seguya Kamoga et. al. 2021, Sweden's strategy for handling the COVID-19 outbreak attracted international notice. Interestingly, Sweden was among the few nations that did not impose any lockdowns during the outbreak. As a result, elementary schools continued to operate, and classes, including physical education, continued as usual. According to a study that looks at how PE teachers view the pandemic's effects on Swedish physical education, the parameters of physical education in Sweden are evolving faster than ever before during the COVID-19 epidemic. The pandemic, potential remedies, and subsequent changes required to manage the present COVID-19 scenario have all had a bearing on PE; it is important to ask open-ended questions for the activities at home in PE. Alcala D. H. et. al. 2022, help PE teachers deal with this important topic, the text examines how COVID-19 safety precautions affect students' emotional states. These categories included student social contact, experiences with physical distance, and experiences with wearing a face mask. Because the SARS-19 epidemic has influenced students' views and safety measures, physical education teachers have to think about the value of physical education. The utilization of analogies is essential to help kids understand and respond.

Cruickshank, Vaughan et al. (2021) sought to investigate the experiences of teachers with online physical education delivery. Research has documented the use of blended learning and flipped classrooms in physical education; however, little is known regarding the delivery of physical education in fully online schools. The 2020 Covid-19 suppression measures, which required a move to online education, allowed for an examination of online PE delivery. Teachers' experiences show that physical activity (PE) is often marginalized or initiated, with concerns about teacher-student connection and inconsistency in online learning platforms, leading to diminished educational purpose. Valeria V. et al. (2020) groups of people were attempting to employ an analytical technique in order to determine the relationships and effects that made up social structures. In the age of COVID-19, preservice teachers are finding it challenging to reconstruct physical education, which results in feelings of uneasiness and worry. Due to a change in technique, students struggled in a physical education class that excluded the impact of face-to-face contact with peers. During COVID, the new PE tactics made it possible to realign PE with digital technology. Pre-service teachers found it challenging to create "new PE" since they were unfamiliar with the modifications. In Spain, where physical contact between teachers and students was once commonplace and taken for granted, the new PE ensemble causes a dramatic shift in the ethos of PE instruction.

Festiawan Rifqi et al.(2021) studied learning models on students' fundamental in reasoning and inspiration acquisition during COVID-19, particularly in real-world training. The problem-solved approach to learning has

an effect on understudy motivation. When it comes to understudies' fundamental deduction skills in real school mastery, the problem-based learning approach is more persuasive than the immediate demonstration model. When it comes to understudies' motivation to study in real schooling, the problem-based learning approach is more effective than the instant encouraging one. Based on these results, it is reasonable to assume that problem-based learning has an effect on fundamental thinking skills and understudy motivation and that issue-based learning produces better results than direct instruction.

Chan, W.K. et al. (2021), online physical education programs, lacking real-world experience, low student motivation, and interpersonal relationships, have negatively impacted students' motor skills and physical workouts during the pandemic. Numerous educators proposed that the school might offer online lesson plans and homework assignments. The online training was challenging due to the additional workload and safety concerns associated with the at-home exercise routine. Therefore, frontline PE teachers typically felt that online instruction was difficult and ineffective during the COVID-19 school closures. For PE teachers to create engaging and innovative online classes that will improve students' motor skill development and level of physical activity, schools and governments should give them enough resources, such as online teaching kits and specific teaching guidelines.

López-Fernández Iván et al. (2023) to COVID-19 the negative effects and difficulties in physical education that teachers face during the pandemic were focused. The consequences for teachers' educational activity for future of physical education have received little attention, despite well-informed requests for reform and dramatic transformation in the field. Social constructivism's three main themes emphasize the theoretical strength of collective development to overcome challenges and improve the physical education system. Physical education teachers significantly influence digital technologies in physical activity, ensuring that physical education remains relevant to schooling. The epidemic has shaken the fundamentals of physical education, resulting in a situation where teachers exhibit high levels of camaraderie and enhanced preparedness to face present and future obstacles. This might be an additional phase in the PE journey toward community goals.

Matthew J. (2019,) strategies had increased the students critical thinking during SARS pandemic, a critical thinking abilities are necessary for students to comprehend daily life and assess the thoughts of others, which improves their capacity for discovery through analysis and logical investigation. Critical thinking abilities are necessary for students to comprehend daily life and assess the thoughts of others, which improves their capacity for discovery through analysis and logical investigation. According to Petiot and Saury (2019), the use clear or identity for the students by struggling to learn would help the students to promote their engagement in learning activities. The metaphors were used from the beginning of the school year; (b) these concerns' dynamics when metaphors were used during the PE unit; (c) the effects of the use of metaphors, as perceived by the teacher, on student engagement with learning activities. The approaches help to conduct to use course of action to become aware to learn activities in physical education. Magulod Jr.G.C. (2019), shared that student of 21st century may become better, proficient, versatile, and productive in industrial technology needs to align to study habits and examine the level of academic achievement enrolled. The result, student enrolled in science chose a tactical learning while study habits are moderated. While the level of academic achievement is good. Physical education professors in the Philippines held online lessons during the COVID-19 epidemic, encouraging students to experiment with new concepts and use creativity in their work display.

Dela Pena S. (2023), posted that global COVID-19 pandemic has changed the educational landscape globally, including in the Philippines. To maintain the quality of education in the country, educators must adapt to the new teaching-learning process that both students and teachers must navigate. The student critical thinking may allow to ask open-ended questions for the activities at home, an online tests and digital pedagogy have completely changed education, bringing with them new problems and experiences for both teachers and students, including those in physical education. There are subthemes that emerged from teachers' experiences with student performance and difficulties, indicating the necessity of an intervention program to improve their conduct, knowledge, abilities, and teaching competences. Jieun Yu and Yongseok Jee (2020), study examined the

effectiveness of online practical sessions in PE classes during the SARS-19 pandemic, revealing challenges with group projects, mistakes, and varying levels of effectiveness for teachers and students. The students' critical thinking, prompt and high-quality feedback is necessary for the successful implementation of OPC in physical education; promoting interaction among students during the discussion the teachers should plan ahead, minimize technical faults, and consistently inspire students. After COVID-19, it is crucial to get ready for the new normal. To guarantee constant feedback, colleges should give teachers ample time to create OPC videos and instruct students in real time.

Yang ping Li et.al (2021), had shared his study of how online teaching to modify teaching strategies, developing courses could suit the students to learn at home by improving key competencies. A curriculum designs a Thinking Based Instruction Theory (TBIT) – based micro- courses used as background during pandemic. The result TBIT based micro-courses was improved the course quality and enhanced the student's motivation. The online learning behavior like interactive communication had improved. This interesting course help the students to improve students thinking abilities and key competencies. Mirahmadizadeh, et. al. (2020), pointed that students were affected since their emotions towards education and school attendance, were utilized in achievement emotion questionnaire as web-based cross-sectional study, the positive and negative emotions towards school. The result is a satisfactory level of students' emotion that indicate enthusiasm towards learning students' education improvement and activities during a global health crisis and social distancing periods is justified.

The transition from traditional in-person instruction to distant or hybrid learning during the SARS-19 epidemic requires significant modifications for both educators and learners (Camarador, Lisa D. and Camarador, Rhene A., 2023). In light of the current circumstances, it is critical to gain a deeper comprehension of the experiences of educators in instructing outdoor and adventure activities throughout the pandemic. The instructors firmly believe that outdoor and adventurous activities have many advantages. Teaching the subject allows teachers to be more creative with activities for students and gives them the chance to apply outdoor-related life skills in real-world situations, even during a pandemic. The benefits from the teachers' experiences teaching in outdoor activities will help the students professional development, intervention efforts, and policy-making. As a result, students can exercise thinking while also efficiently practicing a particular ability through discussion of an activity.

According to Sadsad M. (2022), strategic intervention materials are instructional resources that assist teachers in providing high-quality instruction by addressing students' subpar academic performance. Several sectors of physical education had previously used this strategic intervention material. Results from physical education showed that the SIM is successful in raising students' performance levels. As students give favorable feedback on the strategic intervention materials used in physical education, their critical thinking skills and academic performance improve. Aclan M. E. et. al. (2022), emergency remote teaching were used participatory and appreciative action and reflection approach, are strategies innovated by performance-based teachers for abrupt shift from face-to- face to virtual during the pandemic. This strategies developed students' social emotional skills and what new insights they generated. The students developed creativity and resourcefulness, persistence, and engaging with others. Therefore, participants reflected that educators need not panic instead is to serve as challenge even in most adverse situations like the unexpected pandemic as they themselves have become more creative and resourceful to quickly shift to emergency remote teaching and respond to students' needs and more flexible to cater to students in different time zones with various challenges.

For Castanos N.A. (2022), everything has altered since the outbreak in the Philippines. These are the criteria that people or organizations use to decide what is significant or worthwhile in the workplace. Through work-related beliefs, character traits, and dispositions that impact managerial behavior, work principles are responsible for enhancing leadership and management. The application of analogies from physical education in activities is a motivating strategy for accomplishing business goals and encouraging employees to develop their abilities. These materials serve as instruments for continuously reminding employees to stay in shape for their

values. Through excellent instruction, positive work values in higher education support students' growth and mental development, which in turn affects learning outcomes. Ferri, et al. (2020), conceptual study of an online discussion forum revealed a lack of digital skills, structured material, and teacher-student communication despite the abundance of online resources and high levels of involvement and connection. They were working on a global emergency plan, so parents were not present. The proposal suggests tackling the difficulty of implementing instruction that can enhance online learning, creating new chances and opportunities for reflection.

Ahmed Hassan Rakha 2023, used experimental group used collaborative breakout groups on Blackboard, while the control group relied solely on online lectures and continued using the same approach without breakout groups. The group demonstrated superior cognitive achievement, indicating that the learning process design promotes student participation, cooperation, and reinforcement. The experimental group observed learning outcomes for a month after halting teaching procedures, highlighting that using webinar platforms like Blackboard Collaborate Ultra does not guarantee meeting desired learning objectives. To increase student engagement in online learning, it's critical to find ways to incorporate active learning techniques like collaborative learning. To think strategically during the pandemic, the development of critical thinking abilities and critical competences in these courses led to improve the students' motivation, online learning habits, and course quality. At all educational levels, interpersonal, communication, problem-solving, and teamwork skills are important and crucial. Students should be able to understand everyday life, think critically, and assess the opinions of others, while educators can create a more engaging, equitable, and effective PE experience for all students, even in the face of unprecedented challenges.

## 3. Method

***Research Design -*** The descriptive survey used to achieve the objectives of this study. This method could best help the researcher gather data about present existing conditions and situations. Descriptive research is usually defining as a type of qualitative research, it can use a wide variety of research methods to investigate one or more variables. This research design should be carefully developed to ensure that the result is valid and reliable. In this study, the researcher investigated physical education students in selected sections of LPU Batangas schools in Batangas City.

***Participants -*** There is a total of approximately 3,000 students enrolled in PE 1,Physical Fitness and 2 Rhythmic Activities , 3 Sports wherein 10 percent of the population were taken equivalent to 300 students, They were randomly selected from 3 teachers who are researchers of this study. A convenient distribution was done to ensure data privacy during Pandemic time that limitations were relative to those who do not want to participate while others are sick and under isolation or quarantine.

***Procedure -*** The researcher first formulated a proposal for evaluation and approval of the research coordinator and the dean of the college. After it has been approved, data gathering then commenced. Students were given informed consent and data privacy form to fill out before answering the survey forms. After gathering the necessary information from the respondents, data was then encoded and tabulated for statistical purposes.

***Data Analysis -*** Since this is a descriptive study, data was analyzed using descriptive statistics such as frequency, percentage, mean and rank.

***Ethical Considerations -*** Before, during and after conducting this research, the investigators adheres to the ethical considerations such as data privacy and confidentiality. Consent from the respondents were also secured prior to data gathering.

## 4. Results and discussion

Table 1 show that there are both the 1.66% of age 17 years old and, 22 – 25 of age while 18 – 21 has 96.67.

There are more participants of these ages 18 – 21 students for they have to continue their education, put alternative methods to continue their learning to attend their class online and this method will be successful to become safe at home and to the environment. While ages 22 – 25 still in their second year had their PE Team sports found in the study the difficulties of running online physical education classes in the context of coronavirus disease but they need to be creative on the available resources at home.

**Table 1**
*Percentage Distribution of the Respondents' Profile*

| Age | Frequency | Percentage (%) |
|---|---|---|
| 17 years old | 5 | 1.66 |
| 18 – 21 | 290 | 96.67 |
| 22 – 25 | 5 | 1.66 |
| Sex | | |
| Male | 132 | 44.00 |
| Female | 168 | 56.00 |
| Year Level | | |
| First year | 269 | 89.66 |
| Second year | 31 | 10.32 |

To better comprehend and convey the importance of physical education, educators require a systematic approach to learning. In the process of active involvement online, parents, relatives, and PE teachers have to come together to develop instructional skills. Female of 168 or 56% outnumbered male students in Physical education class, which is the data collected; still of teachers concern how to handle. Guerriero (2020) study about teachers as learning specialists can be evaluates as core of practice by profession. Updating their expertise entails refining their methods to satisfy students' evolving learning needs. It is crucial to identify the critical elements that influence student accomplishment. By emphasizing knowledge as a professional component, improving performance, and fusing situational and contextual components to better teaching and learning processes, educators can improve education.

**Table 2**
*Teaching strategy during pandemic*

| Teaching strategy during pandemic | Weighted Mean | Verbal Interpretation | Rank |
|---|---|---|---|
| Fundamental motor movement skills and apply them to complex movement patterns utilized in multiple activities | 3.35 | Agree | 9 |
| Application of knowledge of concepts | 3.36 | Agree | 8 |
| Application of knowledge of principles | 3.34 | Agree | 10 |
| Application of knowledge of strategies and tactics to movement performance | 3.40 | Agree | 7 |
| Responsible personal social behavior that respect self and others. | 3.48 | Agree | 2 |
| Recognition of the values of physical activity for health | 3.50 | Strongly Agree | 1 |
| Recognition of the values of physical activity for enjoyment | 3.47 | Agree | 3 |
| Recognition of the values of physical activity for challenge | 3.44 | Agree | 4 |
| Recognition of the values of physical activity for self-expression | 3.43 | Agree | 6 |
| Recognition of the values of physical activity for self-interaction | 3.43 | Agree | 6 |
| Composite Mean | 3.42 | Agree | |

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

Results in table 2 shows the teaching strategies employed by PE faculty members during pandemic. Ranked the highest is recognizing the value of physical activity for health with a computed mean of 3.50 verbally interpreted as strongly agree. The benefits of physical activity throughout the epidemic improved students' moods and general well-being. Additionally, physical activity can help people feel more secure in their bodies and skills while also developing and boosting their self-esteem. Additionally, it enhances social contact in team

sports, dance, and physical fitness tests that offer chances for connection and social interaction.

Nasário J.C. et. al (2020) identify that PE with health promotion is an inseparable subject. the study and survey assess the value of PE and health among total number of 942 of PE professionals and undergraduate students . results considers 86.9% believe about health attain a training for them. It is the responsibility for childhood to emphasize the value of health to avoid obesity to practice physical activity as external factor for media, family and workers. For the players in school a health is the considered as part of curriculum and strategies to meet the need of good health. Parallel to Vilchez B.S. et. al. (2021) on the critical role in student health during the pandemic, the benefits of physical activity had improved students' moods and general health during the pandemic. Teaching methods during the epidemic placed second rank on responsible in personal social behavior that respect self and others emphasizing societal and personal responsibility of 3.48 agree Teachers may find it challenging to monitor and assess students' social interactions and behaviors in distant learning environments, which may restrict possibilities for meaningful social contact and socio- emotional development assessment. Sekulic Damir et al. (2020), while pandemic social separation laws during epidemic had a direct effect on the amount of physical activity among the populace. Although there was a favorable correlation between baseline physical activity and fitness status for both boys and girls, boys' levels of physical activity considerably declined. Activities that imposed social distance standards showed the highest levels of endurance and physical activity. Male participation in organized sports caused variations in physical activity levels between the sexes.

The primary focus of the teaching technique is to make sure that students can sustain basic levels of physical activity in order to prevent the negative effects of sedentary lifestyles during lockdowns, even though the third recognition of the values of physical activity for enjoyment is 3.47. The importance of physical activity for overall health, including increasing immunity and reducing the risk of chronic illnesses, was highlighted during the pandemic. Vijayan (2021) research has focused on maximizing resources in teaching approaches by adapting a metric. Finding the main study topics is difficult. These include the difficulties that higher learning institutions encounter and the effect that the coronavirus sickness has on them. There are valuable lessons acquired about teaching and learning strategies as well as teacher preparation. In order to help the students recognize and make necessary educational adjustments regarding mental health, expert training, and basic education, the teachers employed a variety of resources. Lowest in rank among the listed items is application of knowledge and principles with a mean of 3.34. This may be the lowest in rank among all the items, yet the respondents still agreed that this is still being exhibited by physical education teachers. Physical education should emphasize hands-on exercises, movements, and the actual application of skills throughout the pandemic. The pandemic has severely limited students' participation in essential aspects of the subject due to social distance and restricted access to communal areas.

As a result, educators had limited and thought its boring to discuss principles instead can use apps and online fitness platforms to give students access to educational films, fitness challenges, and online fitness groups. Rhealen P Camariñas et. al. 2022 pandemic had a significantly effect on higher education in the Philippines, necessitating building modernization as well as adjustments to teaching methods, student experiences, support, resource availability, and student-teacher interaction in order to deliver the best instruction possible during the pandemic.

**Table 3**
*Student Performance Key Points for Distance Learning in Physical Education while at Home*

| Student Performance in PE while at home | Weighted Mean | Verbal Interpretation | Rank |
|---|---|---|---|
| The technology of internet is easy to navigate | 3.08 | Agree | 20 |
| The technology of internet has an easy in interface of design | 3.11 | Agree | 19 |
| The technology of internet is ready for classroom interaction | 3.12 | Agree | 18 |
| Technical support for teacher's instruction and students | 3.35 | Agree | 16 |

| | | | |
|---|---|---|---|
| Technology plan has attained to communicate goals to all students | 3.28 | Agree | 17 |
| Student access to learning resources and instructions | 3.40 | Agree | 14 |
| The student has attended an orientation and training in LMS | 3.47 | Agree | 9 |
| The course is well-designed and appropriate for learning materials | 3.47 | Agree | 9 |
| Course design and delivery of the lessons in PE has an appropriate of assistance | 3.48 | Agree | 6 |
| The teacher has a training in distance education pedagogy and technology | 3.46 | Agree | 10 |
| The teacher has been releasing a time for course development | 3.48 | Agree | 6 |
| The information provided by the teacher about teaching in PE has appropriate for the distance learning environment | 3.47 | Agree | 9 |
| The community has an involvement in the programs of PE for the goals, policies, and outcomes | 3.37 | Agree | 15 |
| The teacher is qualified, experienced while teaching PE | 3.57 | Strongly Agree | 1 |
| The student information has a privacy | 3.50 | Strongly Agree | 4 |
| The teacher has an effective in communication of policies | 3.54 | Strongly Agree | 2 |
| The teacher uses a strategic plan in PE for delivering distance education to students | 3.51 | Strongly Agree | 3 |
| Stakeholder analysis has determined the needs of PE students before they graduate | 3.40 | Agree | 14 |
| Stakeholder analyze to determine needs of PE students before they graduate. | 3.41 | Agree | 12 |
| The school has provided the PE students services: information, advising, orientation, and security while in distance learning | 3.43 | Agree | 11 |
| Composite Mean | 3.39 | Agree | |

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

Students agreement on the listed key points regarding their performance and fitting of physical education in terms of distance learning is presented on table 3 with a composite mean of 3.39. The teacher is qualified, experienced while teaching PE has the highest mean of 3.57 with an interpretation strongly agree. This simply proves that the faculty members of this institution have met the qualifications and has the necessary experience and expertise in teaching physical education as perceived by the students. This is because the university adheres to the CHED policy, MEMO on teachers qualification standards, but they are still reminded to update their ability to become competent in coping with the challenges for the needs while pandemic time. Teachers are encouraged to engage in seminars, forums, and conventions that could update, if not boost, their knowledge, skills, and attitudes in improving the learning environment, learners' holistic development, curriculum planning, and assessment of learning. Also, Sison M. et al (2021) , posted that in order to improve accessibility in education, competent teacher need to master new technology-assisted education. In an effort to shift from conventional to flexible teaching methods, the Commission of Higher Education (CHED) is investigating alternative learning approaches. to address the online courses, and a robust online framework model which requires faculty technological ability and instructional design. Second in rank is that the respondents also has a strong agreement that the teacher has an effective way in communicating policies with a mean of 3.54., teachers were able to deliver distant learning to third-rank students with a strong agreement of 3.51 by using a strategic plan for physical education.

To fulfill the demands of the epidemic, the university has used platforms like Google Fulfill, Zoom, and Microsoft Teams in addition to distance learning modalities like LMS trainings during summer classes. Teachers teach strategies during pandemics, emphasizing online platforms, internet connectivity, device availability, and technological access. They placed a high priority on giving students the resources and support they needed and adapting the physical education curriculum to support distance learning. The importance of Digital Platforms is a means to communicate during pandemic according to Belleza S. et. al. (2021), teachers confront obstacles including limited internet connectivity and a lack of technological resources.

Also, according to Mendoza D. (2021), the advantages of on line digital learning strategies has led to challenges, with students showing less interest in physical activities during online classes. Physical education teachers use online forums and allow ample time for assignments. Despite internet connectivity issues, students demonstrate high comprehension in digital learning contexts. Physical education (PE) , instructors found it difficult to adjust to new methods that did not involve in-person interactions with their colleagues. The ethos of physical education instruction has changed significantly, an adoption of new PE ensembles and the move to digital technologies (Valeria V. et al. 2020).

Agreement on the statement regarding the ease of navigating technology got the lowest mean among the listed items with a computed mean of 3.08. At the lowest rank, students might still be adjusting to online learning after attending classes in person. The process of adjusting to the new learning modality is currently ongoing for both professors and students. This can also be attributed to personal resources such as laptop and internet connections. Moustakas L. @ Robrade D. (2022,), examines e-learning resources in sports and physical education during COVID-19, revealing interaction and variation are crucial for effective online learning. There are a lot of teachers struggle with visual connection, highlighting the need for research and creative thinking. Even the Philippine physical education teachers developed creative online teaching methods during the COVID-19 pandemic; where students were able to navigate by utilizing Gardner's Multiple Intelligence Theory and Bandura's Social Learning Theory. (Paderanga L. (2023).

**Table 4**
*Critical Thinking Strategies for Students Performance*

| Critical Thinking Strategies | Weighted Mean | Verbal Interpretation | Rank |
|---|---|---|---|
| Use analogies in Physical Education during the activities in PE | 3.29 | Agree | 6 |
| Promote interaction among students during the discussion in PE. | 3.39 | Agree | 4 |
| Ask open-ended questions for the activities at home in PE. | 3.33 | Agree | 5 |
| Allow reflection time, after the lessons and activities | 3.40 | Agree | 3 |
| Use real-life problems after discussion in PE. | 3.42 | Agree | 2 |
| Allow for thinking practice, after discussion an activity will be given to become effective in practicing the skills | 3.44 | Agree | 1 |
| Composite Mean | 3.38 | Agree | |

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

Table 4 shows the composite mean of 3.38 agree, for critical thinking strategies for students' performance. Statement regarding allowing the students to practice thinking after discussing an activity is effective in practicing certain skills with a mean of 3.44 ranked the highest. In the context of critical thinking, giving students the opportunity to practice thinking after discussing an activity deepens understanding by applying the concepts. Additionally, by completing a practice, students can identify areas where they need more clarification or where their understanding is weak. Pandemic has necessitated significant changes in teaching methods, particularly in Physical Education outdoor and adventure activities. These activities offer creative opportunities for teachers to apply outdoor-related life skills in real-world situations, benefiting professional development, intervention efforts, and policy-making. They also encourage students to exercise thinking and practice skills through discussion. (Camarador, L. and Camarador, R., 2023).

Applying critical thinking skills is one of the most important aspects of applying real-life skills, and students' performance on critical thinking, which ranks second at 3.42, concurs that using real-life situations following discussion in physical education may help to maintain an active lifestyle. They placed a high priority on developing at-home workout routines and making sure they got enough exercise. At-home competency development is the goal of practical skills including bodyweight exercises, using everyday objects, and outdoor activities. According to Marwin Sadsad 2022, strategic intervention materials in physical education improve

students' academic performance by enhancing critical thinking, real-life skills, and performance, as students provide positive feedback on these materials.

The third rank of 3.40 agrees to allow reflection time after the lessons and activities. The challenges of facilitating reflection in remote learning environments can present challenges in facilitating meaningful discussions and reflective activities. It can be challenging for teachers to effectively assess student reflection in a remote setting. However, understanding and making sense of their experiences may help them recognize their strengths and weaknesses, develop a refined fitness goal, and become more aware of their own learning process. López-Fernández Iván et al. (2023) proved that pandemic significantly had affected PE class, with teachers facing challenges and difficulties. Despite calls for reform, the future of physical education has not been fully explored. Eunice M. Aclan et al. (2022) found that performance-based teachers used participatory and appreciative action and reflection approaches during the pandemic to transition from face-to-face to virtual teaching. This approach developed students' skills, creativity, resourcefulness, persistence, and engagement, highlighting the importance of adaptability and flexibility in challenging situations.

Lowest in rank is using analogies in physical education during the activities in PE with a mean of 3.29. The focus of physical education shifted from physical activity using analogies in PE during the activities may help to maintaining fitness levels, home-based workouts, and promoting mental and social well-being through online activities and virtual teambuilding with the family. Whalen L. and Barcelona .J (2021), research results suggests that providing virtual health content may be a feasible way to sustain school and family investment in comprehensive youth health. Furthermore, by utilizing multiple dissemination strategies, virtual programming may be an effective mechanism to expand reach. This research was done among 52 elementary and middle schools, including the integration of physical activity, physical education, and nutrition education., identified significant content usage by schools. Teachers, students, and families expressed value in the health content provided, stating it was a support needed in a time of chaos and pandemic.

**Table 5**

*Summary Table*

| Indicators | Weighted Mean | Verbal Interpretation | Rank |
|---|---|---|---|
| Teaching strategy while pandemic | 3.42 | Agree | 1 |
| Students' performance factors fitted at home about PE. | 3.39 | Agree | 2 |
| Strategy for critical thinking to the student's performance in transforming of PE | 3.38 | Agree | 3 |
| Composite Mean | 3.39 | Agree | |

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

The over-all composite means of 3.39 indicates agree. Because physical education's focus has shifted from physical activity to physical education, teaching strategies during pandemics have the highest mean (3.42). This is because effective teaching strategies can encourage students to stay active while performing at-home workouts, maintain their fitness, and promote mental and social well-being through online activities and virtual team-building. In this mean had indicate the study of Brandon Foye and Michelle Grenier (2021), during the epidemic, K–12 physical educators used virtual education as a teaching technique, emphasizing socialization opportunities, student autonomy, responsibility, and course simplicity. The study identified common features for future success in online physical education programs. During the pandemic, home-based physical education (PE) student performance came in second place with a mean score of 3.39 due to issues like a lack of technology navigation skills, the internet's user-friendly interface design, its inability to handle classroom interaction challenges, and its inability to sustain motivation and discipline. Students struggle to participate in traditional physical education programs as a result of these problems, which also affect their performance.

Moustakas L. and Robrade , D. (2022,) this study looks at the e-learning resources used in sports and physical education during Pandemic . Teachers find it difficult to inspire their students, though, particularly when there is no visual connection. The study highlights the need for more research and creative thinking by offering possible directions for practice and study to overcome the difficulties in converting sport and physical education

to online settings. Third is strategy for critical thinking in transforming of PE the composite mean of 3.38 agree. During the pandemic, physical education prioritized accessibility and practical skills, including critical thinking exercises to motivate students to engage in physical activity, including dancing and team sports. Critical thinking in remote situations was challenging, but presenting was necessary to stay fit.

The 2021 study by Rifqi Festiawan et al. looked at how problem-based learning models affected students' motivation and fundamental reasoning skills during the COVID-19 epidemic. This is great example of critical thinking has a greater impact on students' learning outcomes. Therefore, the strategy for critical thinking to the students' performance in transforming in PE should be developed. Plan program to re-establish a concept regarding distance education modality to develop the student performance for under goal students in Physical Education.

*Proposed Action Plan*

| Key Results Areas | Objectives | Strategies -Activities | Persons Involved | Success Indicator |
|---|---|---|---|---|
| A. Teaching strategy while pandemic | To tailor fit teaching strategies during pandemic time. | Instructional video presentation for dances and ball games. <br><br> Prerecorded Videos to create and share exercise routines with the family members. <br><br> game video on health benefits about dancing and ball games. | Teachers, students, parents, Family members | 80% of the teachers improve and enhance their teaching strategies as manifested in the revised syllabus. |
| B. Students' performance factors fitted at home about PE. | To improve student performance and their interest during pandemic. | Utilize household items to be creative in the performance of their exercise activities, ball games and dancing. <br><br> Create a family fitness competition using fitness apps with gamified features (step counters, challenges, rewards). <br><br> Incorporate yoga, meditation, and breathing exercises to develop mental wellbeing. | Teachers, students, parents, Family members | At least 80% of the students achieve the performance above average even during pandemic. |
| C. Critical Thinking | To empower students to become more independent, confident, and successful learners, both inside and outside the classroom even during pandemic. | Provide Decision-Making Scenarios for example, ethical scenarios in sports (e.g., cheating, sportsmanship, fair play) and have students analyze the consequences of different choices. <br><br> Facilitate reflective activities: related to their performance, by identifying areas for improvement, and setting goals. <br><br> Present video analysis footage of professional athletes, identifying strengths and weaknesses and discussing strategies for improvement.(Michael Jourdan and Coby Bryan). | Teachers, students, parents, family members | 80% of the students critical thinking were improve through submitted student portfolio. |

## 5. Conclusions

➢ Data show that majority of the respondents were females, between the age range of 18 – 21 years old and are currently a freshman students of the university.

➢ The respondents strongly agreed on the teaching strategies employed by the faculty members in

teaching physical education such as valuing physical activity for health.

➢ The students strongly agree that their performance key points on distance learning in Physical Education while at home were the qualification of teachers, strategic plan in delivering distance education and effectiveness in communication policies.

➢ The students agree that the critical thinking strategies for them to perform well is allowing for thinking practice after discussion an activity will be given to become effective in practicing the skills.

➢ The researchers proposed an action plan based on the identified weaknesses about teaching strategies, while pandemic, student's performance and critical thinking.

*Recommendations -* Based on the findings and conclusions the researchers give the following recommendation:

➢ CCAS department chairman may provide training and familiarization of learning tools and materials for faculty members of P.E. department.

➢ PE teachers will tailor and align objectives and expectation, based on the resources available among students during pandemic.

➢ PE teachers may coordinate with the IT department to provide seminars on activities, that is interesting and entertaining, but it should also be based on availability of students resources at home.

➢ The performance of the students should be measured based on a clear RUBRICS for them to feel a fair and just grading system even in the limitations of resources available during Pandemic and teachers weaknesses of trainings and seminars on critical thinking strategies at home.

➢ Future researchers may use the results of this study to explore other variables such as challenges experienced by the respondents and faculty members in transitioning from online to face to face learning modality.

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# The impact of school newspapers on student development across diverse educational levels

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## *Abstract*

This study aims to determine the degree of impact of the school newspaper on the students. A descriptive design was used to analyze the views, opinions, and sentiments of 245 respondents through purposive sampling. The survey questionnaire created by the researcher was used to gather data to address the research questions. Frequency percentage described respondents' learning, reading time, and preferred topics in the school newspaper. The mean and standard deviation measured the newspaper's impact on students' academic, sociocultural, spiritual-moral, and political aspects. The study results showed that the school newspaper has a significant impact on the students in all aspects, as evidenced by the consistent description of "to a great extent". However, the academic component stands out as having the greatest impact on the students among all the areas influenced by the school newspaper. The results show that the school newspaper most significantly enhances students' academic skills, particularly critical thinking, writing, and awareness of current events. Emphasizing its role as a valuable educational resource that fosters intellectual growth more effectively than other areas.

*Keywords:* school newspaper, student development, educational levels, Philippines

# The impact of school newspapers on student development across diverse educational levels

## 1. Introduction

School papers are essential in developing communication, critical thinking, and engagement in educational institutions. They provide a means for the students to air their voices, explore current affairs, and develop their journalistic skills. According to López et al. (2024), school publishing encourages community and empowerment among student journalists besides boosting a student's writing and researching abilities. These often reflect the body in action: relevant social, academic, and cultural issues come alive in the papers, resonating with their peers (Williams, 2023). Academic achievements and school newspapers have gained more recognition recently too. It has been found that students involved in school journalism work well in most of their academic work, especially in the language and communications subjects, concludes Medrano, J. A. (2019). This, therefore, implies that the influence brought about by school newspapers is not only confined to school journalism but to other fields of student development as well. In this regard, the impact of school newspapers on students has been a highly researched area, mainly in the context of students' attitudes, academic performance, and general social awareness.

In the last few years, it has been widely known that school newspapers have an impact on students. According to T. R. Vogts, in 2018, school papers do not only promote significant writing and research skills but also contribute to their overall development in the academic sphere. By embracing journalism, students develop more critical thinking, problem-solving, and adequate expression of ideas. The study also discussed how the school newspapers raise the confidence of students because writing for a publication satisfies one to feel a sense of achievement and belonging within the school. According to Vygotsky's Sociocultural Theory, the school newspaper is a collaborative platform where students can research, write, edit, and publish articles. This process enables them to develop communication, critical thinking, and social skills. Through peer interaction and mentorship (such as from teachers or editors), students can also experience the Zone of Proximal Development, where they learn and develop skills they might not achieve independently (Marginson and Dang, 2017).

On the other hand, school newspapers provide an avenue where students can air their opinions on various social and academic issues, making them more knowledgeable and responsible citizens (Bykov and Medvedeva, 2020). The channel was, therefore, used as an avenue for enhancing students' written and oral communication as well as their exposure to ethical issues in journalism. In conclusion, engagement with school newspapers has been associated with higher academic performance, particularly in language arts and the social sciences.

*Research Questions* - This study aimed to determine the level of impact of the school newspaper on students in the Grade School Department, High School Department, and College Departments. The specific objectives of the researcher are to obtain certainty and answers to the following questions: What is the profile of the respondents based on the student level: (a) elementary, (b) secondary, and (c) college? How many hours do students spend reading the newspaper? What topics do the respondents read in the school newspaper? What is the degree of impact of the school newspaper on students in terms of (a) academic, (b) sociocultural, (c) spiritual-moral, and (d) political aspects?

## 2. Methodology

The descriptive design was used to analyze the views, opinions, and sentiments of a specific sample of respondents representing the total population. This design is appropriate for describing the school newspaper's profile and degree of impact on the students. Brown and Davis (2023) state that the descriptive design enables researchers to collect detailed information on participants' views and sentiments without altering variables. By

using a specific sample, this approach offers a clear overview of the larger population's characteristics, helping to identify trends and patterns in the data. This method benefits educational research, where understanding students' perspectives can inform better practices and policies.

The respondents consist of selected 245 students from three departments. The research employed a modified and contextualized survey form to collect information. This study began by consulting and seeking the appropriate formal approval from the relevant leaders of specific departments, after which data collection was completed successfully in the three school departments. A questionnaire was used to assess the status of the respondents based on their profiles. The researcher utilized a Five Point Likert Scale to determine the respondents' opinions regarding the academic, sociocultural, spiritual-moral, and political impacts of the school newspaper. In this study, frequency percentage was used to describe the distribution of respondents based on their learning, the time spent reading the newspaper, and the topics they commonly read in the school newspaper. The mean and standard deviation were used to measure the impact of the school newspaper on students in terms of academic, sociocultural, spiritual-moral, and political aspects.

## 3. Results and discussion

**Table 1**
*Profile of the Respondent (n=245)*

| Level of Education | (f) | (%) |
|---|---|---|
| Elementary | 13 | 5.31 |
| High School | 95 | 38.78 |
| College | 137 | 55.92 |
| **Total** | **245** | **100** |

The total number of respondents is 245. The data indicates that the majority of the respondents are college students, accounting for 55.92% of the sample, followed by high school students at 38.78%, and a smaller proportion of elementary students at 5.31%. This distribution suggests that the study primarily reflects the perspectives of higher education students.

**Table 2**
*Time Spent by Students Reading the Newspaper*

| Number of hours | Elementary | | Secondary | | College | |
|---|---|---|---|---|---|---|
| | (f) | (%) | (f) | (%) | (f) | (%) |
| 1 hour | 10 | 76.92 | 85 | 89.47 | 112 | 81.75 |
| 2 hours | 3 | 23.08 | 10 | 10.53 | 15 | 10.95 |
| 3 hours | 0 | 0.00 | 0 | 0.00 | 10 | 7.30 |
| 4 hours | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| **Total** | **13** | **100%** | **95** | **100%** | **137** | **100%** |

Overall, a larger percentage of students at each educational level spend 1 hour reading the newspaper. Specifically, 89.47% of high school students and 81.75% of college students spend an hour reading the newspaper. Surprisingly, 76.92% of elementary students also read the newspaper for 1 hour. A smaller proportion of students read the newspaper for 2 hours, and very few spend 3 hours reading. No respondents reported spending 4 hours reading the newspaper. This data suggests that students generally limit their reading time to 1 hour, which could explain trends in their habits of reading the student newspaper. Consequently, this indicates a decline in reading trends, as only a few students read for 2 hours, and none read for longer than that—neither 3 nor 4 hours. The trend may signal that students lack the time to read and, as a result, may not fully engage with school newspapers or other media literacy initiatives (Gagalang, 2022). These trends would highlight how patterns of information consumption linked to digital media may result in the new generation becoming dependent on the online environment to acquire information (Creighton, 2018).

**Table 3**

*Topics read in school newspapers*

| Favorite Readings | Elementary | | High School | | College | |
|---|---|---|---|---|---|---|
| | (f) | (%) | (f) | (%) | (f) | (%) |
| Editorial | 10 | 76.92 | 32 | 33.68 | 35 | 25.55 |
| Feature Article | 8 | 61.54 | 16 | 16.84 | 21 | 15.33 |
| News | 12 | 92.31 | 37 | 38.95 | 40 | 29.20 |
| Sports News | 12 | 92.31 | 32 | 33.68 | 15 | 7.61 |
| Science and Technology | 11 | 84.62 | 24 | 25.26 | 25 | 18.25 |
| Poetry and Short Stories | 13 | 100 | 41 | 43.16 | 42 | 30.66 |

Preferred readings among the students are presented in Table 3. From the table, it is noted that there is a greater preference for reading Poetry and Short Stories as compared to other sections of the newspaper. In elementary school, 13 students, or 100%, prefer reading these, followed by News and Sports News with 12 students, or 92.31%. The most read material remained poetry and short stories, with 41 students, or 43.16%, followed by news with 37 students, or 38.95%, and editorial and sports news with 32 students, or 33.68%. At the college level, Poetry and Short Stories are still the most widely read ones where 42 students, or 30.66% of the respondents read them; this is followed by 40 students, or 29.20%, who are interested in reading News. Lastly, 35 students, or 25.55%, prefer reading Editorials. Table 3 indicates that respondents find poetry and short stories more interesting to read because they are provided as homework by teachers in class. Hintz and Tribunella (2019), also proved that school newspapers contain readings of Poetry and Short Stories as texts that aid the students to voice out their feelings and opinions on behalf of suitable skills and knowledge. According to Williams, reading newspapers is both fun and a lesson learned. Pinoliad (2021), stated that children like reading poetry and short stories because they can relate to them. Most of them are familiar themes.

**Table 4**

*Degree on Impact on students in the Academic Aspect*

| I benefit from the school newspaper because: | Elementary | | | High School | | | College | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Description | Mean | SD | Description | Mean | SD | Description |
| 1. It has improved my communication skills. | 2.46 | 1.04 | To a great Extent | 1.87 | 1.04 | To a great Extent | 1.66 | 0.66 | To a very Great Extent |
| 2. It has provided me with sufficient and knowledge and understanding. | 2.36 | 1.03 | To a great Extent | 1.93 | 0.83 | To a great Extent | 1.85 | 0.81 | To a great Extent |
| 3. It has enhanced my appreciation for and habit of reading. | 2.00 | 0.91 | To a great Extent | 2.05 | 0.84 | To a great Extent | 1.99 | 0.92 | To a great Extent |
| 4. It has developed and improved my ability to write articles. | 2.15 | 1.14 | To a great Extent | 2.63 | 0.67 | To a great Extent | 2.35 | 0.93 | To a great Extent |
| 5. It keeps me informed about events inside and outside the school. | 2.00 | 0.91 | To a great Extent | 2.28 | 0.85 | To a great Extent | 2.01 | 0.95 | To a great Extent |
| **Total** | 2.19 | 1.01 | To a great Extent | 2.15 | 0.85 | To a great Extent | 1.97 | 0.85 | To a great Extent |

Note: 1.00-1.79 = To a very Great Extent, 1.80-2.59 = To a Great Extent, 2.60 -3.39 = To Some Extent, 3.40-4.19 To a Little Extent, and 4.20-5.00= Not at all

The study's findings show the positive impact the school newspaper has for students at any educational level when it comes to communication, the acquisition of knowledge, reading habit, writing, and awareness about events. Benefits that elementary school, high school, and college students reported benefiting "greatly" from their school newspaper ranged in degree from the elementary, to the high school, to the college student. College students have the most marked development in their communication skills, with a mean score of 1.66, which falls into the "To a very great extent" category. The highest mean score is reported by high school students (2.63) in the development of writing skills, showing a somewhat higher but still positive impact. All groups report similar high benefits in increasing knowledge and understanding, improving reading habits, and keeping students informed about school and external events. Consistently rated as "To a great extent," overall impact is portrayed for the school newspaper among all groups, with college students indicating slightly greater benefits in certain areas like communication and knowledge. These findings indicate that, although beneficial at all educational levels, there might be some slight difference in its impact and which students it particularly benefits-mostly the benefits of communication skills attributed to college students, whereas writing skills were mostly credited to high school students. These findings are compatible with recent research by Clark et al. (2023). This study stresses the benefits of extracurricular activities, including school newspapers, in terms of augmenting

communication, writing skills, and critical thinking within students.

**Table 5**
*Degree of Impact of the School Newspaper on Sociocultural*

| I benefit from the school newspaper because: | Elementary | | | High School | | | College | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Description | Mean | SD | Description | Mean | SD | Description |
| 1. It has improved my interaction with other people. | 2.18 | 1.19 | To a great Extent | 2.43 | 0.74 | To a great Extent | 2.00 | 0.96 | To a very Great Extent |
| 2. It has provided me with sufficient knowledge and understanding of different cultures. | 1.83 | 1.03 | To a great Extent | 2.17 | 1.11 | To a great Extent | 2.05 | 0.95 | To a great Extent |
| 3. It has given me a better understanding of my own culture. | 2.08 | 0.79 | To a great Extent | 2.15 | 0.92 | To a great Extent | 2.05 | 0.96 | To a great Extent |
| 4. I have shown the value of compassion toward others. | 2.50 | 1.09 | To a great Extent | 2.15 | 0.85 | To a great Extent | 2.02 | 1.00 | To a great Extent |
| 5. I am encouraged to participate in various school activities. | 2.50 | 1.09 | To a great Extent | 2.16 | 1.11 | To a great Extent | 2.07 | 0.93 | To a great Extent |
| **Total** | 2.22 | 1.04 | To a great Extent | 2.21 | 0.95 | To a great Extent | 2.04 | 0.96 | To a great Extent |

Note: 1.00-1.79 = To a very Great Extent, 1.80-2.59 = To a Great Extent, 2.60 -3.39 = To Some Extent, 3.40-4.19 To a Little Extent, and 4.20-5.00= Not at All.

The results show that the sociocultural programs had a highly positive effect on students at all three levels: elementary, high school, and college, and all groups reported outcomes described as "To a Great Extent." The means for the elementary group were the highest in most areas, especially in demonstrating empathy and participation in school activities (M = 2.50). High school and college students also reported positive effects, ranging from M = 2.00 to 2.43, indicating a consistent positive impact on interpersonal relationships, cultural understanding, and empathy. The overall mean scores for all groups were similar, ranging from 2.04 (college) to 2.22 (elementary), indicating that sociocultural programs have an equivalent impact on students at various levels of education. These results resonate with the current study of Johnson et.al (2023), which indicates that sociocultural programs are essential for developing empathy, cultural awareness, and social participation among students from all educational levels.

Table 6
*Degree of Impact of the School Newspaper on Spiritual-Moral*

| I benefit from the school newspaper because: | Elementary | | | High School | | | College | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Description | Mean | SD | Description | Mean | SD | Description |
| 1. I became familiar with the religion of my school. | 2.00 | 1.00 | To a great Extent | 1.84 | 0.85 | To a great Extent | 2.14 | 0.85 | To a Great Extent |
| 2. It strengthened my faith | 2.62 | 1.12 | To a great Extent | 2.09 | 0.93 | To a great Extent | 2.60 | 0.93 | To a great Extent |
| 3. My behavior was developed | 2.18 | 1.17 | To a great Extent | 1.89 | 0.84 | To a great Extent | 2.03 | 0.84 | To a great Extent |
| 4. I became aware of the corruption happening around me. | 2.00 | 0.91 | To a great Extent | 1.83 | 0.76 | To a great Extent | 2.06 | 0.76 | To a great Extent |
| 5. I learned to follow the school's rules. | 2.23 | 1.24 | To a great Extent | 1.93 | 0.80 | To a great Extent | 2.08 | 0.80 | To a great Extent |
| Total | 2.21 | 1.09 | To a Great Extent | 1.92 | 0.84 | To a great Extent | 2.18 | 0.84 | To a great Extent |

Note: 1.00-1.79 = To a very Great Extent, 1.80-2.59 = To a Great Extent, 2.60 -3.39 = To Some Extent, 3.40-4.19 = To a Little Extent, and 4.20-5.00= Not at All.

Table 6 shows a significant impact of the school newspaper on the students' spiritual and moral development at all levels including elementary, high school, and college, with each group reporting benefits "To a Great Extent" (mean scores between 1.77 and 2.62). Among them, elementary students experienced the highest impact in the following areas: faith strengthening with M = 2.62, and learning to follow school rules with M = 2.23. High school students also indicated good benefits where the mean score for faith strengthening was 2.09 and following rules 1.93. College students scored highest in familiarity with the school's religion (M = 2.31) and following school rules (M = 2.62). Overall, mean scores at all levels, elementary = 2.21, high school = 1.92, and college = 2.23, indicate consistent and positive effects on the spiritual and moral development of students. This study is consistent with recent studies by Anderson et al. (2022), who pointed out that educational activities, like school newspapers, influence students' ethical and spiritual values.

**Table 7**

*Degree of Impact of the School Newspaper on Political*

| I benefit from the school newspaper because: | Elementary | | | High School | | | College | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Mean* | *SD* | *Description* | *Mean* | *SD* | *Description* | *Mean* | *SD* | *Description* |
| **1.** I was encouraged to help maintain peace and a democratic community. | 2.31 | 1.38 | To a great Extent | 2.14 | 0.87 | To a great Extent | 2.27 | 0.97 | To a Great Extent |
| 2. I became an instrument to stop the spread of false issues circulating in the school. | 2.23 | 1.24 | To a great Extent | 2.60 | 0.74 | To a great Extent | 2.32 | 0.91 | To a great Extent |
| **3.** I learned to weigh the difference between freedom and responsibility. | 2.23 | 1.01 | To a great Extent | 2.03 | 0.83 | To a great Extent | 2.19 | 0.88 | To a great Extent |
| 4. I was encouraged to have integrity. | 1.77 | 0.93 | To a great Extent | 2.06 | 0.78 | To a great Extent | 2.04 | 0.91 | To a great Extent |
| 5. My ability to lead in the school was developed. | 2.62 | 1.19 | To a great Extent | 2.08 | 0.88 | To a great Extent | 2.21 | 1.03 | To a great Extent |
| **Total** | 2.23 | 1.15 | To a great Extent | 2.18 | 0.82 | To a great Extent | 2.21 | 0.94 | To a great Extent |

Note: 1.00-1.79 = To a very Great Extent, 1.80-2.59 = To a Great Extent, 2.60 -3.39 = To Some Extent, 3.40-4.19 To a Little Extent, and 4.20-5.00= Not at All.

The results in Table 7 show that a school newspaper has a profound positive impact on the development of students' political interests at elementary, high school, and college levels as respondents from all three levels claim benefits "To a Great Extent" with their mean scores ranging from 1.77 to 2.62. Most significant effects on elementary students, for instance, were recorded regarding leadership ability (M = 2.62), and helping to maintain peace and a democratic community (M = 2.31). High school students also benefited, especially in improving communication skills (M = 2.60), while college students had strong scores in similar areas, with a mean of 2.32 for communication skills and 2.27 for maintaining peace and democracy. The total mean scores for elementary (2.23), high school (2.18), and college students (2.21) show a consistent and strong influence on their political and leadership development. These findings support a recent study by Benito, Liwan and Naval (2023) that highlights the educational activities of school newspapers to instill political awareness, leadership, and social responsibility among students.

Table 8

*Degree of Impact of the School newspaper on Elementary Students*

| Item | Mean | SD | Description |
|---|---|---|---|
| Academic | 2.19 | 1.01 | To a Great Extent |
| Sociocultural | 2.22 | 1.04 | To a Great Extent |
| Spiritual-Moral | 2.21 | 1.09 | To a Great Extent |
| Political | 2.23 | 1.15 | To a Great Extent |
| Total | 2.25 | 1.11 | To a Great Extent |

Note: 1.00-1.79 = To a very Great Extent, 1.80-2.59 = To a Great Extent, 2.60 -3.39 = To Some Extent, 3.40-4.19 To a Little Extent, and 4.20-5.00= Not at All.

The overall impact of school newspaper on elementary students seems to be positive, at all aspects-academic, sociocultural, spiritual-moral, and political rates as "To a Great Extent," with mean scores ranging between 2.16 up to 2.35. The highest impact among the four was seen in the sociocultural aspect, M = 2.35, followed by M = 2.29 for the political; M = 2.21 for the spiritual-moral; and M = 2.16 was for the academic. The overall mean score for the overall impact was 2.25, thus sustaining the positive impact of school newspapers on the development of students in the areas identified. These results are in tandem with findings from recent studies by Lundberg and Abdelzadeh, A. (2024). , where extracurricular activities, including school newspapers, are seen to contribute to the holistic growth of students, which includes academic, social, moral, and political growth.

**Table 9**

*Degree of Impact of the School Newspaper on Elementary Students*

| Item | Mean | SD | Description |
|---|---|---|---|
| Academic | 2.15 | 0.85 | To a Great Extent |
| Sociocultural | 2.21 | 0.95 | To a Great Extent |
| Spiritual-Moral | 2.23 | 1.20 | To a Great Extent |
| Political | 2.18 | 0.82 | To a Great Extent |
| Total | 2.20 | 0.96 | To a Great Extent |

Note: 1.00-1.79 = To a very Great Extent, 1.80-2.59 = To a Great Extent, 2.60 -3.39 = To Some Extent, 3.40-4.19 To a Little Extent, and 4.20-5.00= Not at All.

The school newspaper plays a great role among high school students on academic, sociocultural, spiritual-moral, and political aspects. The newspaper heightens scholarly performance with a mean score of 2.15 (SD = 0.85). It brings about cultural awareness and respects diversity with a mean score of 2.21 (SD = 0.95), making students more aware of social issues. Regarding spiritual-moral development, the newspaper encourages the moral development of the students, mean = 2.23, SD = 1.20. On the political level, the newspaper enhances civic knowledge, mean = 2.18, SD = 0.82, which motivates citizens to participate in governmental and current affairs functions. The overall mean of 2.20, SD = 0.96 expresses that the newspaper brings literate, sympathizing, and participating citizens, Mondal (2024).

**Table 10**

*Degree of impact of school Newspaper on College Students*

| Item | Mean | SD | Description |
|------|------|------|-------------|
| Academic | 1.97 | 0.85 | To a Great Extent |
| Sociocultural | 2.04 | 0.96 | To a Great Extent |
| Spiritual-Moral | 2.18 | 1.84 | To a Great Extent |
| Political | 2.21 | 0.94 | To a Great Extent |
| Total | 2.10 | 0.90 | To a Great Extent |

Note: 1.00-1.79 = To a very Great Extent, 1.80-2.59 = To a Great Extent, 2.60 -3.39 = To Some Extent, 3.40-4.19 To a Little Extent, and 4.20-5.00= Not at All.

Based on Table 10, the school newspaper contributes meaningful impacts on students in college on academic, sociocultural, spiritual-moral, and political dimensions. On academic performance, it enables performance with a mean of 1.97 (SD = 0.85), however less strongly than reported in high school settings. Sociocultural, it encourages openness and appreciation of other cultures. The mean score obtained was 2.04 (SD = 0.96). Spiritually and morally, it cultivates ethical thinking among students via a mean of 2.18 (SD = 0.84). Politically, it strengthens civic awareness through discussion on governance and current issues: a mean score of 2.21 (SD = 0.94). The mean score of 2.10 (SD = 0.90) indicates that according to Goril et al. in 2018, this is an entity that is considered a resource for holistic college student development where academic and personal growth are supported and enhanced.

**Table 11**

*Overall Impact of the School Newspaper on Students*

| Item | Elementary | | Secondary | | College | | Total | |
|------|------|------|------|------|------|------|------|------|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| Academic | 2.16 | 1.04 | 2.15 | 0.85 | 1.97 | 0.85 | 2.09 | 0.91 |
| Sociocultural | 2.35 | 1.18 | 2.21 | 0.95 | 2.04 | 0.96 | 2.20 | 1.03 |
| Spiritual -Moral | 2.21 | 1.08 | 2.23 | 1.20 | 2.18 | 0.84 | 2.21 | 1.04 |
| Political | 2.29 | 1.14 | 2.18 | 0.82 | 2.21 | 0.94 | 2.18 | 1.01 |
| **Total** | 1.11 | 2.25 | 2.20 | 0.96 | 2.10 | 0.90 | 2.18 | 1.01 |

As given in Table 11, the maximum mean is seen in the Academic Aspect with a mean of 2.09 (SD = 0.91), which is labeled as "To a Great Extent". It can be interpreted that the school newspaper is highly helpful for academic learning because of the related articles or works about languages, science, mathematics, and more. Political Aspect has the lowest mean, with a mean value of 2.23 (SD = 0.97). It indicates that the political factors did not have a significant impact on the students' writings, reading, and interpretation of the content. In general, the influence of the school newspaper on all levels is said to be "To a Great Extent." The mean value for it was 2.18 (SD = 0.99).

## 4. Conclusions

The results show that the school newspaper affects students the most in the Academic Aspect based on the presentation and analysis of the collected data. This means that it has a significant influence as a teaching material that can help mold the overall personality of the students. It leaves a substantial effect because the

content they read or write is learned within the classroom walls. Therefore, the school newspaper, as an auxiliary teaching material, should be used effectively for students' academic learning while promoting their sociocultural, spiritual, and political development.

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# Development of Panubli-on for the indigenous people's women

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## Abstract

This study was formulated as a response to the encouragement for higher education institutions to engage in research and community extension to assist in transforming lives. It involves the introduction of technology and technical knowhow in the workshop conducted to revive the dying culture of the Sibato-Bukidnons. The results gathered from the survey conducted exposed that the products formed from the Panubli-on project is generally accepted in terms of authenticity, creativity and innovativeness and commercial value. The thematic analysis of the coded responses of the conversation partners also show that the participants believe the project would bring revitalization and normalization of their lives which is a far cry from the lives they used to have. As to entrepreneurial management, coded responses which were clustered show that the conversation partners perceive the project to help in building industry. It was concluded that the Project Panubli-on brought changes in the cultural perspective, livelihood and entrepreneurial management of the Sibato-Bukidnon women. The sustainability of the project lies in the continuous monitoring of the project and the introduction of high-powered technology which would help in the mass production.

*Keywords:* developmental research, indigenous people, Panubli-on, Sibato-Bukidnon, Silay City

# Development of Panubli-on for the indigenous people's women

## 1. Introduction

One of the main thrusts of education is to focus on the Sustainable Development Goals defined by the United Nations. (https://sdgs.un.org/goals). In 2014, UNESCO defined Education for Sustainable Development (ESD) as the education "that allows every human being to acquire knowledge, skills, attitudes, and values necessary to shape a sustainable future. As part of the ESD, the researcher, in coordination with different organizations, responded to the call by adopting an indigenous group of people (IP), the Sibato-Bukidnons, living in Barangay Guimbalaon, Silay City who are descendants of the Sulod-Bukidnons who migrated to Sibato from Panay Island. (Pacete, 2014). Starting with an environmental scanning, the researcher sought to understand the needs of the community, their culture and tradition of weaving, embroidery, and hand-sewn handicrafts, which according to Pacete (2014) is already dead or in the verge of dying. An interview with the present chieftain Mr. Ben Arce, verified that the said culture and tradition is not being practiced anymore, due to the aging population and the lack of transfer from the old to the new generation.

From this almost non-existent condition of the Sibato-Bukidnons' old craft, the researcher, in partnership with Silay Institute, Sibato Integrated School, National Commission for the Indigenous People (NCIP) and the National Center for the Culture and Arts (NCCA), devised a program that would revitalize the traditional craft through the introduction of technical know-how and the use of modern technology. The Program, dubbed as Project-Panubli-on aims to establish a sustainable development program for the Sibato-Bukid.

*Background of the study -* The Philippines is a much diversified country. With its geographical set-up, more than 175 ethnolinguistic group, which are unified by both common ethnicity and language, are listed in its history and culture database. Some of these ethnic groups live in either the upland or lowland remote areas and form their villages or communities. Commonly, they engage in farming and handicraft as their source of livelihood. Indigenous and farming communities are groups of people with roots in a given area, be it historical, cultural and, of course, economical (Dyson et. al, 2011). As a group, they have a strong sense of belonging, not only to each other but to the land that they call home. These indigenous communities have been suffering disadvantages and discrimination whenever they want to integrate into dominant culture (Ashraf et al., 2015).

An example of these communities is the indigenous group that resides in Sitio Sibato of Barangay Guimbala-on in Silay City. Since they are descendants of the Sulod-Bukidnons who migrated to Sibato from Panay Island, they call themselves Sibato-Bukidnons. Aside from farming, they engaged themselves in handicrafts like weaving clothes, mats, dyeing using the sap from bark of trees, etc. (Pacete, 2014). However, during an interview with the present chieftain, Mr. Ben Acse, it was verified that their culture, art and tradition of making these crafts have faded due to the aging population, and the lack of transfer from the old to the new generation. From this almost non-existent condition of the Sibato-Bukidnons' old craft, the Silay Institute, through the initiative of the researcher and in partnership with the Sibato Integrated School and the National Center for the Culture and Arts (NCCA), devised a program which would revitalize the traditional craft through the use of modern technology.

The use of technology is not new to some rural or indigenous communities since organizations dedicated to technology-use are conducting researches on how to help indigenous communities in this area. (Keleher et al, 2016). However, the technology that they are focusing on is merely on information and communication technology (ICT). But technology is not contained in the information and communication department only. Technology in itself has various meanings and interpretation. Technical know-how is very important to produce the by-product of technology, which, in this case would be the Sibato-Bukidnons' crafts. According to Debashish (2020), aside from technical know-how, technological change should be preceded by sociological change and a

willingness and desire to be part of a community to modify their social, political and administrative institutions so as to make them go for the new techniques and faster tempo of economic activity.This gap in technology and the technical know-how of the indigenous group provided the clear idea of using modern technology to revive the dying culture of the Sibato-Bukidnons. This is the main focus of the researcher in aiming to conduct a study on the development of modern technology for a sustainable program for this identified IP Community.

*Objectives of the study -* As such, this paper's general objective is for the development of the Panubli-on, a project intended to revitalize the dying culture of the Sibato Bukidnon women from Silay City, with specific aims to evaluate the program's acceptability in terms of: product's authenticity, creativity and innovativeness, and commercial value; and to evaluate the effect of Panubli-on on the lives of the Sibato-Bukidnons in terms of: cultural aspect, livelihood and, entrepreneurial management

## 2. Materials and Methods

*Research Design -* This study is a developmental mixed methods research design. It used descriptive for quantitative approach and phenomenological for qualitative approach. The quantitative approach was used to determine the acceptability of the product's authenticity, creativity and commercial value. The qualitative research using the phenomenological approach was employed to describe the experiences of the respondents in the transfer of technical knowhow and the use of technology through the conduct of Panubli-on seminars and workshops.

*Respondents of the Study -* Qualitative Phase: The conversation partners were the 24 women from Sibato - Bukidnon who are also the recipients of "Project Panubli-on", a Sustainable Development Project intended to revive the old and traditional crafts of the community which have already "died" or were not practiced for more than a decade already. To describe the effect of Panubli-on cultural aspect; livelihood; and entrepreneurial management, eight (8) Sibato women who participated in the project were interviewed. Quantitative Phase: For the survey on the acceptability of the product in terms of product's authenticity, creativity, innovativeness, and commercial value, 100 randomly selected students, consisting of 50 males and 50 females, enrolled in Silay Institute for the 2nd semester of the school year 2022-2023 were considered as respondents

*Research Instrument -* Interview Instrument. This study used Interview Methodology where the researcher provided questions to be answered by the conversation partners. This method was utilized to explicate themes, which will help identify the use of technology in their lives. After formulating the interview guide it was subjected to examination and review by experts in the field of communication. Since the interview guide suit the problem and gave light on the objectives of this study, it was utilized for data gathering. In evaluating the acceptability, a self-made survey questionnaire was used. Parts 1-2 consist of questions on the acceptability in terms of product authenticity and creativity and innovation, and a 5-point Likert scale system was used, while Part 3, which contains the questions on acceptability in terms of Commercial value, used the choice-selection method. The answers were evaluated through a five-point Likert scale. The weighted mean and its interpretation are found below: Five-point Likert scale weighted mean and its interpretation.

| Mean Average | Verbal Interpretation |
|---|---|
| 4.21 – 5.00 | Highly Acceptable (HA) |
| 3.41 – 4.20 | Acceptable (A) |
| 2.61 – 3.40 | Moderately Acceptable (MA) |
| 1.81 – 2.60 | Unacceptable (U) |
| 1.00 – 1.80 | Highly Unacceptable |

*Data Gathering Procedure -* With the approval of Mr. Ben Arce, Cheiftain, the gatekeeper, to conduct the study, the researcher processed an orientation on the objectives of the study and the confidentiality of all information provided in interviews and the questionnaire, including their responses. Observing the required proper health protocols, the researcher collected data through an audio-recorded unstructured interview with the conversation partners. For the survey, questionnaires were distributed and accomplished survey questionnaires were gathered immediately, to abide by the safety protocols implemented.

*Data Analysis -* To analyze the data in this study, the following steps were observed and implemented by the researcher. For the qualitative part, the researcher used the code and re-code strategy in analyzing the cleaned data until deriving the initial and final themes and sub-themes of the study. For the quantitative part, survey on acceptability, the mean average was extracted from the responses given by the respondents and the verbal interpretations were applied.

## 3. Results and Discussion

This section presents the results and discussion of the data collected and is presented using tabular presentation, which consists of the findings in this study such as the development of Panubli-on as a sustainable project; evaluation of of acceptability in terms of product's authenticity, creativity and innovativeness and commercial value; and the evaluation of the effect of Panubli-on on the lives of the Sibato-Bukidnons in terms of cultural aspect, livelihood and entrepreneurial management. For the first objective, which is the development of Panubli-on, a 6-month project was planned following the capacity building framework which started with an environmental scanning on the Sibato-Bukidnon's life, culture and traditions. The findings in the environmental scanning were converted to data which put Project Panubli-on in place. The need to conduct environmental scanning is reflected in the study of Rubio et. Al, (2016) which implies that the need to understand the different perceptions in gaining personal information from the community shows the importance of personal environment scanning before the start of a community development program. The foundation of each program begins with the individual, and the individual's abilities to influence others which are reflected in their skills, interests, and abilities. The schedule for the 6-month project is as follows:

**Table 1**
*Duration of Training*

| | Item | Oct. | Nov | Dec | Jan | Feb | Mar | Apr |
|---|---|---|---|---|---|---|---|---|
| 1 | Submission of budget proposal and letter invitation to partner organizations and individual | ■ | | | | | | |
| 2 | Phase 1 – Training workshop for 16 designs and monitoring | ■ | ■ | ■ | | | | |
| 3 | Phase 2 - Product development and monitoring | | | | ■ | ■ | ■ | |
| 4 | Phase 3 - Product Marketing | | | | | | | ■ |
| 5 | Evaluation of the project | | | | | | | ■ |

The project started in October with the submission of the project plan to partner organizations and individuals. Upon the approval of the plan, Phase 1 of workshop commenced, with a rigid 3-day training followed by continuous once a week follow-up for the months of November and December. This is also where simple technology and technical know-how in the use of sewing machine was introduced to the participants. In January, Phase 2 or the product development commenced, where the products were sewn out of the embroidered 16 design patterns. Several accessories, including household accessories, bags, and vests were used by the participants as their beginning products. These finished products were also used as the samples that were shown to the respondents in the survey pertaining to the acceptability of the products. Phase 3 is the product marketing which has already started. This is the beginning of the sustainable development project.

As to the evaluation of the training, it was done in two parts: the program evaluation and review technique (PERT) and the verbatim evaluation by the participants and trainers. The activities were divided into three phases: the embroidery phase, the production phase and the packaging phase. The embroidery activities include measuring the cloth or fabric for embroidery, cutting the fabric into rectangular or square pieces fit for the desired design to be embroidered and doing the embroidery pattern. The whole phase for one design is expected to finish within five (5) hours, but the actual time is two (2) hours and 40 minutes. The expected excessive hour was due to the novelty of the activity for the participants and to give extra time in case of mistakes and errors. Through the course of time, it is anticipated that expected time will be the same as their actual time.

Production activities include creating a pattern for the finished product, following the cut of the embroidered

product then cutting the created pattern before sewing the product. The product is expected to be finished in six (6) hours and since the participants are using the manual or needle and thread sewing by hand, expected time was the same as the actual time. This observation resulted to the recommendation to shift to high powered sewing machines. The Packaging phase is yet to commence in the coming months for the continuation of the sustainable project.

To address the second objective of this study, the acceptability of the products in terms of product authenticity, creativity and innovation and commercial value was evaluated and the following results were gathered:

**Table 2**

*Products acceptability in terms of Product Authenticity*

| # | Statements: | M | VI |
|---|---|---|---|
| 1 | I have not yet seen the same product designs in the market. | 4.32 | HA |
| 2 | Product logo shows the personality of the Sibato people. | 4.50 | HA |
| 3 | Product designs are tribal in nature. | 3.28 | MA |
| 4 | Product design shows pattern of nature inherent to Sibato people. | 3.30 | A |
| 5 | Designs are symmetrical. | 3.52 | A |
| 6 | Colors used depict the Sibato people. | 4.28 | HA |
| 7 | Designs are hand-sewn and embroidered. | 4.12 | A |
| 8 | Embroidery designs are native to the group. | 3.68 | A |
| 9 | The materials used in the production are locally available. | 3.62 | A |
| 10 | Products can be bought through registered outlets only. | 4.30 | HA |
| | Mean Average | 3.89 | A |

As to acceptability in terms of product authenticity, the responses provided show the general acceptability of the product, with a mean average of 3.89 and a verbal interpretation of "acceptable." As for the supporting question whether the respondents would buy the product based on the given authenticity, 76% of the respondents said yes and 24% said no. This response strengthens the acceptability of the product in terms or authenticity. Based on the verbatim comments collected as to the reasons for not buying the product, the following sub-themes were decoded: a. product not fit for the image projected with responses, *"I am not tribal", "I don't dig tribal designs", "Hindi ako gumagamit ng tribal,"* and other answers related to the aforementioned theme were gathered. b. product material not for the millenials with sample answers like *"I prefer bling blings." "I don't buy house accessories", and "I like my bracelets in silvers and gold, not cloth".* Other responses are categorized under c. no comments and d. no answer. According to Ressem, (2021) it's possible to be authentic without being popular. It just takes patience to be fully accepted.

**Table 3**

*Products' acceptability in terms of creativity and innovativeness:*

| # | Statements | M | VI |
|---|---|---|---|
| 1 | The workmanship shows the craft of the Sibato people. | 4.32 | HA |
| 2 | The product design is innovative. | 3.82 | A |
| 3 | The products have aesthetic value. | 4.20 | A |
| 4 | The style is original and tribal in nature. | 3.94 | A |
| 5 | The design appeals to both the old and the young generations. | 4.12 | HA |
| 6 | The symmetrical design depicts tribal life. | 3.92 | A |
| 7 | The products are useful accessories. | 3.82 | A |
| 8 | The products' colors and hues are complimentary. | 3.62 | A |
| 9 | The products give character to the user. | 3.62 | A |
| 10 | The designs' concept shows simplicity and elegance. | 3.42 | A |
| | Mean Average | 3.88 | A |

With regards to the products' acceptability in terms of creativity and innovativeness, the mean average score gathered from the responses is 3.88 with a verbal interpretation of Acceptable. A supporting question is the respondents' willingness to buy the product once available, 74% agreed that they will buy and 26% said they will not buy the products. This numbers gave strength to the claim of product acceptability in terms of creativity and

innovativeness. As to the 26% negative responses on the question if they would buy the product, the verbatim comments were categorized and the sub-theme that emerged were a. preference given to using silver and gold, with responses like*: "I prefer gold to cloth" "mas gusto ko ang silver", "kung silver, baklon ko"* b. innovative but not their style with recorded responses like *"maganda pero di ako gumagamit ng wrist bands" "stylish but not for me" " kung nanay ko siguro, bibilhin ang center piece pero di ako."* and c. no comments. Some of those who answered that they would not buy the products did not give any verbatim response as to the reason for their negative answer. These results reverberates the study of Shafi, M., et.al (2021, where they used the descriptive analysis through a quantitative cross-sectional consumer survey in analysing the acceptance of certain types of innovations. The results show that most consumers are open to accepting innovation in the product, however, a small sector considered the innovations as more skeptical. Further, this study is the first of its kind to explore the consumer acceptance of innovation in handicraft products.

To get the result for the acceptability on commercial value, samples *(armband, headband, placemat, center table piece, bag, and vest*) were presented to the respondents while they are answering the questionnaire. The armband and the headband are both accessories that appeal to the tastes of the students. For the armband, the price range given is from P 50 to P 150. Based on the frequency of responses, the price range most acceptable to pay for the armband is from P76.00 – P100.00 with 36 respondents saying that they are willing to buy it in that range. With the headband, 38 respondents said that they are willing to pay from P76.00 to P100.00. The placemat and the center table piece are both house accessories. Among the 100 respondents, 44 are willing to buy the placemat at the price ranging from P150.00 to P175.00, while 44 are willing to buy the center table piece at the same price range. The bag is saleable at the price range of P 200.00 to P225.00 and a price range of P226 to P 250.00. Both choices have a frequency of 30 each. The highest price range frequency for the vest is 48 with a price range of P 251.00 to P275.00. With these given figures, it could be deduced that the products have a market and what is needed now is the capacity to produce the products in volume. This result bears similarities from the study of Zhang, L., (2017) which intends to add theoretical contributions by testing the established theories in marketing research and identifying brand extension success factors into a more specific brand extension context that focuses on competing for a share of the self-expression products, or "life style" market. The findings reveal similarities in the positive consumer attitude toward consumer's intentions to purchase, willingness to pay for and to recommend the products. The perceived fitness of the products' price with its intended brand to the buying public is an avenue that gives the perspective of a viable market.

To address objective three (3) and understand the effect of Panubli-on on the lives of the participants, eight (8) conversation partners (CP) were interviewed after their exposure to the training and workshops. An interview guide was used and the responses were transcribed to extract codes which were then clustered into sub themes and eventually, themes were constructed. On the effect of Panubli-on on the cultural aspect, theme 1: Revitalization of life (culture and tradition) emerged from CODES 1, 2, and 3. These codes were formed based on the following answers from the conversation partners on the question, "How did the workshop affect your view on your culture?" with follow-up questions based on responses.

*Code 1.* Acculturation came from the responses of the conversation partners who feel proud about the richness and vastness of their culture which is slowly dying. The perception of the conversation partners of the fact that their culture is dying is that of an awe and sadness as observed by the interviewer. On the following table, the responses that formed code will are shown.

**Table 4**
*Responses that formed Code 1: Acculturation*

| Conversation Partner | Response to Question 1 | Translation |
|---|---|---|
| CP 2 | *"bumabalik ang kultura namin"* | Our Culture is coming back. |
| CP 5 | *"kay amo lang ang manggad sang lumad nga parehos samon."* | Because this is the only wealth of a "lumad" like us. |

| CP 6 | *"ang sini nga aktibidad, makabulig gid sa amon na mga kabataan, tungod ginapadumdom samon ang mga daan nga ginahimo kag kultura sang amon ginikanan,"* | This activity can help youth like us since it makes us think of the past activities and culture of our parents. |
|------|------|------|
| CP 7 | *"nabatyagan ko man na proud ako kay may amo kami nga kultura."* | I feel that I am proud because we have that culture. |
| CP 8 | *Ini nga workshop ginabalik ang sinauna nga kultura nga nalipatan na namun tungod sa modernong tiempo* | This workshop brings back the tradition and culture which we have already forgotten due to modern times. |

Looking at the responses of the conversation partners, it could be deduced that from the lectures, trainings and workshops that they had, their love of culture was revived. As what CP 7 mentioned, *"nabatyagan ko man na proud ako kay may amo kami nga kultura."* Given the short period of time that they had with the training, their pride in their ancestry was brought back to them. They also believe that workshop brought back the tradition and culture that they had already forgotten due to the modernization of time. This is from the response of CP8 who said *"Ini nga workshop ginabalik ang sinauna nga kultura nga nalipatan na namun tungod sa modernong tiempo'*

*Code 2*, still about the same question, Memory engagement emerged from responses of the conversation partners who believe that the workshop juggled some memories of their past where they became a part of the culture that they had. These responses can be seen in the following table.

**Table 5**
*Responses that formed Code 2: Memory Engagement*

| Conversation Partner | Response to Question 1 | Translation |
|------|------|------|
| CP 1 | *Paagi sa training na ini, dumduman ko kung ano ang mga ginahimo namun sang una, pati na ang paghimo sang basket sang gamay pa ko.* | Through this training, I remember what we used to do, including making baskets when I was little. |
| CP 3 | *.. dumduman ko, nakita ko si mama nagahimo sang basket (crafts) kag ginabaligya ya ini...* | …. I remember seeing my mother making some crafts and selling to the market |
| CP 4 | *Ang training nga ini, ginabalik ang tiempo sang gamay pa ku, kag sa amo na nga tiempo, ang amon tradisyon kag kultura ay buhi pa, kag nagatipon tipon kami sa sentro para magsinadya.* | This training brings me back to the times when we are still young and our traditions and culture are very much alive and we convene at the center to enjoy these together. |

Based on the selected responses which were assigned to Code 2, the partners' memories were triggered by what the lectors and seminar masters have taught them. From the response of CP 3, the memory of seeing her mother make some crafts and sell this to the market is one thing that came to her. According to her, *".. dumduman ko, nakita ko si mama nagahimo sang basket (crafts) kag ginabaligya ya ini.*" For her part, conversation partner 4 mentioned, *"Ang training nga ini, ginabalik ang tiempo sang gamay pa ku, kag sa amo na nga tiempo, ang amon tradisyon kag kultura ay buhi pa, kag nagatipon tipon kami sa sentro para magsinadya."* The training brings back the times when they were still young and their traditions and cultures were very much alive. During those times, the center becomes a place where they convene to enjoy life together. The life of the Sibato-Bukidnons is not complicated and it is more leaning to what their community can offer them. Based on their responses to the questions thrown to them during the interviews, they strongly believe that their life would change once they put to practice what they had been trained. Thus, from their responses, another code was marked.

*Code 3,* Life-changing is the code appropriated to responses that show how the conversation partners look at the perceived effect of Panubli-on on the livelihood of the Sibato-Bukidnons. Life changing was pinned as a code since most of the responses talk about how their life was before the training, and how they perceived the training to change what they had been accustomed doing.

**Table 6**
*Responses that formed Code 3: Life Changing*

| Conversation Partner | Response to Question 2 | Translation |
|---|---|---|
| CP 1 | *Magbag – o ang kabuhi… magbag-o ang kabuhi…* | Life will change… life will change. |
| CP 2 | *Gapati ko nga ini nga workshop ang pagsugod sang pagbag-o sang kinabuhi sa Sibato.* | I believe this workshop is the start of the change in our lives in Sibato. |
| CP 3 | *Kun ang ini nga proyekto magpatigayon, hindi na amo sini ang amon nga pangabuhi.* | If the project will continue, our life will not be the same anymore. |
| CP 7 | *Paagi sa ini nga proyekto, mabag-o ang kabuhi sang amon mga kaingod kung amun himuun ang gintudlo sa amon.* | Through this project, the lives of our fellow IPs will change, provided we will put to practice what we have learned here. |
| CP 8 | *Indi lang tradisyon, indi lang kultura, kundi ang amon kabuhi ang magabag-o tungod ang ini nga proyekto magahatag samon sang pwede namun makapyutan.* | Not only tradition, not only culture, but our life will change because this project will give us something that we can hold on to. |

For the conversation partners, life would really change after the training. CP 2 believes that the workshop is the start of the change in their lives in Sibato, *"Gapati ko nga ini nga workshop ang pagsugod sang pagbag-o sang kinabuhi sa Sibato",* same with CP 7 who believes that the life of their fellow IPs will change , provided they put to practice what they have learned in the seminar. *"Paagi sa ini nga proyekto, mabag-o ang kabuhi sang amon mga kaingod kung amun himuun ang gintudlo sa amon."* Hence the code dubbed as lie-changing.

Summing up the codes for the effect on culture, the result will be: *Code 1- acculturation; Code 2 – memory engagement Code 3 –* life changing and the theme that was formed was Revitalization of life. This constructed theme addresses the first variable objective three, effect of Panubli-on on the lives of the Sibato-Bukidnons in terms of culture. Another theme, though, emerged from the responses to the question on livelihood, which are more direct than the responses under code 3, life-changing. These responses are *CODED 4* and assigned to theme 2: Normalization of Life.

**Table 7**
*Responses that formed Theme 2 (Code 4): Normalization of Life*

| Conversation Partner | Response to Question 2 | Translation |
|---|---|---|
| CP 1 | *Indi man kami magmanggaranun pero mabuhi kami sang normal nga pangabuhi.* | Will not get rich but will definitely live a normal life |
| CP 2 | *Magakakwarta kami na amo lang kag ang amon pangabuhian sigurado na.* | We will have money of our own and our livelihood will be assured |
| CP 3 | *Ang amon pangabuhi indi na pareho sang-una kay pwedi naya namon mabakal ang amon nga mga gusto* | Our life will not be the same anymore because we can buy what others buy. |
| CP 6 | *Makabakal na kami sang mga gusto namon kay may pangabuhi-an na kami nga maayo.* | We can now have something that would make us earn money. |
| CP 7 | *Ang amon pangabuhi maparehos naman sa akong nga mga classmates. Pwedi na kami makabakal sang amon nga gusto kag magmaayo na man amon pangabuhi pareho sa ila.* | Our life will be just like that of my classmates. We will live normally like them because we can now have the money to support us if this will continue. |
| CP 8 | *Ang amon nga mga bata mapareho man sa iban nga mga bata sa syudad, kung padayunon namon ang amon paghimakas sa pagpangabuhi.* | My children will have the same life as the others from the city if we will just continue being industrious. |

The conversation partners believe that their lives would normalize once they practice what they have learned. This is more apparent in the response of CP7 who said that their life will be like her classmates and that they would live normally like the others because they can now have money to support them if they continue doing what was taught to them. Her response is "*Ang amon pangabuhi maparehos naman sa akong nga mga classmates. Pwedi na kami makabakal sang amon nga gusto kag magmaayo na man amon pangabuhi pareho sa ila.*" Same is true in the case of CP 8 who said that their children will have the same life as the others from the city if they will just continue being industrious. "*Ang amon nga mga bata mapareho man sa iban nga mga bata sa syudad, kung padayunon namon ang amon paghimakas sa pagpangabuhi*" To answer the query on the effect of Panubli-on on their lives in terms of livelihood, the theme Normalization of life was constructed.

On entrepreneurial management, the conversation partners were asked how the workshop affects their abilities to sell their products, and responses like self-reliance; industriousness and Community engagement were among the codes that emerged. As such theme 3, Industry Building was constructed.

**Table 8**
*Responses that formed Code 5: Self Reliance*

| Conversation Partner | Response to Question 3 | Translation |
|---|---|---|
| CP 1 | *Maysalig kmi sa amon kaugalingon* | We can rely on ourselves |
| CP 2 | *Ang workshop nagtudlo sa amon kung paano namon ibaligya, kag himuon namon ang tanan para makabaligya kami nga kami na lang.* | The workshop taught us the trade, so will do our best to sell by ourselves. |
| CP 5 | *Ang epekto kung paano namon maipakita sa ila nga may nabalan kami kag himuon namon ang tanan kay para man ini saamon.* | The effect will be on the way we look at the effort given to us, hence we will do our best because it is for us. |
| 4.CP 8 | *Ang pagbago magasugod palang. Pero indi kami pwedi magdependi lang sa iban nga tawo. Kinahanglan namon maghimakas para makabaligya nga kami nga kami lang.* | The change has started. But we cannot always rely on others to help us. We need to make ourselves better at selling. |

The conversation partners talked of relying on themselves in the disposal of their products. According to CP 5, their effect on their ability to sell or entrepreneurial management will rely on the way they look at the effort given to then, thereby, it is their duty to do their best because it is for them. In her own tongue, ahe said, "*Ang epekto kung paano namon maipakita sa ila nga may nabalan kami kag himuon namon ang tanan kay para man ini saamon.*". Cp 2mentioned that since the workshop taught them the trade, then all they have to do is do their best to sell. "*Ang workshop nagtudlo sa amon kung paano namon ibaligya, kag himuon namon ang tanan para makabaligya kami nga kami na lang.*"

Aside from self-reliance, another code that was recorded is industriousness, which was appropriated as Code 6. The code speaks of responses that emphasize the need for them to be industrious since the workshop was already given to them. The respondents believe that the training, coupled with industriousness on their part will release their entrepreneurial management skills. The conversation partners talked of relying on themselves in the disposal of their products. According to CP 5, their effect on their ability to sell or entrepreneurial management will rely on the way they look at the effort given to then, thereby, it is their duty to do their best because it is for them. In her own tongue, she said, "*Ang epekto kung paano namon maipakita sa ila nga may nabalan kami kag himuon namon ang tanan kay para man ini saamon.*". Cp 2mentioned that since the workshop taught them the trade, then all they have to do is do their best to sell. "*Ang workshop nagtudlo sa amon kung paano namon ibaligya, kag himuon namon ang tanan para makabaligya kami nga kami na lang.*"

Aside from self-reliance, another code that was recorded is industriousness, which was appropriated as Code 6. The code speaks of responses that emphasize the need for them to be industrious since the workshop was

already given to them. The respondents believe that the training, coupled with industriousness on their part will release their entrepreneurial management skills.

**Table 9**
*Responses that formed Code 6: Industriousness*

| Conversation Partner | Response to Question 3 | Translation |
| --- | --- | --- |
| CP 3 | *Kilanlan namon maghimakas. Nahasa na kami nila dapat nga kami naman ang magiho.* | We have to be industrious. We are already trained, so we need to move. |
| CP 5 | *Ginpa reyalisa nila sa amon nga para ini sa amon tanan dapat gid kami maghimakas.* | By making us realize that this is for us and we need to be industrious |
| CP 6 | *Ang pangabuyan na mismo ang mapagiho sa amon.* | The industry itself will make us move. |
| CP 7 | *Ang amon pangabuhi mapariho na sa akon mga klasmet. Maging maayo na ang amon pangabuhi, kung magsigisigi na ini kag may kwarta na kami mabakal na namon ang amon mga gusto baklon.* | Our life will be just like that of my classmates. We will live normally like them because we can now have the money to support us if this will continue being industrious. |

Looking at the responses of the conversation/ interview pertaining to their entrepreneurial skill, the conversation partners believe that by being industrious, their skill in selling will be developed. *"Kilanlan namon maghimakas. Nahasa na kami nila dapat nga kami naman ang magiho,"* CP3. From CP 5, the response *"Ginpa reyalisa nila sa amon nga para ini sa amon tanan dapat gid kami maghimakas."* This shows that CP 5 realizes that the project is for them therefore, they have to be industrious. Same is true with CP 7's response which states *"Ang amon pangabuhi mapariho na sa akon mga klasmet. Maging maayo na ang amon pangabuhi, kung magsigisigi na ini kag may kwarta na kami mabakal na namon ang amon mga gusto baklon."* The conversation partners also believe that since the training was given to them, other organizations will help on the entrepreneurial side. Hence, with self-reliance and industriousness, they believe that community engagement will complete the effect that the workshop has on them. The community for them, place a vital role in the development of the industry that they had started from attending the workshop. Therefore, engaging in community-based entrepreneurial management is an effect that they had seen.

The responses on the next table will give us the idea on how the conversation partners value the importance of the community which has been a part of their lives in the tribe.

**Table 10**
*Responses that formed Code 7: Community Engagement*

| Conversation Partner | Response to Question 3 | Translation |
| --- | --- | --- |
| CP 1 | *Kami kag ang mga pumuloyo sa amon nga tribo.* | Ourselves.. and the community where we live. |
| CP 2 | *Himuon namon tanan para makabaligya… kay kabalo na kami kung ano ang mga patok subong nga amon ibaligya.. ang amon nga tribo magabuligay.* | We will do our best to sell…. Because we know the trade now, so we better sell.. the community will help. |
| CP 3 | *Dalon namon ang amon nga mga produkto sa amon tribo, kag mahimo kami amon kooperatiba.* | We will bring our products to the community and there, we will rebuild the cooperative. |
| CP 5 | *Kabalo ko nga paagi sini nga proyekto, ang iban nga mga ahensya mabulig man sa amon. Ang SI mabulig man sa iban namon nga mga ka tribo.* | I know that through this project, other agencies will help us. SI will also help the other members of the community. |
| CP 6 | *Wala ko kabalo kung ano ang epekto. Pero kabalo ko bilog namon nga tribo mabulig.* | I don't know the effect. But I know the community will help. |
| CP 8 | *Ang epekto? Mag maayo kami nga negosyante kay amo na ang gin tudlo sa amon.* | The effect? We will be good salesmen because what was taught to us is saleable. |

Based on their transcribed responses, the community will play a vital role in their entrepreneurial skills. As CP 3 mentioned, they have the intention to bring their products in the community and there, they will build a

cooperative. As she said in her dialect, *"Dalon namon ang amon nga mga produkto sa amon tribo, kag mahimo kami amon kooperatiba."* For her part, CP 6 has no idea about the effect but has complete confidence that the community will help as shown in her response *"Wala ko kabalo kung ano ang epekto. Pero kabalo ko bilog namon nga tribo mabulig."* And finally, CP* believes that they will be good salesmen. *"Ang epekto? Mag maayo kami nga negosyante kay amo na ang gin tudlo sa amon."*

These are the results of the transcribed responses for the interview conducted, intended to address Objective 1-Determine the effect of Panubli-on on the cultural aspect, livelihood, and entrepreneurial management of the participants. This result confirmed the study of Magnaye R.(2021), entitled "Effectiveness and Impact of Community Extension Program of One Philippine Higher Education Institution as Basis for Sustainability". The findings revealed that the respondents in the community revealed that the effective community extension program is livelihood and entrepreneurship. Other community extension programs on environmental clean-up/tree planting/waste management, computer literacy, health services, and crime and drug prevention were less effective. The findings reveal that livelihood and entrepreneurship program has a moderate impact on the lives of the beneficiaries. There is a significant relationship between the effectiveness and impact of community extension programs in terms of health services programs, livelihood/entrepreneurship programs, education and leadership, environmental clean-up/tree planting/waste management, and crime and drug prevention. However, no significant relationship was determined between the effectiveness and impact of community extension programs in terms of computer literacy programs. This includes building active partnerships all over the community to ensure that their roles and tasks are identified.

The last objective, sustainability of Project Panubli-on, depends on the capability of the recipients to produce every month. Distribution of the product will be two-pronged: direct distribution and agent distribution. In direct distribution, the recipients will sell their products directly to an individual. Agent distribution on the other hand will have the participation of Kahirup and Silay Institute Cooperative and ADEC Innovations. Both agencies will serve as the marketing arm the Project Panubli-on

## 4. Conclusion

With the above-mentioned findings, the researcher was able to draw the conclusions that Project Panubli-on has been developed and will continue to exist if nurtured. Once their products are ready in the market, these will be patronized by the target market as seen from their responses to the questions for acceptability in terms of product authenticity, creativity and innovation and commercial value. Project Panubli-on was able to revitalize the lives of the recipients by giving them a new perspective on the way they look at their culture and traditions. It affects their livelihood in such a way that they were able to perceive normalization in their life because of Panubli-on. Through the knowledge they gained, they are now ready to build their industry through self-reliance and engagement in the community. The help of agencies and other organizations like Silay Institute and ADEC Innovations will determine the sustainability of the project.

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# ACQUIRING knowledge through play: Integrating Sustainable Development Goals and Lasallian Service Learning within a role-play gamification initiative for sixth grade social science and values education

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## Abstract

This educational initiative engages Grade 6 students at De La Salle University Integrated School in an interdisciplinary learning experience that combines Sustainable Development Goals (SDGs) with Lasallian Service Learning (LSL) through a Role-Play Gamification Design Project. Students investigate developmental topics concerning Philippine presidents from 1946 to now, integrating Social Science with Christian Living and Values Education (CLVE). The initiative promotes critical analysis and ethical reasoning while students create educational role-playing games that incorporate strategic choices and situations grounded in values. It culminates in a Reach-in Program, where DLSU Integrated School students collaborate with Lumaniag Elementary School in Brgy. Lumaniag, Lian, Batangas, to engage in games and address real-world challenges. This program encourages critical thinking and education based on core values, offering students an understanding of socio-economic challenges and historical contexts while nurturing social consciousness and a worldwide viewpoint in line with Lasallian ideals.

*Keywords:* Sustainable Development Goals, Lasallian Service Learning, social science, values education, role-play gamification

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## 1. Introduction

Education shapes young minds, nurtures values, and helps students become engaged global citizens. To nurture these kids, modern education must integrate creative teaching approaches that combine significant learning experiences with essential life skills (UNESCO, 2017). One is gamification, which uses game elements in non-game settings to improve student engagement and teamwork (Deterding et al., 2011). Particularly in Social Science and Christian Living & Values Education, role-play gamification provides a dynamic avenue for students to explore complex topics while fostering empathy and real-world problem-solving. This approach is meaningful when aligned with the Sustainable Development Goals (SDGs) and Lasallian Service Learning principles, forming an interdisciplinary platform beyond traditional classrooms. The Sustainable Development Goals (SDGs) by the United Nations aim to solve worldwide problems such as inequality, poverty, and environmental sustainability (United Nations, 2015). Integrating these 17 SDGs into the curriculum will help the students develop an awareness of pressing international issues and an understanding of their roles in contributing to a better world by providing practical solutions to real-world challenges. Through role-play scenarios, students can assume active roles as change-makers, allowing them to connect classroom content with the lived experiences of marginalized communities. In addition, integrating the SDGs with Lasallian values emphasizes compassion, social justice, and active service, cultivating learners' intellectual growth and moral and spiritual development (Lasallian Reflection, 2021). Additionally, this interactive approach transforms traditional classrooms into dynamic spaces where students actively engage with real-world problems while internalizing moral and ethical values in a practical context (UNESCO, 2017).

*Background and Context -* At De La Salle University Integrated School (DLSU IS), the Grade 6 curricula for Social Science and Christian Living and Values Education (CLVE) are designed to offer students a holistic education that integrates academic knowledge, ethical values, and a deep sense of social responsibility. These subjects aim to prepare students for academic success and becoming active, compassionate, and responsible citizens. The Social Science 6 Curriculum focuses on Philippine history, from the events that led to American colonization to the establishment of a self-governing nation to the present socio-political condition of the country. The curriculum begins by deepening students' understanding of the events that led to American colonization and the country's socio-cultural, economic, and political situations during that period. Then, the lesson will unfold by allowing learners to understand how the Filipinos struggled for self-governance from America, the establishment of the Commonwealth Government, and the events in the Philippines during the Japanese occupation. Finally, it will assist learners to understand the events that took place in the country, from the establishment of the 3rd Philippine Republic to the current political administration.

Lessons are presented in a learner-centered, constructivist, experiential, collaborative, and reflective manner to understand better important knowledge, skills, and attitudes for this level. Thus, it envisions that learners exhibit the Expected Lasallian Graduate Attributes (ELGAs) of critical and creative thinking, effective communication, reflective lifelong learning, service-driven citizenship, and environmental stewardship at the end of the lesson. The Grade 6 program is anchored on the K to 12 Curriculum. The Christian Living and Values Education 6 course assists students in grasping the foundation of the Church instituted by Jesus Christ and its purpose in the divine plan of God, learning compassion within the Church, proclaiming the Good News, and walking in the footsteps of Christ. The course includes fostering spiritual development, the practice of daily Christianity, and sustaining faith during difficulties.

The curriculum fosters practical and reflective thought processes and problem-solving applications from different fields, which nurture students' scientific reasoning and capacity to use the acquired knowledge for self-enhancement. Teaching young learners' abstract concepts like ethical reasoning, sustainable development goals (SDGs), and historical analysis poses several challenges. Young learners, particularly sixth graders, still develop critical thinking skills and often struggle to connect these teachings and concepts to their daily dynamic sources like the Christian Living Education 6 (CLVE) and Social Science at De La Salle University Integrated School provide a framework to address this by integrating ethical reasoning, global citizenship, and historical context into relatable scenarios.

Times Higher Education mentioned, "Educators can make these abstract concepts more tangible by linking ethical dilemmas to real-life situations, using role-play to engage with SDGs, and drawing parallels between historical events and contemporary issues." The comprehensive approach enhances students' grasp of the context understanding and appreciation. It empowers them to see their role in addressing global challenges, fostering a sense of agency and engagement in their learning process. Students can meaningfully appreciate and apply their understanding of these complex topics through interdisciplinary learning and practical applications rooted in Christian values (Saunders & Wong, 2020).

*Objectives of the Initiative -* The objectives of this initiative are the following

➢ To enhance students' critical thinking, ethical reasoning, and collaboration, and having them do tasks that require role-playing providing real-life scenarios.

➢ To connect theory with practice by designing and implementing role-play games, which comprise historical events, ethical issues, and real-world SDGs

➢ To nourish the spirit of Lasallian values in students by integrating programs like the Reach-In Program, wherein students use their knowledge to solve community problems to develop empathy, social equity, and globalization

*Significance of the Study -* This research study develops interdisciplinary learning models by integrating Social Science, Christian Living and Values Education, and frameworks such as the United Nations's 17 Sustainable Development Goals (SDGs). Linking gamification with these two subjects and Lasallian Service-Learning principles is a development in research that provides a holistic framework that bridges learning's cognitive, affective, and ethical dimensions. Drake and Reid (2018) found that interdisciplinary approaches enhance student engagement and understanding by highlighting connections across different fields. This study emphasizes how interconnected subject areas can prepare students for real-world challenges through their understanding of complex societal issues. Integrating Lasallian values with the SDGs highlights the importance of moral and spiritual development alongside academic growth. Lasallian education focuses on forming individuals committed to faith, service, and communion, while the SDGs address global challenges like inequality, environmental sustainability, and poverty (Lasallian Reflection, 2021; United Nations, 2015).

This research shows that basic education can help young students develop a sense of ethical responsibility and global citizenship. It prepares them to be more socially aware and empathetic individuals. It demonstrates how basic education corresponds with both regional and international objectives through this integration. This research introduces an innovative approach to teaching by utilizing role-play gamification, which enhances engagement, critical thinking, and collaborative learning (Hamari et al., 2014). Thus, gamification with service learning motivates students to solve real-world issues while enjoying engaging in such an experiential educational platform. This study emphasizes using gamified approaches to integrate the Sustainable Development Goals (SDGs) and Lasallian values, presenting a new model for reimagining traditional teaching methods. It positions gamification as a motivational tool and a transformative pedagogical strategy that bridges academic content with life skills and moral development.

***Contribution to Interdisciplinary Learning Models -*** This study contributes to interdisciplinary learning models by creating a new and integrated framework spanning diverse concepts and Christian Values, focusing on the ethical and social-emotional dimensions of development, applying creative pedagogies such as gamification and service learning, proving the model to have real-world impact and positive student outcomes, and valuing diverse thinking that encourage students to share their unique and creative ideas and perspectives through creating gamified output. This study can also demonstrate using this integrated approach as a model for educators and researchers to implement more effective and engaging interdisciplinary learning experiences for basic education, particularly for grade school.

***Emphasis on Lasallian values and global SDG priorities in basic education -*** The study strongly emphasized that despite its universal and needs-driven character, Christian values and the international focus of the SDGs should remain an integral part of a holistic framework of basic education—the alignment with Christian values. The Lasallian education focuses on forming young minds committed to faith, service, and communion in mission. It stresses the importance of moral and spiritual growth, academics, and a holistic approach to education. The study notes that the SDGs address critical global challenges—such as inequality, environmental sustainability, and poverty. The transformative power of this initiative is evident. By embedding SDGs in the curriculum and Lasallian Service Learning, students can be taught how to become active participants with a sense of ethical obligation to understand global citizenship. It also marks a significant contribution to understanding how these national educational imperatives can coexist, with the study demonstrating how the intersection of both Lasallian Service Learning, Christian Values, and the SDGs could represent a framework for ensuring that students engage with global challenges through an ethical and compassionate mindset. It also begins to help them think about engaging active members in helping to build a more just and sustainable world [Rafelle Pitrini, 2020].

***Innovation in Educational Strategies Through Gamification -*** The study is innovative in pedagogical approaches via its novel application of gamification. It innovatively combines gamification and interdisciplinary learning, especially with Social Science, Christian Living and Values Education, the SDGs, and Lasallian service-learning principles. This unique blend distinguishes it from conventional teaching. Gamification of learning environments may be a powerful tool for acquiring knowledge and enhancing essential skills such as problem-solving, collaboration, and communication (Rabah et al., 2015). It utilizes the power of gamification to enhance engagement and motivation. Interactive learning through gamification elements such as role-playing involves students more and makes them more interested in learning. As per the study, gamification can aid in bringing out critical thinking, problem-solving, and teamwork skills. These are fundamental 21st-century skills necessary for a globalized, complicated world [Z. Zainuddin, et.al].

The primary approach of combining gamification with service learning will bridge the gap between academic content and real-world application. Through project-based learning, students can apply their classroom learning to solve real-world problems, which makes the lessons more relevant and impactful. The study defines gamification as a construct of education and design. Moreover, that gamification can transcend play and become a catalyst for transformative learning, particularly for grade school learners. Overall, the study is innovative as the approach to gamification is seen as the main element of the interdisciplinary learning model, and this innovative method not only positively contributes to the literature but also demonstrates how such models are implemented. This new development can genuinely transform how we educate and educate.

## 2. Conceptual Framework

The study's conceptual framework integrates three foundational components: Gamification in Education, Sustainable Development Goals (SDGs), and Lasallian Service Learning (LSL). These components collaborate effectively to develop a pioneering method that promotes interdisciplinary education, ethical decision-making, and social awareness among sixth-grade students.
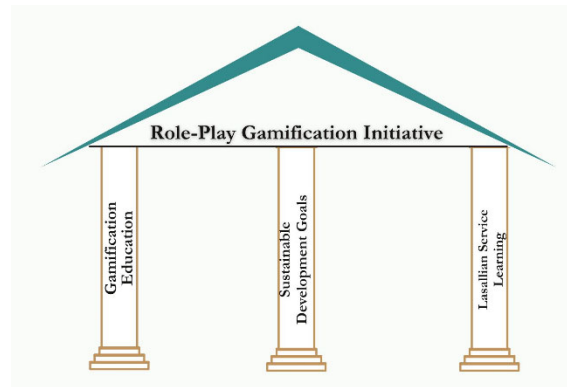
**Figure 1.** Conceptual framework illustrating the integration of Gamification in Education, Sustainable Development Goals (SDGs), and Lasallian Service Learning (LSL) in the Role-Play Gamification Initiative. *The framework highlights the interplay of these components to foster critical thinking, ethical reasoning, and social consciousness among students.*

The first pillar of the framework is **Gamification in Education**, which emphasizes active learning and engagement through role-play and decision-making. Gamification transforms traditional educational methods by incorporating game design elements that motivate students to participate actively and think critically. Students understand key concepts and develop strategic problem-solving skills by taking on roles connected to historical figures and events studied in Social Science 6 topics. This study examined two key periods: the Third Republic of the Philippines and the contemporary era. The second pillar, **Sustainable Development Goals (SDGs)**, provides a dimension to the learning process globally in context. This component motivates students to investigate and solve real-world problems. Using historical analysis and linking to the SDGs, this framework allows students to understand different socio-economic issues better while developing a sense of global citizenship. The elements are derived from the United Nations' 2030 Agenda for Sustainable Development. Finally, De La Salle University's **Lasallian Service Learning (LSL)** is this initiative's philosophical and pedagogical foundation. This component emphasizes community engagement and ethical development inspired by the Lasallian principles of faith, service, and communion in mission. In a Lasallian environment, young Lasallians learn to work with partner schools to implement their knowledge in a service-focused context, connecting academic concepts with significant real-world effects. The intersection of these three pillars represents the **Role-Play Gamification Initiative**, which integrates Social Science and Christian Living and Values Education (CLVE). This initiative promotes critical thinking, ethical reasoning, and social awareness, empowering students to address local and global challenges while embodying Lasallian values.

*2.1 Theoretical Basis*

*Gamification in Education: Principles and Effectiveness -* To improve engagement, motivation, and hands-on learning, gamification in education uses game elements (Deterding et al., 2011). Gamification helps keep learners engaged and interested. It does this by using rewards, competition, and role-playing activities. Gamified methods improve teamwork and critical thinking and deepen understanding of concepts in younger learners (Hamari et al., 2014). These principles are essential in social science and Christian living, emphasizing how interactive education can improve understanding of complex concepts.

*Role of SDGs in shaping 21st-century educational priorities -* The SDGs emphasize preparing the 21st century students to address world problems like poverty, inequality, and environmental sustainability (United Nations, 2015). Embedding these in the curriculum allows educators to link academic learning to real-world issues, enabling students to create actionable solutions. This method promotes education and global citizenship, helping students evaluate their roles in a sustainable future. The SDGs offer an interdisciplinary educational framework that aligns with current priorities.

***Lasallian Service Learning: Philosophical and pedagogical foundation -*** Lasallian service-learning integrates community engagement with academic reflection, emphasizing the values of faith, service, and social justice (Lasallian Reflection, 2021). This approach connects classroom learning with the experiences of marginalized communities, deepening students' understanding of societal issues. Lasallian service-learning supports transformative education across intellectual, moral, and spiritual dimensions by fostering empathy and ethical responsibility. Students internalize Lasallian values through reflective practices and commit to meaningful service and lifelong learning. The Lasallian Service Learning Framework combines three learning theories of service learning (Challenge-Based Learning, the Lasallian Reflection Framework, and service learning) to produce a layered and developmental education experience. CBL, an education program created within the "Apple Classrooms of Tomorrow—Today" (ACOT2) program, is anchored to authentic problem-solving and challenges that prepare students to think critically and contribute actively to 21st-century issues. The Lasallian Reflection Framework, rooted in the Church's social teachings through the Pastoral Spiral—"See, Judge, Act"—guides students in reflective thinking, encouraging them to discern and act by the values of faith, service, and communion. At the same time, Service Learning, as informed by John Dewey's theory of experiential-based teaching, stresses learning by doing, connecting academic knowledge to service, and social responsibility. Individually and collectively, these three frameworks are used harmoniously to enable students to become intellectually and virtuously what they believe should be (their "mission" as agents of faith, service, and justice in the world informed by Lasallian values and ideals).

### 2.2 Integration Model

The Integration Model for this study demonstrates the dynamic interconnection between Sustainable Development Goals (SDGs), Social Science, Christian Living and Values Education (CLVE), gamification, and values formation. By integrating these components, the model offers a unified method for creating interdisciplinary educational experiences that develop compassion, critical thinking, and global awareness in the sixth grade De La Salle University Integrated School students.
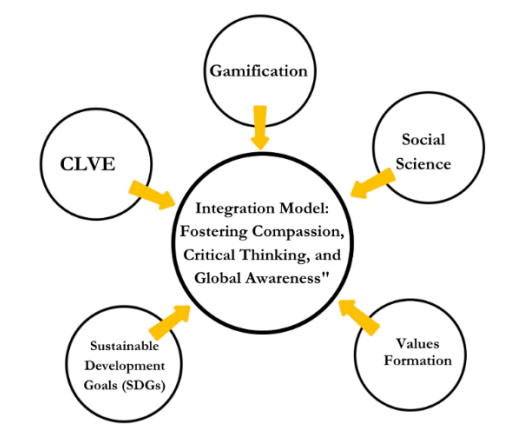


**Figure 2**: Interdisciplinary Integration Model for Values Formation and Global Awareness in Sixth-Grade Education

### 2.3 Linking SDGs with Social Science and CLVE

The SDGs offer a contextual framework for teaching Social Science and CLVE by connecting historical and ethical concepts to contemporary global challenges. For instance, discussions on the past Philippine president's developmental policies during the Third Republic are enriched by aligning them with modern SDG priorities such as poverty eradication (SDG 1), quality education (SDG 4), and climate action (SDG 13). CLVE creates linkages that enable the students to examine the ethics of leadership and its relevance for service and faith. This

connection helps students appreciate the value of historical events and actions and their societal and environmental consequences.

### 2.4 Gamification as a Bridge to Interdisciplinary Learning

As used in this initiative, gamification combines three essential components: Social Science, CLVE, and SDGs to create engaging learning experiences. Students interact with cross-disciplinary content by creating role-playing games that imitate historical events and ethical challenges, transforming theoretical ideas into concrete experiences. This method helps students learn to work and cooperate with others while creating impactful ideas.

### 2.5 Values Formation: Encouraging Compassion, Critical Thinking, and a Global Perspective

The process of values formation is at the heart of the Integration model. Immersive role-play activities encourage students to reflect on ethical dilemmas and develop compassion. Students also gain a global perspective by addressing real-world problems. Further, students are motivated to think critically about their roles in promoting social justice and sustainability. The Reach-In Program, a culminating activity where students collaborate with Lumaniag Elementary School, reinforces these values by connecting classroom lessons to meaningful community service. This Integration Model illustrates how gamification, SDG themes, and Lasallian values create an innovative and holistic educational approach. It prepares students to navigate complex global challenges while fostering lifelong learning and ethical responsibility.

## 3. Methodology

This study employs a qualitative and project-based learning approach to integrate gamification, Sustainable Development Goals (SDGs), and Lasallian Service Learning into the educational experiences of Grade 6 students. The initiative promotes critical thinking, ethical reasoning, and community engagement by focusing on the interdisciplinary connections between Social Science and Christian Living and Values Education (CLVE).

### 3.1 Participants

The participants of this initiative include Grade 6 students from the De La Salle University Integrated School (DLSU IS) and Grade 6 students from Lumaniag Elementary School in Lian, Batangas, during the Academic Year 2023-2024.

*Grade 6 Students (DLSU IS)* - One hundred forty-nine (149) Grade 6 students from DLSU IS, who come from middle to upper-middle-class families, serve as the primary participants. These students are experienced in collaborative since pre-school and project-based learning methods. They have access to modern educational tools like iPads. Their socio-academic backgrounds and exposure to Lasallian values make them ideal for this gamified and interdisciplinary learning initiative.

*Grade 6 Students of Lumaniag Elementary School (Partner Institution)* - The Reach-In Program involves 40 students from Lumaniag Elementary School, a public school in a coastal community in Barangay Lumaniag, Lian, Batangas. The institution primarily serves low-income families, and its students represent the socio-economic realities that inform the themes of the role-playing games.

### 3.2 Learning Design

This initiative follows a structured learning design divided into three key phases:

*Lesson-Discussion* - The "Masid-Danas" (See-Experience) stage uses video and photo analysis to connect students directly with real-world events and issues, providing a firsthand experience. Guided classroom activities explore these events' social, emotional, and ethical dimensions, cultivating empathy and a deeper understanding of

past and present issues. The aim is to link classroom learning with real-life experiences, promoting critical thinking and social responsibility.

*Research -* This stage, known as Analysis-Reflection or Suri-Nilay within the Lasallian Framework, saw the Grade 6 DLSU IS students begin their integrated Social Science and CLVE performance task by investigating the historical and socio-economic context of Philippine presidents from 1946 to the present. This involved evaluating leadership decisions, economic development, and the impact of governance on Filipino society. Students explored the links between historical events and Sustainable Development Goal (SDG) themes, connecting these to the challenges faced by each president.

*Game Creation -* During this stage, students designed role-playing games incorporating historical events and themes aligned with both Sustainable Development Goals and Lasallian values to promote social responsibility, critical thinking, and the practice of Christian values. Using provided templates, they developed game scenarios, characters, and challenges that encouraged strategic decision-making and ethical reasoning. This "Commitment-Action" or "Taya-Kilos" phase, as it's known in the Lasallian framework, emphasizes "committed action" – combining the concepts of offering/committing ("taya") and acting ("kilos"). This values-driven commitment results in a concrete, contextually relevant plan implemented individually or as a group. The process concludes with evaluating quality and consistency before a new cycle begins (LMO-LRF, 2011).

### 3.3 Tools and Resources

The tools and resources for this initiative focused on guiding students to independently research, design, and create meaningful role-playing games (RPGs) that integrate Sustainable Development Goals (SDGs) and Lasallian values. At DLSU IS, research is a fundamental part of the curriculum, even in grade school, students are encouraged to take the lead. At the same time, teachers provided guidance to ensure the accuracy and reliability of their work. Students used role-play templates as a guide to structure their RPGs effectively. These templates served as a framework for character development, plotlines and game mechanics, and values integration.

### 3.4 Implementation Process

This initiative implemented a carefully designed process that provided a comprehensive learning experience that integrated SDGs and Lasallian principles to finish a meaningful community-oriented project. The process focused on three key phases: classroom preparation, collaborative game creation, and partnership engagement.

*Classroom Preparation: Introduction of SDGs and Lasallian Principles -* The foundation for the initiative was established during the United Nations Month Celebration, led by the Social Science Department, which served as a springboard for introducing the SDGs. The SDG themes were integrated into the month-long celebration through informational videos, pamphlets, and posters displayed in the schools and on different social media platforms. Different subject areas, specifically Social Science and CLVE, also engaged the SDG themes in their lessons and activities. In this sense, students understood world problems and how these goals solve pressing issues through themed activities and discussions. These discussions were further reinforced in their classroom lessons, where students examined the relevance of SDGs to historical and socio-economic contexts. The Lasallian values of faith, service, and communion have been a lifelong component of Lasallian education from preschool all the way through, where the principles are instilled in us as the basis of our shared calling as the Church to actively respond to God's call-in serving others and forming a community of disciples. These principles are revisited and emphasized in classroom discussions, encouraging students to align their academic work with values-based decision-making. With this Social Science and CLVE integrated performance task, students were tasked with using the SDGs and Lasallian principles as the primary framework for designing their role-playing games (RPGs). This early preparation ensured that students had the necessary knowledge and values to approach the project thoughtfully and creatively.

*Group Work: Collaborative Game Creation -* The project initially started as an individual task in Social

Science and later evolved to require student collaboration when the integration with the CLVE began. During the integration, students consolidated their ideas and selected a unified concept for their RPG, which they could later use in their Transfer Task. The Grade 6 students created characters, situations, and obstacles grounded in historical contexts from the Third Republic of the Philippines to today as a component of the gamification process. By working together, the students conceptualized their RPGs by reflecting on ethical dilemmas aligned with SDG themes.

*Partnership Engagement: Planning the Reach-in Program -* The final phase is the extensive co-creating of the Reach-in Program for Lumaniag Elementary School. Students assumed some planning roles and some ownership of activity design and preparation and went so far as to host parts of the event. It was more than just having the games; they needed to think of operational tasks and precisely how their partner school would need to be able to incorporate what they were doing. Teachers worked as facilitators, offering advice and guidance but not taking the lead in students' output. This mode of engagement gave the students the liberty to cultivate leadership, organizational, and problem-solving abilities. Students utilized this to the extent that they were more involved in the core logistics of the Reach-in Program, making sure their games and activities went off without significant hitches. The initiative managed to embed fundamental academic courses with values-based community service learning by encouraging independence and teamwork during the implementation. The virtual involvement in the planning and implementation of Reach-in facilitated a better understanding of SDG and Lasallian value for the students. It enabled them to be of actual use to their partner community.

## 4. Results and Discussion

This part presents the findings from the survey responses explaining the outcomes, challenges, and insights gained from implementing gamification and the Reach-In Program.

### 4.1 Outcomes of the Initiative

#### Academic Achievements

**Figure 3.** *Participants' perceptions of how well the activities enhanced their understanding of Philippine presidents and socio-economic challenges from 1946 to the present*
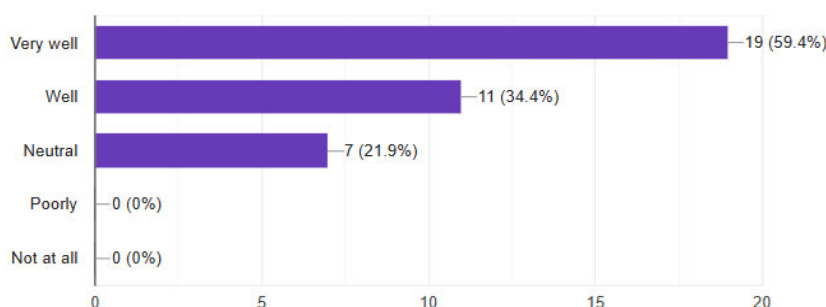


The survey results reveal a marked increase in students' historical knowledge and critical thinking abilities. Figure 3 illustrates that most participants felt that gamification, as a performance task, significantly enhanced their understanding of Philippine presidents and socio-economic issues from 1946 to the present. Many students reported that the interactive nature of the gamified learning experience improved their visualization of historical events, leading to a stronger connection with the material.

**Figure 4** *Difficulties encountered by participants in creating the role-playing games*
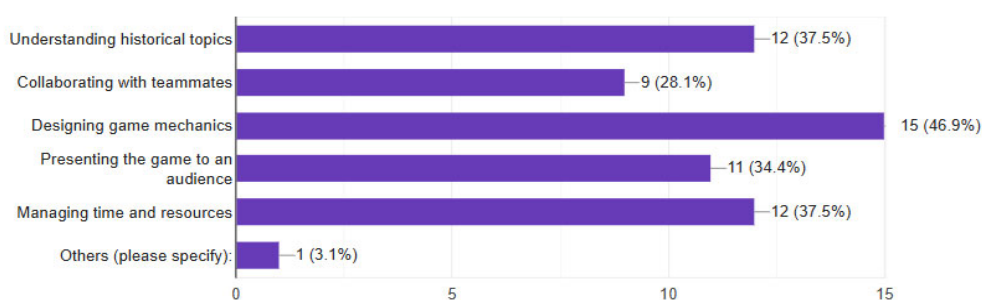


As a teaching method, gamification encourages students to apply their knowledge creatively. Students demonstrated a strong ability to analyze historical narratives and integrate important socio-economic themes into their role-playing games. However, Figure 4 indicates that some students found it challenging to design historically accurate scenarios due to their complexity.

*Values Formation*

**Figure 5** *Values developed by participants during the Reach-in Program with Lumaniag students*
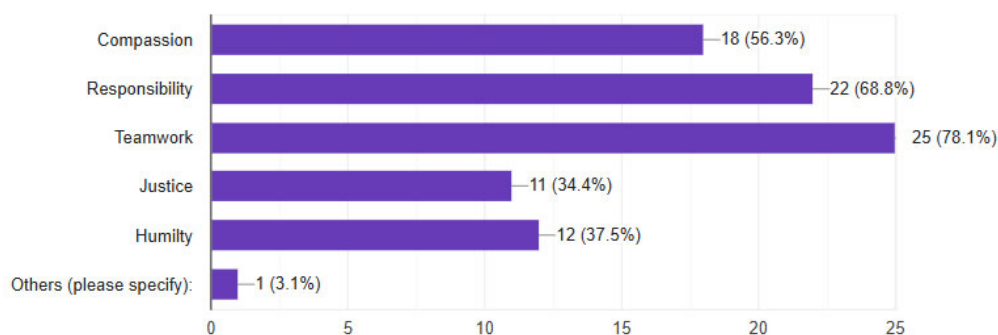


The initiative significantly impacted students' values development, extending beyond academics. Figure 5 shows that students developed camaraderie, responsibility, and compassion through the Reach-In Program. Working with students from Lumaniag Elementary School gave participants direct experience applying their knowledge to real-world community challenges.

**Figure 6** *Participants' ratings of the integration of Christian values into the activities*
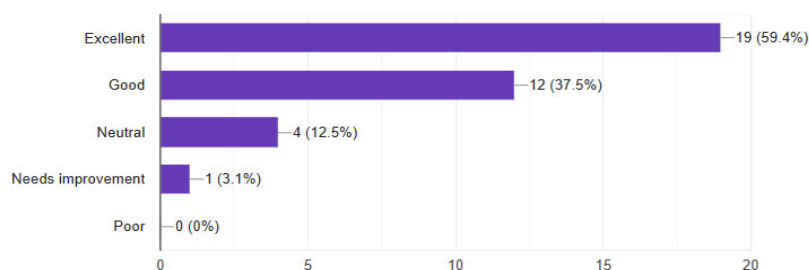


Figure 6 demonstrates the initiative's successful integration of Christian values. Many students recognized that the activities strengthened values like compassion, responsibility, and service, which were consistent with Lasallian principles. This confirms that service-learning contributes to students' intellectual, moral, and ethical growth.

*Creativity and Engagement*

**Figure 7** *How enjoyable participants found the role-play gamification performance task*
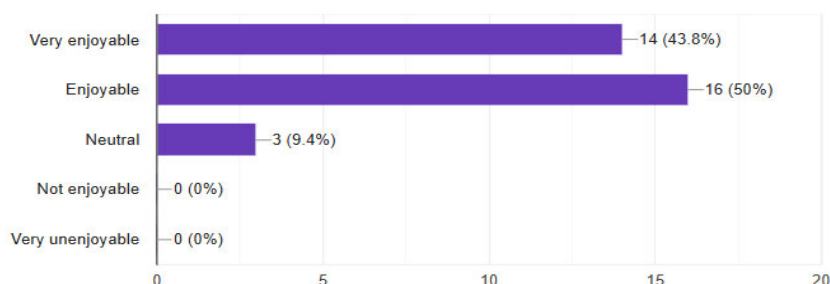


Incorporating gamification in teaching proved successful in boosting student engagement. As shown in Figure 7, most participants enjoyed the role-playing game activity primarily due to its interactive and immersive qualities.
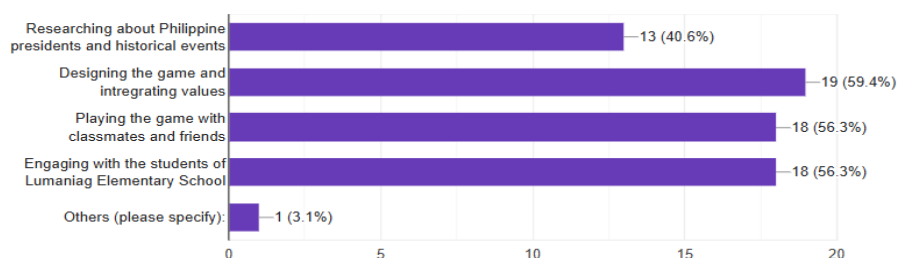
**Figure 8** *Most enjoyable parts of the program as identified by participants*



Figure 8 also highlights the initiative's most popular aspects: game design, collaborative problem-solving, and community engagement. Notably, participants found creating their value-integrated games particularly enjoyable.

**Figure 9.** Participants' motivation to continue learning about historical and socio-economic topics after participating in the programs.
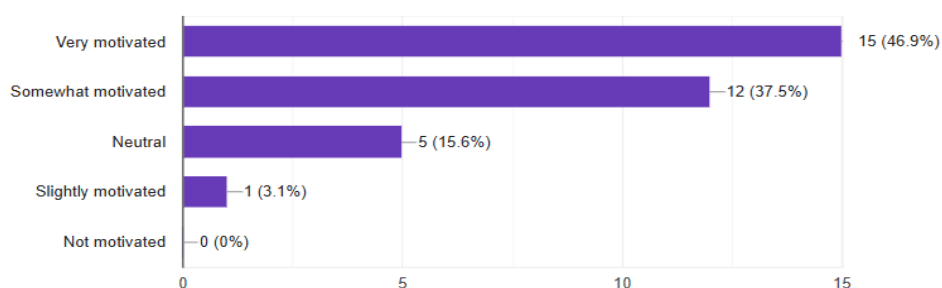


The findings indicate that student enthusiasm and motivation for learning increase when they have creative control over their learning experiences. Figure 9 supports this by showing that students reported a greater desire to continue exploring historical and socio-economic subjects after participating in the initiative.

### 4.2 Challenges Encountered

**Logistical Issues in Organizing the Reach-In Program**

**Figure 10** *Challenges encountered by participants while facilitating or supporting the initiative*
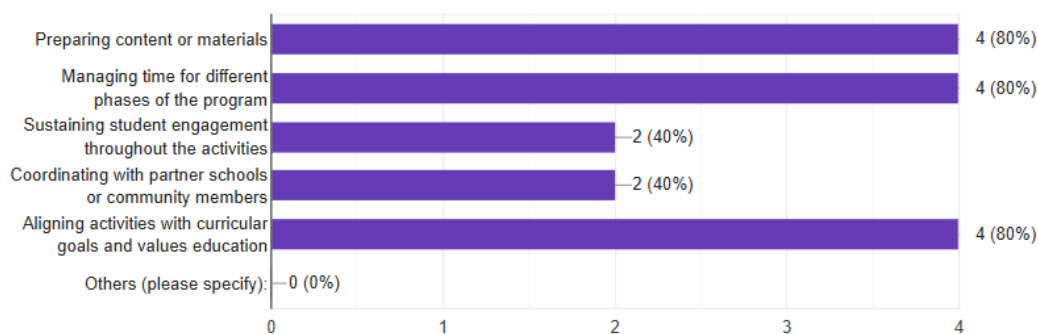


The initiative has achieved its goals, but another problem that surfaced was the logistics. Managing time, preparing content or materials, and aligning activities with the relevant goals of the two schools required meticulous planning. As shown in Figure 10, these logistical issues were a common concern among participants.

**Balancing Interdisciplinary Content Delivery**

**Figure 11.** Teachers' views on the extent to which the program addressed real-world socio-economic challenges through the lens of history and values education.
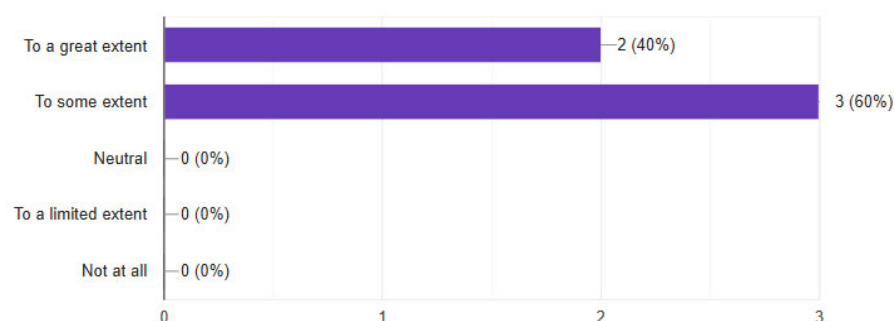


Integrating Social Science, CLVE, and Lasallian values into the gamified learning experience proved challenging. Students sometimes found it difficult to balance historical accuracy with the creative demands of storytelling in their role-playing games. Moreover, as illustrated in Figure 11, the Grade 6 teachers who participated in the initiative have a range of opinions regarding the program's success in tackling real-world socio-economic problems by integrating history and values education.

***Addressing Diverse Learning Needs -*** Although gamification boosted student interest, some struggled with the technical side of game creation. Figure 12, as noted earlier, illustrates students' difficulties in structuring their role-playing games, explicitly crafting intricate narratives and game mechanics. This reinforces the study's finding that the game design materials required a higher cognitive ability than anticipated for grade school students, demanding advanced problem-solving skills usually honed in later education.

**Figure 12.** Difficulties encountered by participants in creating the role-playing games.
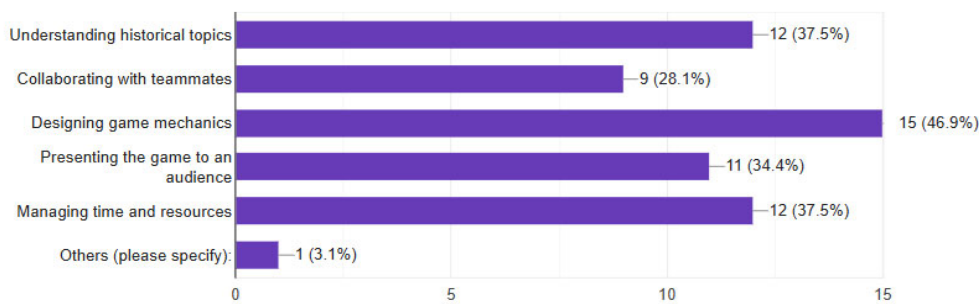


*4.3 Reflections and Insights*

**Teachers' Reflections on Integrating SDGs and Lasallian Service-Learning**

**Figure 13.** Effectiveness of integrating the Sustainable Development Goals (SDGs) in enhancing students' understanding of socio-economic challenges from 1946 to the present.
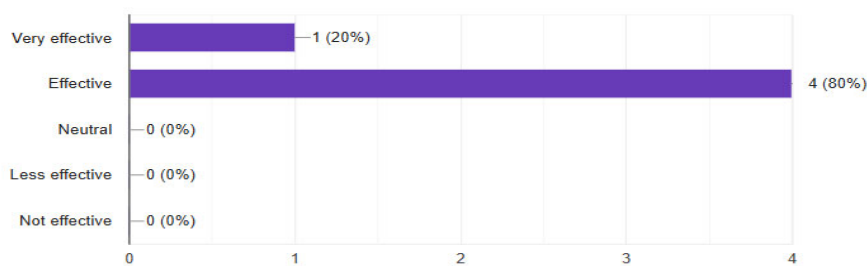


According to Figure 13, educators observed that combining Sustainable Development Goals (SDGs) with Lasallian Service-Learning (LSL) significantly positively affected student engagement and the development of their values. The figure also shows that integrating SDGs was highly effective in improving students' comprehension of socio-economic problems, as many participants realized the connection between these topics and current events.

**Figure 14.** Participants' ratings of the impact of Lasallian Service-Learning (LSL) in fostering values of compassion, responsibility, and service among students.
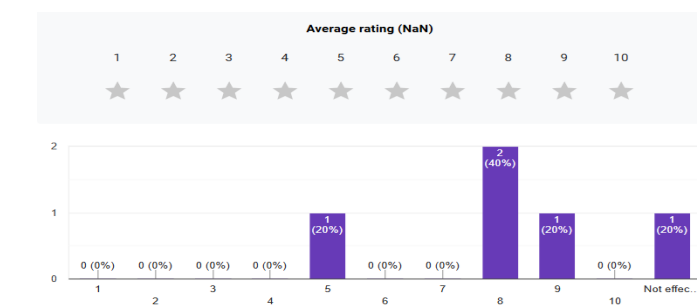


Further, Figure 14 demonstrates how the Lasallian Social Learning (LSL) program cultivated compassion, responsibility, and a spirit of service. By applying their historical knowledge to real-world community issues,

students learned that history is not merely academic in nature but also a tool for understanding and tackling contemporary problems. The Reach-In Program proved to be a valuable experiential learning opportunity. It bridged theoretical knowledge with practical applications, fostering a sense of social responsibility among students. By working alongside Lumaniag Elementary School students, participants learned the importance of collaboration, empathy, and ethical reasoning in addressing community challenges.

**Students' Testimonials on Their Learning Experiences -** Students' reflections further support the quantitative findings. Many participants expressed how the gamification and service-learning activities made history more engaging and relevant to their lives. One student noted, "Creating the game helped me understand history better because I had to think about how the events actually affected people's lives." Another shared, "Working with the Lumaniag students made me realize that history is not just about the past but about how we can help people today." The results and discussion highlight the initiative's success in enhancing historical knowledge, values formation, and engagement through innovative learning strategies. Despite the challenges, the program effectively fostered critical thinking, social awareness, and ethical reasoning among students, making it a promising model for future educational initiatives.

## 5. Conclusion and Recommendations

This research shows that the game design materials used in the study required more advanced cognitive and technical skills than expected for grade school students. While gamification combined with interdisciplinary learning strengthened critical thinking, ethical reasoning, and social awareness, a gap remains between basic education and the specialized skills needed for game development. The Reach-In Program connected academic learning with community service, fostering global citizenship and social responsibility. De La Salle University Integrated School students and Lumaniag Elementary School worked together on real-world issues, applying SDGs and Lasallian values. Role-playing and real-life scenarios helped them grasp historical events and ethical challenges while encouraging teamwork and engagement. Gamification made learning more interactive and immersive. Students designed role-play games on historical and social issues, linking them to SDGs such as Quality Education (SDG 4), Reduced Inequalities (SDG 10), and Peace, Justice, and Strong Institutions (SDG 16). Feedback showed increased interest in history and a deeper connection to learning through hands-on experiences. Despite challenges, the program strengthened critical thinking, values formation, and social awareness. It gave students problem-solving skills and ethical perspectives while reinforcing community engagement. This approach offers a strong model for future projects integrating gamification, service-learning, and sustainability in education.

### 5.1 Recommendations

To further enhance the program, several recommendations are proposed. These include incorporating basic game design into early curricula, partnering with the gaming industry for professional guidance and tools, and integrating game design across subjects to develop interdisciplinary skills. Professional development for educators in game design and interdisciplinary approaches is essential. Gamification should be expanded to all grade levels to foster creative and critical thinking. Finally, continued integration of Sustainable Development Goals will deepen students' understanding of global issues and inspire action.

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# The power and promises of ecofeminist pedagogy in realizing the United Nations' SDGs

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## Abstract

Ecofeminist pedagogy is an emerging educational framework that bridges the gap between social and ecological justice. While reconstructionist pedagogies advance social justice, they often overlook ecological justice. Moreover, although environmental education is now mainstream, its approach remains predominantly scientific rather than cultural. This study proposes ecofeminist pedagogy as a practical alternative reconstructionist approach in accelerating the Sustainable Development Goals (SDGs) through education. The discussion begins by examining reconstructionist educational pedagogies, highlighting their limitations despite their goal of societal transformation, and contrasting them with the traditional "banking model" of education. The defining power of ecofeminist pedagogy lies in its central metaphor: the quilt, which represents the intricate weaving of diverse theories. This approach integrates educational practices and strategies that reinforce its overarching framework. Specifically, this manuscript incorporates the ecofeminist theories of Karen Warren, feminist theories and the engaged pedagogy of bell hooks, the critical pedagogy of Paulo Freire, the anti-oppressive education of Kevin Kumashiro, and the environmental education principles of the Earth Charter. Additionally, it includes transformative competencies developed by Johanna Helin for the OECD. The promise of ecofeminist pedagogy is transformation. The theoretical foundation weaved in the quilt underscores its alignment with the 17 SDGs through five key intersections: traces of interconnections, transformative goals, bridging the social and ecological, shared values, and a collective vision for the future. Finally, as schools, businesses, and nations increasingly embrace ecofeminist ideals, the feasibility of using ecofeminist pedagogy as a framework for realizing the SDGs through education becomes evident.

*Keywords:* ecofeminism, pedagogy, sustainability, reconstructionism, justice

## The power and promises of ecofeminist pedagogy in realizing the United Nations' SDGs

### 1. Introduction

The United Nations *Resolve 2024* Annual Report opens with a stark declaration: "The past year has tested humanity in every way." Indeed, the world has faced an onslaught of crises. Global connectivity has transformed individuals into anxious spectators of rapidly unfolding events, each carrying profound implications. From persistent geopolitical instability—including post-civil unrest in Africa, ongoing war in Europe, and escalating conflict in the Middle East (TIME, 2024)—to climate disasters marked by record-high warmest temperatures (WMO, 2024), the challenges are multifaceted. Compounding these are economic struggles, including trade tensions, weak investments, and worsening food insecurity, which have deepened poverty worldwide (UNCTAD, 2025). All this unfolds while the world remains burdened by the lingering effects of the pandemic.

Similarly, non-human nature has also borne unimaginable devastation and torment. Countless human activities have fueled a range of environmental crises, including deforestation, air and water pollution, the pervasive problem of plastic pollution, soil erosion and degradation, ocean acidification, and the rapid loss of biodiversity (Robinson, 2025), among others. The planet has reached a tipping point where the suffering of humans echoes, and non-human nature aches with them. The United Nations' commitment to the 17 Sustainable Development Goals (SDGs) remains profoundly relevant. Established in 2012 to replace the Millennium Development Goals, the SDGs aim to address urgent environmental, political, and economic challenges (UNDP, 2012). Despite progress, significant efforts are still needed. The *UN Resolve 2024* report reaffirms its dedication to ensuring support and hope for all. However, sustainability extends beyond humanity to encompass the environment and all living beings which deserve to thrive.

This paper advocates a reconstructionist approach to achieving the SDGs, emphasizing education as a catalyst for a gentle revolution benefiting humans and nature. It proposes ecofeminist pedagogy as a practical framework, first critiquing traditional and reconstructionist pedagogies (Brameld, 1956; Dewey, 1986; Freire, 1993) before exploring its role in advancing the SDGs through five key intersections. A core strength of ecofeminist pedagogy is its *metaphorical quilt* (Warren, 2000), continuously weaving diverse theories, integrating social justice, and championing environmental justice.

#### Education as a Social and Ecological Venue for Transformation

The education system has always been a prominent driver in steering the direction of a particular society. The system works in a framework that is either an instrument to bring conformity or freedom, humanization, or dehumanization. That is why there is no such thing as neutral education (Freire, 1993). A framework can enrich, derail, or overlook aspects of society. In the 19th century PISA (2019), schools focused on preparing students for industrial jobs, measuring success by technological progress while neglecting human and environmental impacts. By the 20th century, globalization shifted education toward individual achievement, promoting a fast-paced lifestyle but marginalizing those who could not keep up and worsening ecological destruction. Humanity's misdefined pursuit of success has led to severe consequences. As a deeply rooted institution, the education system can promote justice The UN acknowledges that education is key to accelerating the SDGs, noting that it breaks poverty cycles, reduces inequalities, and fosters healthier, sustainable lives.

#### Reconstructionist Education vs Traditional Education and their Limitations

The reconstructionist movement in education began in 1932 when George Counts, at the Progressive Education Association's annual meeting, criticized progressive education for failing to address the economic depression and urged it to drive social change (Clarke, 1975). Rooted in late 19th-century progressivism, progressive education, championed by John Dewey, emphasized child-centered, inquiry-led learning with

real-world applications (Reese, 2001). Theodore Brameld advocated for reconstructionism as its influence waned, arguing that education should drive cultural transformation and social reform (Barton, 1956). Social reconstructionists like Counts and critical theorists like Paulo Freire emphasized systemic change to address real-world issues such as violence, hunger, and inequality.

The traditional banking system of education is one of the fundamental issues both progressive education and reconstructionism reject. Dewey (1986) criticizes its "obvious brutal features," including rigid standards and outdated knowledge that remains as "*educational food in a society where change is the rule, not the exception*.". Freire (2005) condemns it as a system where students passively receive and store information, reducing education to rote memorization rather than understanding. This leads to "narration sickness," where students become mere "receptacles" of static content, stifling creativity and reinforcing oppression. Similarly, hooks (1994) critiques traditional education for its rigid objectivity, single "correct" perspectives, and exclusion of lived experiences. Osman and Specia (2015) argue that the traditional banking model emphasizes progress, authority, objectivity, and conformity. This hinders the effective integration of sustainable development goals in schools.

### The Social and Ecological Divide

The progressivist and reconstructionist movements burgeoned several educational frameworks. A few that this paper adopts are critical pedagogy, anti-oppressive education, and engaged pedagogy. As Shor, Giroux, McLaren, and Apple discussed, critical pedagogy critiques education for sustaining capitalist values, patriarchy, and white supremacy (Generett 2009). Freire, a key figure in this field, argues in *Pedagogy of the Oppressed* that education is an ongoing act of freedom and humanization (1993). He advocates for a pedagogy of liberation, where the oppressed actively shape their own emancipation through reflection, dialogue, and transformative action, overcoming their status as "beings of another."

bell hooks, inspired by Paulo Freire, grounds her *engaged pedagogy* in critical, feminist, and anti-colonial traditions. Viewing education as a "practice for freedom" (hooks, 1994) advocates transgressing boundaries to resist oppression and power structures. Her pedagogy emphasizes inclusivity, critical thinking, and a community of love, centering race, gender, and class as roots of oppression. Like Freire's vision of humanization, *engaged pedagogy* demands active self-actualization (Generett, 2009; Yancy, 2009). For hooks, teachers and students must continuously self-examine, heal, and grow, making education a collective struggle toward a self-actualized community (hooks, 1993).

Kevin Kumashiro's *anti-oppressive education* advocates social reform by examining oppression's dynamics and challenging its effects (Kumashiro, 2000). Rooted in feminist, critical, and multicultural perspectives, it highlights how oppression privileges some while marginalizing others. In schools, this appears through direct harm (e.g., harassment, violence, exclusion) and neglect (e.g., unsafe conditions). Institutional assumptions and stereotypes further shape how Others are treated, often pressuring them to conform (e.g., indigenous students adopting Manila culture—author's example). The goals of these reconstructionist frameworks are noble despite criticisms regarding their shortcomings in fully achieving their intended purposes. However, in recent decades, there has been a growing concern about the environmental issues that disrupted human living and the planet itself. Hence, environmental education was introduced into the school's curriculum.

Masahisa Sato (2000) traces the formalization of *Environmental Education* (EE) to the IUCN's 1970 meeting. Over three decades, EE evolved through conferences like the Tbilisi Intergovernmental Conference, the Rio Earth Summit, and the WSSD. EE transformed into *Environment and Population and Information for Human Development* (EPD) and later *Education for Sustainable Development* (ESD), expanding from environmental concerns to include social and economic dimensions. Unlike EE's technocratic approach, ESD emphasizes participatory learning, critical thinking, and lifelong education. The UNESCO-UNEP *International Environmental Education Programme* (IEEP), established in 1975, played a key role in integrating EE into global education.

EE, EDP, and ESD promote environmental preservation, but their impact remains limited. Harvester (2009) notes that EE emphasizes education *about* rather than *in, through,* or *for* the environment. Studies across regions, including the US and Asia-Pacific, reveal its failure to match environmental degradation or inspire action due to weak evidence-based assessment. Despite school awareness and leadership, inconsistent implementation and evaluation hinder its success (Blumstein & Saylan, 2007a; Blumstein, 2007b; Abe & Bandhari, 2000; Tarubal, 2021).

Critical pedagogy views education as liberation but neglects women. Critics claim it remains abstract, overly critical, and lacking practical application (Breunig, 2005, 110; McArthur, 2010). It is also phallocentric, equating liberation with patriarchal manhood "*as though they are the same*" (hooks, 1994, 10, 49). While hooks values Freire's pedagogy, she critiques its patriarchal tone, which Freire (1994) acknowledges. Anti-oppressive and engaged pedagogy addresses marginalization but ignores non-human nature. Likewise, anti-oppressive education overlooks diverse forms of oppression, as Kumashiro (2000) himself argues. Despite advances in reconstructionist pedagogies (social justice) and environmental education (ecological justice), a gap remains. Ecofeminist pedagogy bridges this divide, advocating for the well-being of the biotic community.

### Grounding from Ecofeminism: Bridging the Social and the Ecological

Ecofeminism, rooted in feminist, environmental, peace, and ecological movements, has evolved into a significant philosophical framework (Shiva, 1993; Godfrey, 2006). It critiques oppression through the *Up-Down* system, where women, nature, and the *Other*—such as children, the disabled, and the poor—are marginalized. Its strength lies in the metaphor of a quilt, with theories "*not static, preordained, or carved in stone but always a theory in process*" (Warren, 2000). This manuscript explores three key ecofeminist claims essential for fostering social and ecological renewal: oppressive conceptual frameworks, the logic of domination, and the women-nature-other interconnection. Although there are competing claims on ecofeminism, this paper steers clear from the pitfalls of essentialism, which takes the concept of women as univocal, biological determinism, which wrongly espouses biology as destiny, and universalism, which equates all women share the same experiences (Warren, 2000). Moreover, the quilt is bordered by ecofeminist core values of freedom, hope, love, and justice.

### Ecofeminist Pedagogy: An Alternative Approach

Ecofeminist pedagogy, rooted in ecofeminism, bridges education's social and ecological divide. Its strength is fostering alternative solutions for global justice and ecological well-being (Cuomo, 2002). In ecofeminist pedagogy's quilt, theories intertwine; eco in ecofeminism points to ecology, which must not be understood just as a scientific study of organisms in an ecosystem but as the position to act on the abuse of nature caused by humans' damaging culture over non-human nature (Mayer, 1994). Feminism, despite its various theories, is fundamentally a movement to end sexist oppression (hooks, 1984). It seeks to uplift all women, regardless of race or class, while viewing men as comrades, not adversaries, in the fight against the real enemies: sexism and patriarchy. This is why feminism is for everybody. Warren (1990) defines patriarchy as a systemic male dominance upheld by institutions, behaviors, and ideologies, granting men greater power and value. hooks (1984) and Warren (2000) assert that sexism is interlinked with other forms of oppression, such as racism and classicism. Overall, the oppression and domination of the "Downs," the "Others" or the "being for another" such as women, nature, children, the poor, and the disabled, operates in the Up-Down system of the white-supremacist capitalist patriarchy, which privileges the "Ups" and disadvantages the "Downs" (Freire, 1994 borrowed from Hegel, 1949; Murphy; 1991; Warren, 2000; Kumashiro, 2000). Pedagogy here is employed as the enactment of power relations, Gore (1993 and 1995), in contrast to education as learning for its own sake. Pedagogy is learning oriented toward social *and ecological* (Italics mine) goals (Hinchliffe, 2001). In essence, ecofeminist pedagogy is another reconstructionist approach. In the quilt, there is an ongoing labor of knitting and reknitting that untangles the women-nature-others interconnections, rejects the logic of domination, and questions the oppressive conceptual framework, hence a framework for social and ecological justice for a sustainable biotic community.

### The Power and Promises of Ecofeminist Pedagogy in Realizing the United Nations' SDGS

Anne Archambault (1993) believes that despite the weaknesses of ecofeminism, it remains one of the most promising movements in feminism. This section surveys and weaves the crucial part of the theory: the quilt. The emerging patterns inform its power as a framework to accelerate the SDGs through education.

### The Metaphor: The Quilt

At the onset, we are informed that the quilt is enriched by reconstructionism's critical, anti-oppressive, and engaged pedagogies. In the next section, the author attempts to add knits of the EE framework based on the Earth Charter and the transformative competencies of OECD. In recent years, ecofeminist pedagogy has been applied to several fields in the academe, like literature, popular culture, social work, and environmental education (Anderton, 2000; Chattopadhyay, 2019; Barton, 2013; Blekinsop & Harvester, 2010; Goralnik & Nelson, 2014; Gough, 2006; Pilgrim & Davis, 2015). It was even integrated with Mathematics to see the subject's role in the logic of domination (Wolfmeyer, Lupinacci & Chesky, 2017). It has also had a significant impact in Asia. In Indonesia, the ecofeminist pedagogical model of learning shows positive behavioral outcomes (Wiyatmi et al., 2023). In China, ecofeminist literary criticism has become a budding powerful discourse (Li, 2012), and Li (2007) concludes the importance of ecofeminist praxis. In Pakistan, Saleem, Saleem, and Azim (2021) reveal oppression through an ecofeminist analysis of fiction. Since ecofeminist pedagogy embodies theory in practice, the integral question goes, how does this translate to teaching and learning? Ecofeminist weavers already envision the answer.

The school functions as a "*mini-society*" (Kumashiro, 2000), an apprentice commune, or an ecofeminist village (Harvester & Blenkinsop, 2010). Its design immerses students in human and nonhuman interconnections through ecological design theory, emphasizing sustainability and ethical practices. As reimagined by Smith and Seal (2021), the curriculum rejects rigid, outcome-driven models, instead fostering inclusivity, critical inquiry, and boundary-pushing engagement. The classroom becomes a space for "wholeness" (hooks, 1994) and ecofeminist activism (Bullis & Houde, 1999). Gaard (2008) further advocates experiential learning beyond classrooms, integrating urban, natural, and nonhuman perspectives.

Herles (2018) advocates for students and teachers to be co-producers of knowledge, engaging in dialogue to challenge hegemonic and dualistic thought. Drawing on hooks (1994) and Freire (1994), this shift transforms students into active subjects while teachers relinquish absolute authority (Cook-Sather, 2002). Freire (1994) rejects the "banking" model, redefining teachers as holistic beings rather than mere knowledge dispensers (hooks, 1994). As vulnerable individuals, Ecofeminist teachers embody their political ideals and serve as agents, learners, mentors, and models (hooks, 2010).

Ecofeminist pedagogy calls for a radical relational shift that fosters dialogue and equitable engagement among humans and non-human nature, challenging the mind-body split and academia's privileging of intellect over social and spiritual well-being (Harvester & Blenkinsop, 2010; hooks, 1994). Rooted in interdependence and reciprocity, it promotes social and environmental justice through dialogue across intergenerational, intercultural, and interspecies communities (Herles, 2018; Gaard, 2008). The ethical regard for the *Other* and the self is central to this shift. Li (2007) argues that ecofeminist praxis enables transformation when dominant and subordinate groups engage in respectful dialogue and solidarity (Freire, 1994; hooks, 1994). The self, shaped by psychological, social, and cultural forces, requires critical self-awareness to resist commodification, recognize privilege, and challenge oppression (Bullis & Houde, 1999; Gaard, 2008). Pulkki, Varpanen, and Mulle (2020) conceptualize the *ecological self* as an adaptable, world-conscious grounded in epistemic humility.

Transformative teaching requires ecofeminist methodologies such as narratives, dialogue, conscientization, praxis, and self-actualization. Bakhtin (1981) views dialogue as fostering self-questioning and rejecting a single "correct" worldview. Freire (1994, 35) defines *conscientização* as critical thinking that exposes social, political, and economic contradictions, emerging through teacher-student dialogue and praxis—reflection followed by action. "*For apart from inquiry, apart from the praxis, individuals cannot be truly human*" (Freire 1994, 72).

Effective dialogue methods include problem-posing, labor-citational practices, marginal perspectives, pedagogy of persuasion, and engagement through literature (Kumashiro, 2000; Tassoni, 1994; Bizzell, 1994; etc.). Dialogue must be authentic, cooperative, and power-sharing.

### What about the dialogue with non-human nature?

Harvester (2008), drawing on Wolfe (2003), argues that language differs in degree rather than kind, enabling human-animal communication. Citing Haraway (1992, in Houde et al., 1999, 151), Harvester adds that while "*Nature may be speechless... nature is highly articulate*." Wolfe (2003) stresses active listening and rethinking language to engage meaningfully with nature. Similarly, Abrams (1996) underscores sensory engagement, suggesting that when direct interaction is impossible, educators can use images, plants, animals, recordings, or videos for immersive experiences. Narratives are also integral to ecofeminist classes, serving as powerful entry points across social divisions, facilitating healing, reshaping misinterpreted histories, and preserving lived experiences. Ecofeminist teaching comes with critical thinking, as Freire (1993, 73) contends, "*not developing critical thinking would only serve the interests of the oppressors*." Critical thinking stems from a deep desire to understand life hooks, drawing on Paul and Elder, define it as a self-directed, disciplined, and reflective process that involves analyzing and evaluating thought to enhance understanding, beginning with questioning the who, what, when, and how, and determining what is significant (hooks, 2010).

Assessment shapes knowledge priorities and worldviews, yet traditional assessments are often hierarchical, competitive, and unjust (Harvester & Blenkinsop, 2010). Conventional grading fosters fear of failure. Ecofeminist educators advocate for equitable, eco-social assessment reforms, emphasizing student involvement. Alternative assessments prioritize real-world applications, shared projects, and communal learning (Tassoni, 1994). Helin (2021) stresses the need for collaborative, transformative assessment methods. Language can reinforce or challenge domination. Warren (2000) argues that linguistic differences shape perceptions of women and nature, sustaining oppression. However, hooks (1994) asserts that language can resist hegemony, as seen in enslaved Black people's adaptation to their colonizers' language. Similarly, *Nüshu*, a women's script from Jiangyong County, counters women's educational exclusion (Li, 2012). Ecofeminist pedagogy fosters linguistic reflexivity to challenge dominant discourse (Bullis & Houde, 1999). Reconstructing oppressive grammars enables alternative human and nonhuman relationships (Frey et al., 2015).

The framework integrates the Earth Charter and OECD transformative competencies into the ecofeminist agenda for environmental education. Harvester (2009) advocates using the Earth Charter (2009), a product of a global, decade-long dialogue on shared values and goals. This integrative framework addresses interconnected human and environmental challenges, emphasizing intellectual, ethical, and spiritual potential. Key themes include global challenges, interdependence, sustainability, universal rights and responsibilities, ecological integrity, justice, ethics, and governance. Unlike conventional environmental education, the Earth Charter aligns with ecofeminist pedagogy by bridging scientific, cultural, and social dimensions, enriching efforts to close social and ecological gaps.

Transformative competencies have gained recognition globally, particularly through SDG Target 4.7, which promotes sustainable development, human rights, and global citizenship. Johanna Helin's framework integrates Education for Global Citizenship (GCED) and Education for Sustainable Development (ESD), highlighting their synergies and differences—GCED being more human-centered and ESD more nature-focused. Global competencies encourage critical engagement and participation in shaping education. UNESCO outlines its learning objectives across cognitive, socio-emotional, and behavioral domains. These competencies emphasize the ability to analyze complex problems, collaborate across differences, and contribute meaningfully to societal progress.

Sustainability competencies, rooted in the Delors Report and later expanded by UNESCO, emphasize transformative learning to foster ecological responsibility, systems thinking, and proactive engagement in societal change. Together, these competencies equip learners with the skills and mindsets needed to address global

challenges holistically, ensuring that education serves as a foundation for a just, resilient, and sustainable future. Enriched by diverse theories, the quilt remains an evolving work—"a theory in progress" that continuously advances, showcasing the multifaceted power of ecofeminist pedagogy. First, it fosters resistance to oppressive structures. Second, it promotes inclusivity by engaging the broader community and nature. Third, it upholds ecological and social justice by addressing intersecting oppressions. Fourth, it redefines power as creative and life-affirming. Fifth, it necessitates transformation for both oppressors and oppressed, as *"true justice emerges when no one remains trapped in structural oppression"* (Frey et al., 2015, 112). Sixth, it remains open to critique and adaptation. Seventh, it is rooted in humility and recognizing differences. Eighth, it integrates political action with holistic education, ensuring intellectual, emotional, social, and spiritual well-being. Ninth, it values lived experience, reinforcing hooks' (1984, 24) assertion that *"the personal is political."* Lastly, it adapts to the local and global context, addressing environmental and social concerns.

These powers are crucial and can inform key intersections of advantages with the United Nations' SDGs, traces of interconnections, transformative goals, bridging the social and ecological, shared values, and a collective vision for the future.

<u>Traces Interconnected Issues, Roots, & Solutions</u>

Ecofeminist pedagogy, aligned with the SDGs, emphasizes tracing interconnections between issues, roots, and solutions. The UN (2015) highlights SDG interlinkages for effective progress. Ecofeminism identifies oppression as systemic barriers restricting certain groups (Frye, 1984), paralleling the SDGs' address of poverty, inequality, and environmental degradation as forms of oppression when viewed as structural injustices embedded in social institutions, manifesting as exploitation, marginalization, powerlessness, cultural imperialism, and violence (Young, 1990). Both ultimately address oppression. hooks and Warren argue that oppression's roots are interconnected—sexism, racism, classism, ableism, and colonialism shape discrimination and exploitation. hooks (1989) urges confronting sex, race, and class realities, while Warren (2000) advocates recognizing systemic oppression's reinforcement to resolve it.

SDGs are highly interlinked. Pradhan et al. (2017) found that *SDG 1 (No Poverty)* had the greatest synergy, while *SDG 3 (Good Health and Well-Being)* strongly aligned with SDGs 1, 4, 5, 6, and 10. Conversely, *SDGs 12 and 15* often conflict with other goals. Addressing racism, Balakrishnan (2020) urges the UN to recognize intersecting oppression in reports. The UN (2025) highlights the interconnected crises of debt, inequality, and climate change. Ultimately, SDGs are cross-cutting as progress in one area advances others. If oppression's roots are interconnected, as ecofeminism suggests, solutions must address these links. The SDGs should also examine "Up-Down systems" that sustain systemic white-supremacist capitalist patriarchy as potential causes of the issues behind the 17 goals.

<u>Transformative Goals</u>

This paper adopts three pivotal cores of ecofeminism that inform the SDG goals: the conceptual framework, the logic of domination, and the women-nature-interconnection. Warren (1999) defines a conceptual framework as a socially constructed lens shaping beliefs, values, and perceptions. These are not always neutral, as there are oppressive ones, such that they justify domination, such as patriarchy, which subordinates women to men. The logic of domination is the most critical feature of an oppressive conceptual framework. It assumes superiority, justifies subordination, and serves as the moral stamp of subordination. The logical formula for this is for any X and Y. If X is conceptualized as morally inferior to Y, Y is "justified" in subordinating (or dominating) X. Warren identifies ten key interconnections among women, nature, and the Others, categorized into three types in this study: historical/spiritual, contextual/linguistic, and socioeconomic/political. The first traces patriarchy's roots through recorded data and causal analysis. The second examines hierarchical dualisms like reason over emotion, while the third critiques capitalist patriarchy and maldevelopment using scientific and historical materialist approaches. These interconnections reveal not just "special connections" of oppression but a system sustaining systemic domination.

The goal is to challenge oppressive frameworks, reject domination, and untangle women-nature-human interconnections. Hooks (2000) calls this a "gentle revolution" and "cultural transformation," emphasizing inclusive, justice-centered power. In this shift, love, justice, and well-being are inseparable—" *without justice, there can be no love*" (hooks 2000, 30). Justice extends beyond Western equality, as justice is possible without equality. Similarly, the SDGs aim for global transformation by 2030, prioritizing people, planet, prosperity, peace, and partnership. Achieving these requires a gradual cultural shift through ecofeminist teaching and methodologies.

How else can we achieve these goals? The author has two proposals: untangle the women-nature-others interconnection or tear down the Up-Down system and differ from espousing gender equality. Untangling requires examining the tangled interconnection of the problem from the root. That is the proposal on the case of the various Philippine laws promulgated to address social and ecological issues. For instance, there are environmental, gender, human rights, multicultural, and indigenous education. This individualized catered education seems unorganized and heedless. In contrast, if these are all brought under the ecofeminist framework, the educational process goes deep to the root of the interconnection and targets SDGs effectively.

It may be counter-intuitive to break off with purporting gender equality. After all, this is SDG5, and respectable organizations use it globally. However, practice necessitates a strong theoretical foundation. bell hooks (1984, 18) warns against universalizing women since their backgrounds differ. The logic is that men are not equals in white supremacist, capitalist, patriarchal class structure, so *which men do women want to be equal to*? Another question is, *do women share a common vision of equality*? This is where the importance of interconnection comes in. Again, justice can take place even without equality. The author proposes respect for all genders instead.

### Closing the Social and Ecological Gap

From the onset, this paper argues that ecofeminist pedagogy bridges the social and ecological gap in education. As previously shown, the quilt weaves patterns that are not partial to but are genuinely concerned with social and ecological flourishing. This makes the pedagogy a compatible framework for the SDGs. The shift from MDGs to SDGs accommodates human and non-human nature's well-being from previously only social aims. Some SDGs fall into social aims, others as economic aims, which are covered in reconstructionism and environmental aims, altogether scopes of ecofeminist pedagogy.

### Shared Values

Deputy Secretary-General Amina J. Mohammed emphasizes democracy's role in achieving the SDGs, *"everyone has a voice: use it,"* stressing inclusivity, collaboration, and collective action. Likewise, ecofeminist ideals also center on *democracy, freedom, power, hope,* and *love* to foster justice-driven communities. The SDGs—life, equality, peace, justice, partnership, dignity, health, and well-being—are bold yet leave room for hope. hooks (2003) highlights imagination's role in envisioning a life-affirming future. Hope fuels resistance, while *love* for self and others counters systemic violence and oppression (hooks, 2009; Freire, 1993).

### Collective Vision of the Future

The UN's sustainable goals emphasize dignity, equality, environmental protection, climate action, prosperity, justice, and global solidarity. Similarly, ecofeminist pedagogy promotes the well-being of the biotic community, aligning with Allardt's (1993) concept of well-being—*Having, Loving, Being, and Doing*—which Hirvilammi and Helne (2014) expand. *Having* meets material needs within planetary limits, *Doing* involves actions shaping well-being, *Loving* fosters solidarity through relationships, and *Being* integrates self-actualization with nature. These principles reflect the SDGs' "*No one left behind*." While ecofeminist pedagogy is not a definitive solution, it is a practical tool for advancing SDGs through education, with challenges offering opportunities for dialogue and refinement.

*The Application of the Framework in Various Spheres*

The vision of achieving the SDGs may seem far-fetched, considering the conditions of humans and the planet today. However, some examples of the application of ecofeminist ideals in schools, businesses, and countries reveal that transformation is feasible. Consider the green schools worldwide. For instance, the Green School in Bali, Indonesia, reflects the ecofeminist school; it is a mini-society where buildings and materials are ecologically sourced and sustained. The organizational structure is inclusive and democratic. The teachers and students collaborate and dialogue; the curriculum is "the hands-on, mud-between-your-toes approach." The classroom is wall-less and happens in the mud, river, and neighbors. They have transformative projects that benefit the community. Their graduates are also transforming the world (Green School Bali). There are also unprecedented shifts in businesses. To name a few, Amazon, Ikea, and Hyundai share sustainability efforts and fair working conditions. Member countries of the United Nations also exert effort to achieve this. Realizing the SDGs through ecofeminist pedagogy is a bold and ambitious work, but it is possible. Transformation is the only way.

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