

# Motives, Wellbeing, And Study Skills of Learners Engaged In E-Games: Basis of Intervention Measures

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**Abstract:** This study examined the motives, well-being, and study skills of public elementary learners engaged in electronic games (e-games) in the Candijay, Alicia, Mabini, Anda, and Guindulman Districts, Division of Bohol, Philippines. The study aimed to determine the profile of learners in terms of age, sex, grade level, gadget used, and highest academic award received, and to analyze the relationship among gaming motives, well-being, and study skills. A quantitative descriptive-survey design with correlational and comparative methods was utilized. Respondents included 1,575 learners and 309 teachers, with a total of 1,884 participants selected through stratified random sampling. Adapted and modified survey instruments were used, namely the Motives for Online Gaming Questionnaire (MOGQ), EPOCH Measure of Adolescent Well-being, and Study Skills Questionnaire. Data were analyzed using percentage, weighted mean, regression analysis, test of normality, and Spearman's rho. Findings revealed that mobile phones were the most commonly used gaming device, and male learners showed slightly higher engagement in e-games than females. Learners' motives for gaming included socializing, escape, competition, coping, skill development, fantasy, and recreation. The study further identified significant relationships among gaming motives, well-being, and study skills. Based on the findings, intervention measures were proposed to guide learners, parents, teachers, and school administrators in promoting responsible gaming habits, improving learner well-being, and strengthening academic performance. The study concludes that while e-games offer motivational and social benefits, excessive engagement may negatively affect learners' study habits and wellness, thus requiring balanced supervision and educational support.

**Keywords:** Electronic games, e-games, learner motivation, well-being, study skills, elementary learners, gaming behavior, academic performance, intervention measures.

## 1. Introduction

### A. Rationale

Evolution in technological advancements and the prevailing adoption of the Internet have form electronic games (e-games) as a key factor to children's daily routine which results to potential consequences on motives, wellness, and study skills. As advanced techniques of entertainment, e-games display

special features and influence, attracts attention to their potential advantages and disadvantages for children. In earlier times, children come together to play physical activities. As the world evolves, wherein gadgets and internet are definitely accessible, children can easily engage in electronic games.

Millions of people play games on many devices and types of games, but many people fear how it might affect their schoolwork, especially young adults (Alzahrani & Griffiths, 2024). It is significant to consider the benefits and harmful results of e-games. Unfortunately, similar to other highly rewarding activities, a minority of gamers pursue the activity in such an excessive manner that it leads to negative life consequences (i.e., impaired interpersonal relationships, decrease in work or educational performance, neglected personal hygiene and other needs, etc.) (Király, Nagygyörgy, Griffiths, & Demetrovics, 2014; Männikkö, Billieux, & Kääriäinen, 2015) Hence, parent-child communication is regarded as one central parental skill to focus on prevention of Internet addiction (Vondráčková & Gabrhelík, 2016).

Electronic games (E-games) apply to all modes of digital games that evolved in different forms of electronic devices such as computer, laptop, tablets, game consoles and mobile phones. As reported by GamesInstry.biz, the online gaming industry shows accelerating growth with global digital games obtaining \$175.8 billion, up 0.7% year-to-year. In the Philippines, a statistic showed that 95.8 percent of internet users between the ages of 16 to 64 played video games. This figure placed the Philippines as the leading country globally concerning the total number of online gamers (Bashir, D., 2023) This poses problems with the effects of mobile gaming on the psychosocial development of pupils. Apparently, they face a crisis in their own development of life, and it is important that they perform well in their studies in order to have a good and positive outlook on life and become better individuals someday (Con-El, 2023).

A comprehensive report by UNICEF (2021), identified risks on children's internet use and may impair their well-being. What children do online is much more important for their outcomes than how much time they spend online.

The more children use the internet, the more skills they develop and the more activities they can undertake. Children can be exposed to inappropriate or potentially harmful content when they are seeking information online. For example, some children view sexual content online to learn about sex, but this content can expose them to sexually violent behaviors or gender-based sexual objectification.

Moreover, some young people indulge in mobile games due to lack of self-control, which not only result in harmful influence on their studies but also induces a series of negative social activities and social relationship (Kurt, G., et al, 2022) The statistical reports, potential risk, and children's development are crucial in which they need proper guidance and monitoring in accessing the internet and engaging with electronic games (e-games). In this manner, providing preventive measures is significant to children, teachers, and parents in order to address these challenges.

This study explores toward the vital function of teachers to have balance in the use of games as learning strategy to promote holistic student's development, to boost stronger bonds with other learners, to advocate a balance recreation and study habits and to address early signs of social isolation and stress. It investigates electronic games to determine its possible risks, how it concerns the overall well-being, motivations and study skills of learners, essentially intending to prevent gaming disorder, to have better lifestyle and well-rounded learners in the Philippines.

As a teacher, the matter depicts aforementioned driven the researcher to evaluate the motives, well-being, and study skills of learners involved with electronic games (e-games) to measure its impact on education. The researcher aims to describe the relationships between these variables and seeks to formulate an intervention in a way that should support the respondents in the study.

### B. Literature Background

The prevalent engagement of children with technology has escalated concerns on its influence on their development and well-being. The use of new technologies such as smartphones, tablets, videogame consoles, and access to the Internet are more massive and starts at a younger age every day. In this generation, children's recreational activities are dominated by interactive games that depend on digital platforms. Many modern games are already popular with children, both offline and offline-based. Offline games such as Playstation (PS), while online games such as Free Fire, Mobile Legend, Video games, and many more, so children do not know about traditional games (Danovitch, 2019). This rise in use has led to a greater concern about the consequences of technology use and its impact on children and adolescents' emotional and cognitive development (Gottschalk, 2019).

As digital games evolve from simple activities such as shooting as many aliens as possible (Space Invaders), manipulating one or more balls around targets, bumpers, ramps (Pinball) or tile-matching lines by moving differently shaped pieces (Tetris) to

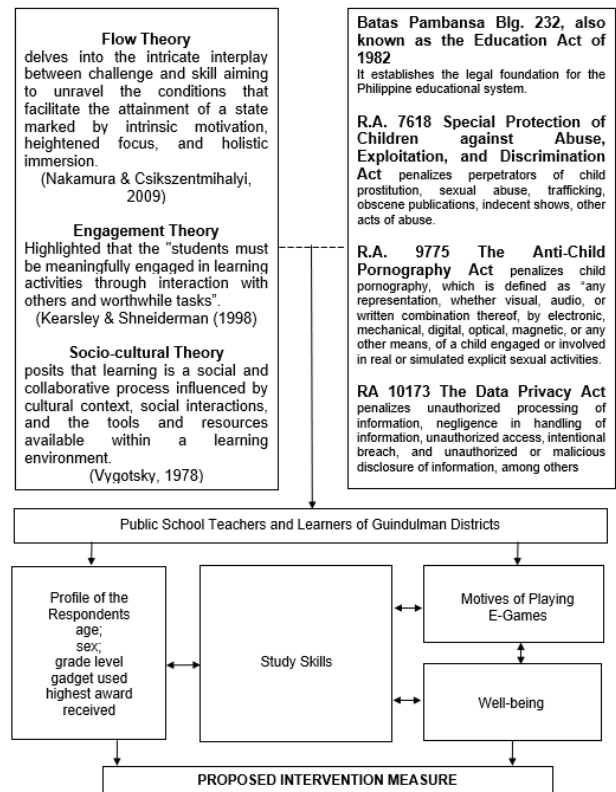


Fig. 1. Theoretical and conceptual framework

vast complex worlds (World of Warcraft) offering sophisticated back stories and opportunities to create your own oasis with unlimited building resources (Minecraft), so must the player (user) experience (Sánchez et al. 2012; Lee, 2015). Within the context of digital gaming or gameplay experiences, immersion, flow and gameplay are conceptual constructs, which in their own way are used to denote the quality of a game (Butt et al., 2021; Lou et al., 2020).

Enjoyment has been identified as a key motivation behind playing digital games (Lee et al., 2017). Schutter and Brown (2016) revealed that participants enjoyed video games for their pleasurable emotional outcomes, contribution to personal growth, and perceived positive outcomes. The identification of these three categories facilitated the construction of a theoretical model of telic, hedonic, and eudaimonic enjoyment as applied to digital games. Patzer et al (2020) examines the players' motivations, satisfactions and continuance intentions for video gameplay.

Online gaming enjoyment (e.g., fantasy motives) is also influenced by the players' prone to negative emotion and sensation seeking (Biolcati et al., 2021). In the same way, Cabeza-Ramírez et al (2020) consider tension release and entertainment as a single variable and find that the higher the users' tension release/entertainment motivation, the greater their use of video game streaming platform. Whereas, players characterized by low extraversion and high recreational tendencies demonstrate increased time investment in gaming activities. It is noteworthy that, while enjoyment (e.g., fun) is

positively and significantly associated with perceiving the game as more challenging (Evans et al., 2021).

Competition is the motivation of playing a video game for the purpose of challenge. It often entails competing against another player (Verheijen et al, 2020). This method of play allows a player to become more skilled as the challenge increases. As a player can eventually compete on high levels, they achieve a degree of mastery and competence in the game. It is then possible that players may spend large amounts of time playing video games for the purpose of developing this competency. For gamers that play online, players' win-to-loss ratio can be viewed by themselves and others on online leaderboards. Many competitive gamers have goals of placing at the top of the leaderboards, where they will be considered the best players with the highest level of competency in their respective game.

In addition, escapism refers to escaping from the problems, unpleasantness or mundaneness of reality, or distracting an individual's attention from the negative feelings they are experiencing in the present moment (Laor, 2020). 'Escapist' players are defined as individuals who use gaming to escape from real life (Kahn et al., 2015). Similarly, Goh et al. (2019) found escapism found that increased play is associated with poorer psychological wellbeing, specifically where there is greater player motivation for immersion and escapism, which points towards a negative association between using games to escape from real-life problems and poor mental health.

Subsequently, social factors profoundly impact user behavior (Barr and Copeland-Stewart, 2021; Evans et al. 2021). Many digital games today encourage some level of interactivity between their players, whether internal, i.e. directly embedded as part of the game itself, or external, i.e. via discussion forums and social media networking sites as means to facilitate dialogue and connection with players of the particular game (Cabeza-Ramirez et al. 2020). Individuals find pleasure socializing in online games, which generates positive attitudes towards the game, and leads to increased loyalty and stimulates continued use (Badrinarayanan et al., 2015).

Likewise, a player's loyalty towards a game has been found to be influenced by the level of social interaction players engage with and experience (Seok and DaCosta, 2015; Dwyer et al. 2018). This process includes creating deep connections with other players creates a sense of enjoyment as they work together to complete various challenges and tasks, and attain rewards and achievements together within the game (Badrinarayanan et al., 2015; Wang et al. 2019). In order for games to create a positive link between social interaction and enjoyment, the game must support both competition and cooperation between players, and facilitate communication both in-game, as well as via external means such as dedicated online forums (Johnson et al., 2016; Liu et al. 2020).

Negative outcomes have been associated with technology use. Oswald, et. al (2020) stated that technology use is associated with unfavorable psychological outcome. Likewise, exposure to screens has been related to poorer cognitive and

academic functioning, including problems with attention, language (Vedechkina & Borgonovi, 2021), memory, learning (Mundy, et. al, 2020), and visuospatial processing (Oswald, et. al, 2020). Besides, another crucial problem related with technology use is the negative disruption of sleep patterns (Gottschalk, 2019). Such as, exposure to the light of the devices in the evening and night, especially with an emotional investment in their use, has been associated with worse sleep quality and reduced sleep duration (Woods & Scott, 2016).

Addiction to the internet, which is reportedly a broad concept interpreted as such that it includes online gaming, lowers motivation to study, leading to procrastination when tasks are deprioritized or left idle (Lardinoix et al, 2023). Thus, online gaming addiction influences students' reason to study. Likewise, online gaming addiction greatly concerns their interest in attending school and reduces from their lifestyle, studies and well-being. However, it was revealed that students lacking knowledge of online video games may encounter difficulties in forming connections (Eskasasnanda, 2017). Addicted video gamers who have poor self-control or poor social skills are more likely to exhibit aggressive behavior (Liau et al, 2015). Furthermore, studies have shown that once an adolescent becomes "addicted," the symptoms usually persist over time (Strittmatter et al, 2016).

On the other hand, Hodent (2017) classified game motivations into four main types. Implicit motivations and biological drives stem from innate instincts such as power, achievement, and affiliation, influencing dominant behaviors and social interactions in games. Environmentally shaped motivations arise from external factors like rewards and punishments, reinforcing behaviors through uncertainty-driven engagement. Intrinsic motivations and cognitive needs align with self-determination and flow theories, where players seek competence, autonomy, and immersion in goal-oriented gameplay. Lastly, personality-based motivations reflect individual differences in traits and preferences, though no single theory fully explains the link between personality and gaming behavior.

Di Bello et al. (2019) explored how incentive motivation affects attentional focus. They suggest that when subjects are driven by strong external rewards, such as achievements or prizes obtained within a game, their attention becomes more concentrated on stimuli associated with those rewards. This implies that the incorporation of incentives and rewards in game design not only enhances player engagement but also cognitively strengthens their processing of important information during gameplay.

Career is another motive for gaming, allowing players to make a living or achieve life goals (Johnson & Woodcock, 2019). Gaming can be lucrative, allowing gamers to make money through sponsorships, streaming, competing in tournaments, and making internet content. Many of these activities, including streaming on popular platforms like Twitch continue to grow in popularity (Sjöblomet al, 2019).

Excessive internet gaming can drive individual to acquire

Internet Gaming Disorder (IGD) and this can cause them to get depression (Liu et al, 2018). In relation to this, the World Health Organization (WHO) (2019) included Gaming disorder in the 11th Revision of the International Classification of Diseases (ICD-11), describing this disorder as a pattern of gaming behavior (“digital-gaming” or “video-gaming”) characterized by impaired control over gaming, that results in significant impairment in personal, family, or social functioning.

Social emotional wellbeing is essential for leading a fulfilling life and achieving success in various areas, such as work, education, and personal relationships (Raith et al, 2021). It is indicated that online gaming addiction is arising as an extensive concern of society. With the heightening timespan people dedicate to online gaming, concerns have emerged concerning its potential outcome on social and emotional wellbeing. While many people play games for fun and entertainment, others find themselves unable to control their gaming habits, leading to addiction (Babic et al, 2017).

Online gaming addiction has become clear to affect social wellbeing leading to isolation from individuals. Gamers can become so absorbed in the world of the game that they lose touch with the real world, withdrawing from social activities and relationships. This can lead to feelings of loneliness and depression, as individuals struggle to find connections outside of the virtual world (Zhang & Kaufman, 2017).

As mentioned by Burkauskas, et. al (2022), students who spend excessive time gaming are more likely to experience symptoms of anxiety, depression, and substance abuse. For many students, engagement in gaming serves as means of comfort from academic and social pressure. Nevertheless, extreme implications may stimulate a pattern of avoidance and result in negative effects on their wellbeing and performance. On the other hand, the connection between electronic games and social-emotional development is both complex and diverse. Online interaction and cooperation in multiplayer games can promote empathy and effective communication among players (Moral-Pérez, et. al, 2022).

As stated by Martínez, et. al (2023), have identified that video game usage is not only related to improvements in learning but is also associated with an increase in positive emotions among students, while negative emotions decrease. It has also supported such playful activities, as implemented in this context, generate positive emotions among students and contribute to the learning process. Alongside, digital games created for health-related issues have occurred as innovative and beneficial interventions for better adolescents’ health assessments, knowledge, skills, and behaviors.

In the emerging study of Saleme, et al. (2021), it designed a digital game intervention that reinforces social-emotional skills and promotes prosocial behaviors in children aged 8 to 11, particularly in crisis situations like the COVID-19 pandemic. While digital game interventions and the inclusion of behavior change theories have caused various outcomes, the Intervention Mapping Protocol (IMP) provides a methodical pattern to address these limitations. By formulating on the Intervention

Mapping Protocol (IMP) process, this study stipulates guidelines for the advancement of future theory-driven games, following in a collaborative model directed by stakeholder and children’s feedback.

In the feasibility study of “Emotion Detectives” conducted by (Koivula, et. al, 2017), the possibility of cultivating prosocial behaviors in adolescents, developing emotional recognition skills, and addressing social-emotional challenges were explored. The findings indicated that engagement with game characters imparted efficient apprehension of socio-emotional skills between adolescents. In addition, Boduszek, et. al. (2019) conducted a randomized controlled trial using the prosocial game “Jesse” with youths aged 9 to 17. Findings revealed that risk to prosocial video games steered to intense emotional reactions for victims of partner violence, supplying evidence that prosocial video game can positively support social-emotional skill development among learners. On the contrary, social skills training programs incorporating game-based activities in randomized controlled designs have revealed effectiveness to reinforce children’s self-control, emotional balance and interpersonal skills. Similarly, Craig, et. al. (2016) demonstrated how a game-based approach improved social behavior and social-emotional skills compared with the control group. The results underscore the contribution of games to social-emotional development and their impact on crucial skills like social self-efficacy.

Personal productivity is how frequently and efficiently a person completes work or achieves goals (Holliday, 2023). Meanwhile, continuous productivity remains an ongoing challenge for several people. One of the factors hindering us is due to excessive applications on digital phones (Elgan, 2017). The widespread adoption of smartphones demonstrates modern trend, greatly influenced for video games. Mobile gaming is one of the most popular sources of entertainment, as it comes in unlimited forms and is accessible to anyone (Edney, 2022). Continued involvement in online gaming may cause in inappropriate actions, including financial risk, laziness, identity crisis, and restlessness.

Various results came from the interaction of vulnerable players with diverse game elements (Petrovskaya & Zendle, 2022). For students, this dynamic causes them to be late in finishing tasks and causing students to work overnight on many assignments. Procrastination occurs frequently in the academic field. High intensity of playing online games can impact one’s manner of thinking, such that they may always look for entertainment rather than carrying their individual responsibilities (Mubarok, et. al, 2022).

However, electronic games enhance learning by making it easier for children to learn while proceeding with the game, as the difficulty levels are structured in accordance with their skills (Al-Barakat, et. al, 2025, Alharbi & Alzahrani, 2020, AlAli & Al-Barakat, 2024, Allee-Herdon, et. al, 2022). This ensures that children are challenged but not pushed to a point where they feel frustrated, which helps them to continue learning without becoming disheartened (AlAli & Al-Barakat, 2024,

Kärki, et al, 2022). Parents remain determined by these advancements in technology observing their children prevail challenges inspires them to provide continued support in the development of their children's abilities.

The effectiveness of conventional method has undermined as the attention span has adapted to a medium classified as continuous and interactive prompts. Strategies such as scaffolding the learning material, synchronous class meetings, use of breakout rooms, use of quizzing programs, and polling helped overcome the pyramid of challenges posed by remote teaching (Ahshan, 2021). The integration of online activities has been highly effective in fostering student engagement during in-person teaching, as this approach was previously uncommon for students and succeeded in capturing their attention (Nadeem & Blumenstein, 2021). Thus, it is crucial to explore alternative digital technologies, such as AI-generated applications (Fahimirad & Kotamjani, 2018), chatbots (Adamopoulou & Moussaiades, 2020), interactive whiteboards, augmented reality (Nadeem, et. al, 2020) (Nadeem, et. al, 2022) and gamification (Hamari, et al, 2023).

Game-based or gamified activities have been utilized for a considerable period to create courses that not only make learning enjoyable but also engage and motivate students in both traditional and online learning environments (Serrano, 2019). Likewise, playing games also improves decision-making, and those who play action-based video games make judgments 25% faster than the average person while maintaining the same level of accuracy. The gamers make decisions and take actions up to six times per second, which is four times quicker than the average person (Jordan & Dhamala, 2022).

As cited by Kühn et al. (2018), Pedagogy emphasizes the importance of reflection for both teachers and students. the keys to triumphing in video games are determination, resourcefulness, and problem-solving skills. When players begin to play a game, they fully expect to make some mistakes and to require perseverance to negotiate difficult levels, perhaps needing to replay levels repeatedly before successfully progressing beyond them. This ability to retry levels creates a sense that there is no such thing as failure in video games (Schaaf & Mohan, 2016).

Teachers' primary concern regarding the introduction of technology relates to its interruptive nature, with some teachers encountering obstacles in this regard when implementing some gaming aspects during classroom activities (Li, 2017). On top of that, teachers with little to no experience with games may find it difficult to adjust with educational games.

As articulately expressed by Sala et al. (2018), previous meta-analyses that have considered all games together have largely reached similar overall conclusions including that (a) video game play is associated with differences in cognition, (b) stronger effects are found in cross-sectional work compared to interventions, and (c) the effects are complex and vary across both types of games and cognitive skills. The latter issue is crucial, as meta-analyses specifically examining the

relationship between action video game play and cognitive skills are rare (Bediou et al, 2018). Meta-analyses that have focused on the action video game indicate that frequent players of action video games consistently outperform individuals who seldom play video games in a number of cognitive skills (Bediou et al, 2018).

Whereas, findings from multiple meta-analyses continually highlight that involvement with action video games is relevant with cognitive performance in contrary to engagement with non-action video games. Playing AVG has been frequently related to improved *attentional control* and in particular improved top-down (but not bottom-up) attention. AVG, defined in this literature as those in the first or third-person shooter genres, appear to have a greater positive impact on cognition than other types of video games (Bediou, et al. 2018). Action Video Games (AVG) training effects on young and older adults and found that Action

Video Games (AVG) training has a positive effect on both overall and specific cognitive domains. The results demonstrated that young adults benefited more than older adults in overall cognition and in specific domains (Wang, et al. 2016) This meta-analytic investigation indicates that playing video games has negligible effects on cognitive ability, and adds further evidence against the alleged broad benefits of cognitive training (Sala, et al. 2018).

As articulately conveyed by Franceschini et al. (2017), trained 7–13 years old dyslexic children using various mini-games for 12 hours, distributed over multiple days. The experimental group played mini-games that used action video game mechanics while the control group played mini-games that did not share those features (Cardoso-Leite, et al. 2021). The results showed an improvement in attention (and in reading) only for the experimental group that trained with action-like mini-games. The positive relationship between action video game and cognition is unlikely to hold for video games at large. Indeed, the bulk of intervention studies using action video games makes it clear that not all video games have the same impact on cognition.

After correcting for multiple demographic and trait-level variables, larger amounts of video gaming were linked with greater intellectual functioning and school achievement (as rated by the child's teacher) relative to other children in the class (Kovess-Masfety, et al. 2016).

Similarly, Pujol et al (2018) found a positive association between game play and the teacher's rating of school achievement, but no trend with the number of hours played. The relationship between video gaming and academic performance remains, however, unclear it can be positive, negative or absent depending on various factors (Ferguson, CJ. 2015). For instance, playing during weekdays versus weekend days (Hartanto, et al. 2018); playing before versus after school (Drummond, et al. 2020).

The reviewed literature is filled with hypotheses about the potential causal relationships between any two constructs, but oftentimes the data to support specific claims is simply missing

(Parry, et al. 2019). At present, it remains uncertain how total duration of media should indicate a relationship with extents of behavioral control, mental health or academic performance. Evidence also implies that total time spent on media may apply only an indirect impact on these ends.

To give an instance, Clifford, et al. (2020) mentioned that total time on media may affect attention, mental health and school related variables via its negative effects on sleep, which might be the real cause of decreased cognitive functioning, mental health and academic performance (Lang, et al. 2017 & Stiglic, et al. 2019).

The study entitled "Media use, attention, mental health and academic performance among 8- to 12-year-old children" by Cardoso-Leite, et al. (2021) revealed that as children age, they consume more media. In this representative sample of Swiss children, the amount of media content consumed each day increased steadily by one additional daily hour per year of age. From ages 8 to 12, the daily hours of media consumed increased from about 5 to 9 hours.

Flow Theory delves into the intricate interplay between challenge and skill (Nakamura & Csikszentmihalyi, 2009), aiming to unravel the conditions that facilitate the attainment of a state marked by intrinsic motivation, heightened focus, and holistic immersion (Csikszentmihalyi, 2020). The convergence between the flow experience and gameful approaches has engendered a particularly synergistic relationship (Oliveira, et al. 2022). By incorporating the framework fundamental for the experience of flow, the mechanics of digital games, gamified environment, and simulation systems as implicit embodiments of Flow Theory, to ensure unending user immersion and motivation.

Whereas, the Engagement Theory of Kearsley and Shneiderman (1998) highlighted, "students must be meaningfully engaged in learning activities through interaction with others and worthwhile tasks". They believe that engagement can be achieved through the use of technology by not only making learning more collaborative and project-based but by also having a realistic focus.

In the same way, Vygotsky's socio-cultural theory posits that learning is a social and collaborative process influenced by cultural context, social interactions, and the tools and resources available within a learning environment (Vygotsky, 1978). According to this theory, learners construct knowledge through interaction with more knowledgeable others, such as teachers, peers, or educational tools like educational games. Educational games, serving as mediational tools, can scaffold learners' understanding of mathematical concepts, provide opportunities for guided practice, and facilitate the internalization of numeracy skills through active engagement and social interaction (Gee, 2003).

Meanwhile, the reason behind video games' popularity has been assessed by several studies in the literature (Van Rooij et al. 2017.). While some studies focused on the addictive aspect of video games (Griffiths and Meredith 2009, Skoric

et al. 2009), others assessed their motivational aspect (Wang

et al. 2011, Granic et al. 2014, Peters et al. 2018). Still, all were related to the satisfaction of basic psychological needs. The main objective of video games is to provide an enjoyable gaming experience to the users by using several game mechanics and finally to satisfy their basic psychological needs (Bowman 2018).

According to social learning theory, a person's ability to abstract information from the behavior of others, make decisions about which behavior to imitate, and carry out those behaviors is key. Observational learning, or learning through observation, is an integral part of this theory. This theory explains that individuals learn social behavior by observing and imitating the behavior of other people in their social environment who have received rewards and punishments for this behavior (Mulyadi et al., 2016). Social learning theory by Albert Bandura will guide students to learn in a variety of different environmental conditions. Students can learn to observe other people's behavior, and can also learn from their circle of friends or family. The decision to adopt and observe other people's behavior certainly requires further observation. So that students can choose and take good things to adopt.

In the 1960s, Herbert Simon and his two colleagues, Shaw and Newell studied the solving of complex problems. Complex problems were different from insight problems in that there was not a crucial element leading to the solution. Simon (1971) was interested in the process, that is, the cognitive strategies, mental operations, and how problems were solved. Since the computer was used to simulate human problem-solving, the protocols involved the concept of searching problem space. This led to algorithms that could be programmed to solve these well-defined human problems (Simon, 1961; Newell et al., 1960).

Aaron T. Beck (1963) as one of the contributors in the history of Cognitive Behavioral Therapy. In one of his earliest works, he describes a pattern of cognitive distortions and themes in his adult patients with depression, and concludes that the actual source of his patients' depressed mood was distorted and irrational thinking. He suggests that the affective, behavioral, and social facets of depression result from distorted thinking. Through interviews and extensive clinical experience with depressed patients, he began to notice certain patterns of cognitive distortions. Some of the most common forms of depressive cognitions were arbitrary inference, selective abstraction, overgeneralization, and exaggeration.

Technological tools designed for children should be age-appropriate, fostering learning and participate regularly with their developmental capacities and needs. The American Academy of Pediatrics recommends avoiding any screen time for this age (AAP, 2013). Between the ages 2 to 7, technology should provide opportunities for experiential learning that give children to engage with and explore presentation of physical realities.

Connectivism is considered a new learning theory due to Siemens and Downes (2007) because it characterizes the strengthening of student learning by adding knowledge and perceptions to the personal network (Siemens, 2004). These

personal networks help the student gain perspective and diversity of opinion to make critical decisions. It is cooperative learning based on networking. It is a new theory of learning because traditional learning theories explain learning in a limited way due to rapid changes in technology. It is a different theory in that knowledge, not how or what that knowledge involves.

The study by Landers (2015) with the title “Developing a Theory of Gamified Learning: Linking Serious Games and Gamification of Learning” indicates that gamification can affect learning through one of two processes. In both processes, gamification is intended to influence a learning-related behavior or attitude. However, the relationship between this behavior and outcomes differs depending upon the nature of that construct. Gamification affects learning via moderation when an instructional designer intends to encourage a behavior or attitude that will increase learning outcomes by making pre-existing instruction better in some way.

Similarly, Bauman’s layered-learning model describes a matrix for scaffolding traditional didactic presentation of course materials with multimedia educational technology. The model presupposes that traditional didactic learning techniques, such as knowledge transfer through scholarly reading and interaction with faculty and staff, still have relevance in the modern classroom. However, the model leverages contemporary educational technology to scaffold the transfer of knowledge to the learners in a situated and multimodal approach (Bauman, 2016 & Bauman, et al. 2020).

Game-based Learning in education is now one of the major learning trends of the 21st century (Ahmad and Iksan, 2021) and it has received an increasing amount of academic attention in recent years (Zou, 2020). Game-Based Learning is a mathematics teaching technique that creates a balance between classroom learning and educational games while enhancing the learning efficiency through student-centered learning activities (Lasut and Bawengan, 2020). It is also one of the more creative and entertaining methods, and, indirectly, students will pay attention to the teacher’s lessons. This is due to the fact that playing games is innate to the students. Additionally, educational games may encourage the students to enjoy learning, to feel comfortable approaching a variety of difficulties along the way, and to overcome these challenges with focus, self-assurance, and patience, all of which are crucial for higher education in the development of lifelong learners (Liu et al., 2021).

It is vital for educators to pay attention to the influence of gamification on students’ social interactions, emotional engagement, and cognitive processes as core dimensions of the learning process. However, the acceptance and engagement of gamification in pedagogy remains challenging (Ding et al., 2018). The implementation of the gamification techniques is less appropriate to be carried out when the pupils have special needs (Mohamed Rosly & Khalid, 2017). This is due to the fact that the competence level of the pupil will affect the effectiveness of the implementation of gamification.

According to Fauzi (2019), online gaming does not have a negative impact if students manage their time well, as it can reduce stress and facilitate social connections. Therefore, an individual’s lifestyle influences their dependence on online games, affecting their learning motivation, academic performance, and social interactions. The learning outcomes of students addicted to online games are concerning and can affect their learning process (Rahyuni, et.al., 2021).

The study with the title “Exploring the impact of educational games on numeracy skill development among the elementary learners: A Systematic Review” by Abbacan, et al., (2025) mentioned that the integration of educational games into elementary education in the Philippines holds immense potential to address longstanding challenges in student engagement and academic performance. As a strategy, games effectively enhance classroom interaction, stimulate active learning, and promote collaboration among learners. Their engaging nature helps address the low motivation often observed in traditional teaching settings.

The integration of educational games into elementary education in the Philippines holds immense potential to address longstanding challenges in student engagement and academic performance. As a strategy, games effectively enhance classroom interaction, stimulate active learning, and promote collaboration among learners.

On the contrary, the study with the title “Online Game Addiction and the Level of Depression Among Adolescents in Manila Philippines” by Labana, et al. (2020) discovered that most of the adolescents looked forward to the next time they would game, with the most common reason of engaging in games reported to be easing the moments of feeling down. Another reason of the respondents’ addiction to online games was that they want to forget about problems.

The United Nations Convention on the Rights of the Child (UNCRC) stated the rights enjoyed by children in online games. First, the right of the child to leisure, play, and culture is positively affected by online gaming. Children frequently engage in online gaming as a way of escapism, seeking immersion within digital environment. Second, the right of the child to freedom of association is positively affected by online gaming. Players can interact with each other cooperatively and/or competitively through text chat or voice chat (Granic, et. al, 2014). Also, there are gaming communities where people share tips and stories (MetaEngine, 2023). Third, the right of the child to freedom of expression is positively affected by online gaming. Online gaming stipulates children with opportunities to utilize and showcase their creativity and imagination. Video games are considered “the only forms of artistic expression that allow the authoritative voice of the author to remain true while allowing the observer to explore and experiment.” Fourth, the right of the child to education is positively affected by online gaming. Some online games, previously marketed for recreation, have educational versions for use in curriculums like science, technology, engineering, coding, and self-directed learning. Children also experience

cognitive and motivational benefits, such as improved problem-solving, analytical skills, and persistence (Granic, et al, 2014). Lastly, the right of the child to access information is positively affected by online gaming. Children can access information and materials from around the world to simulate and learn from different experiences. For example, children can also learn medical skills without doing any real danger to actual patients (Cheng, et al, 2017).

In the Philippines, there are following legal framework that would protect the children in online games. The Child Youth and Welfare Code represent the first Philippine law to formally systematize the children's rights and the duties of parents and the State, among other provisions. The Code puts important emphasis on the role of parents. First, parents have the duty to supervise their children's activities, including their recreation (Article 46 (3) & (6)). Second, parents also have the duty to protect their children from pornographic and unwholesome publications (Article 51). Third, parents also have the duty to prevent their children from falling into bad company (Article 52). Fourth, parents have the duty to prevent their children from becoming addicted to vices or harmful practices (Article 55). It also gave LGUs the authority to enact regulations for the welfare of children in the community, such as curfew hours (Article 86 & 139).

The Special Protection of Children against Abuse, Exploitation, and Discrimination Act (R.A. 7610) penalizes perpetrators of child prostitution, sexual abuse, trafficking, obscene publications, indecent shows, other acts of abuse. Aside from punishing perpetrators of child abuse, this Act also imposes sanctions on establishments or enterprises which promote, facilitate, or conduct activities constituting any of the aforementioned offenses.

Online gaming platforms can expose children to predatory people who exploit anonymously to begin grooming and harmful interactions. Due to the social interaction features, anonymity system, and lack of regulations, online games become hunting grounds for sexual predators (Bowles and Keller, 2019).

The Anti-Photo and Video Voyeurism Act (R.A. No. 1995) penalize photo or video voyeurism, which is defined as taking or distributing pictures or videos of a person's private areas or performing sexual acts (Section 3 (d)).

The Anti-Child Pornography Act (R.A. 9775) penalizes child pornography, which is defined as "any representation, whether visual, audio, or written combination thereof, by electronic, mechanical, digital, optical, magnetic, or any other means, of a child engaged or involved in real or simulated explicit sexual activities."

This Act also imposes on internet service providers, internet content hosts, malls, and other business establishments to notify the Philippine National Police (PNP) or the National Bureau of Investigation (NBI) if child pornography is being committed in their servers or establishments (Section 9, 10, 11). LGUs are also empowered to monitor and regulate internet cafes and kiosks in their territorial jurisdiction (Section 12).

The Data Privacy Act (R.A. 10173) penalizes unauthorized processing of information, negligence in handling of information, unauthorized access, intentional breach, and unauthorized or malicious disclosure of information, among others. It also establishes regulations for the processing of personal, sensitive personal, and privileged information (Section 11 & 16).

The Cybercrime Prevention Act (R.A. 10175) was enacted to provide protection against the abuse, misuse, and illegal access relating to computer and communications systems, networks, and databases. This Act arrests individuals who perpetrate sexual abuse and exploitation of children, including those who maliciously manipulate children's personal data within online gaming platforms.

The Safe Spaces Act (R.A. 11313) was enacted to provide protection to men, women, and children from harassment in the streets, public spaces, online, workplaces, and educational and training institutions. Gender-based online sexual harassment includes acts using information technology to terrorize victims through derogatory remarks, invasion of privacy, unauthorized sharing of sexual or private content, impersonation, spreading false information, and filing false abuse reports.

The Anti-OSAEC and Anti-CSAEM Act (R.A. 11930) was enacted to provide special protection to children against sexual violence, abuse, and exploitation committed with the use of information and communications technology. This is a major development in Philippine legislation because it is the first national law that expressly refers and applies to online games. CSAEM/CSAM is defined as "any representation (...) of a child engaged or involved in real or simulated sexual activities, or depicting acts of sexual abuse or exploitation of a child as a sexual object" while OSAEC is defined as "the use of ICT as a means to abuse and/or exploit children sexually, which includes cases in which offline child abuse and/or exploitation is combined with an online component."

Parental controls and in-game management tools are closely associated to video game rating systems. They are implemented primarily as a voluntary practice within the video gaming application to assist parents in monitoring. Comprehensive guides for parental controls can be found on the websites and downloadable applications of the Entertainment Software Ratings Board (ESRB) and Pan European Game Information (PEGI). ESRB (1994) has several guides to help parents manage their children's video game usage, such as selecting appropriate video games, setting up a child account and using parental controls, managing screen time, and privacy tips for parents, among others. For data privacy measures of children in video games, PEGI (2017) directs consumers and parents to website links whereby they can change account settings depending on the console or platform to limit the amount and type of data that companies can collect.

The study conducted by Alarcon, et al. (2024) entitled "Parental Strategic Interventions for Reducing Online Gaming Addiction in Children: A Qualitative Study" recommends parents should prioritize spending more time with their children

to understand their strengths and weaknesses, enabling them to provide optimal support. Setting limits or conditions on screen time and encouraging outdoor activities are effective strategies. Moreover, parents should limit their own gadget usage and refrain from using electronic devices during family time or meals. Children learn by observing the behavior of adults around them, so setting a positive example is vital. Additionally, involving children in outdoor activities such as soccer, basketball, and other non-digital games can be beneficial.

In the same manner, the study of Perez, et al. (2024) "Relationship between Online Game Addiction and Mental Well-Being of High-School students during the Covid-19 Pandemic: Implications for Learning and Development" implies that educational institutions can address gaming addiction by raising awareness and providing specialized support programs, such as counselling and mental health services. Educational seminars and training workshops on digital citizenship and stress management can help students and families get the information and skills they need to utilize technology more responsibly.

In the same way, Calvario (2023), recommends for school administrators, increasing awareness and early screening of the presence of IGD, depression, anxiety, stress, and both depression and anxiety among adolescents in public and private high schools are needed to prevent the negative effects. For policy makers, creating programs and interventions for different ages and genders in schools and homes will provide targeted interventions to decrease the frequency of internet gaming and manage depression, anxiety, stress and IGD among adolescents.

Constantly, Nuncio (2019) proposes that the national government, academe and professional and medical associations must conduct a national study on Internet use disorder, online game addiction and Facebook intrusion in the country. This will guide the national government in its policy formulations and the academe in its social research advocacy to determine the nature, extent, effects and impact of excessive Internet use of children and to provide interventions and care to children. Parents or guardians play an important role to abate the risks and dangers posed by excessive use. There must be available support system in the community.

Furthermore, Kochuchakkalackal and Reyes (2019) revealed the efficacy and large effect of Acceptance and Cognitive Restructuring Intervention Program (ACRIP) which shows the eight-module intervention program is validated a reliable psychotherapeutic measure that helps rectify IGD and enhance the overall psychological health of adolescents. The ACRIP was developed as a structured and short-term approach in internet gaming addiction therapy that adapted the theories of mindfulness and cognitive behavioral therapy. It is not only efficacious among adolescents; however, it can be employed on other age groups (children, adults and older people).

As technology swiftly transforms, its impact on learners surpasses academic outcomes, molding their behavior, social

relationships, and whole being. While electronic games provide important learning opportunities, it also presents challenges which interrupt good development and peer interactions. As educators, it is crucial to remain on the lookout to these impacts and promote interventions for responsible technology use.

## 2. The Problem

### A. Statement of the Problem

The central idea of the study was to determine the motives, well-being, and study skills of public elementary learners engage in e-games in the Candijay, Alicia, Mabini, Anda, and Guindulman Districts, Division of Bohol. The findings of the study serve as basis of proposing an intervention measure.

It further sought to answer the following specific questions:

1. What is the profile of the learner-participant in terms of:
  1. age;
  2. sex;
  3. grade level;
  4. gadget used; and
  5. highest award received?
2. What is the assessment of the respondents on the motives of the learners when engage with e-games as to:
  1. socializing;
  2. escape;
  3. competition;
  4. coping;
  5. skill development;
  6. fantasy; and
  7. recreation?
3. What is the assessment of the respondents on the well-being of the learners when playing e-games in terms of:
  1. engagement;
  2. perseverance;
  3. optimism;
  4. connectedness; and
  5. happiness?
4. What are the study skills of learners engaged with e-games in terms of:
  1. time management and procrastination;
  2. concentration and memory;
  3. study aids and note taking;
  4. test strategies and test anxiety;
  5. organizing and processing information;
  6. motivation and attitude;
  7. reading and selecting main idea; and
  8. writing?
5. Is there a significant relationship between the wellbeing and motives of the learners engaged in e-games?
6. Is there a significant relationship between the study skills and motives of the learners engaged in e-games?

7. Is there a significant relationship between the wellbeing and study skills of the learners engaged in e-games?
8. Based on the implicated findings, what intervention measure could be proposed?

Community. The study lies in its contribution to the development of analytical strategies designed at fostering healthier digital world for learners. By explaining the multifaceted effects of electronic games, it supports community initiatives that boost positive development. In the long run, it fortifies to take an active role in promoting responsible digital and media literacy and assuring that electronic gaming provides positive point to the lives of the children.

Future Researchers. The study offers a foundation for further research on emerging trends, long-term effects, and contextual factors affecting learners' gaming behavior. It supports as a basis for crafting evidence-based intervention measures. By bridging conceptual understanding with practical applications, it contributes to deepen knowledge in digital behavior, learning curve effect, and educational interventions.

### 3. Research Methodology

#### A. Design

The study utilized a quantitative descriptive survey design that incorporates correlational and comparative method. Descriptive research is designed to deliver comprehensive report of the key characteristics of the population or phenomenon being analyzed, directed toward offering an in-depth overview of the individualities associated with certain demographic classification.

This study is anchored in a descriptive research design to methodically explore the target variables as it accumulates data in relation to motives, wellbeing, and study skills using a modified, research survey questionnaire to obtain the anticipated results. The correlational predictive research method is utilized to describe the relationships between electronic games and its learner respondents' motives, wellbeing, and study skills. Additionally, it identifies which variable needs more intervention and it serves to form an intervention based on evidence which relationships are firm. On the other hand, comparative research method is applied to evaluate whether there are significant differences in motives, wellbeing, and study skills when engaged with electronic games (e-games) among different groups of learners.

#### B. Environment and Participants

Table 1  
Distribution of Respondents candijay district

School	Learners	Teachers
Abihilan Elementary School	15	3
Anoling Elementary School	15	3
Boyoan Elementary School	15	3
Cadapdapan Elementary School	15	3
Cambane Elementary School	15	3
Canawa Elementary School	15	3
Candijay Central Elementary School	30	6
Can-olin Elementary School	15	3

Cogtong Elementary School	15	3
La Union Elementary School	15	3
Luan Elementary School	15	3
Lungsodaan Elementary School	15	3
Mahangin Elementary School	15	3
Pagahat Elementary School	20	3
Panadاران Elementary School	15	3
Panas Elementary School	15	3
Pangpang Elementary School	15	3
San Isidro Elementary School	15	3
Tambongan Elementary School	15	3
Tawid Elementary School	15	3
Tubod Elementary School	15	3
Tugas Elementary School	15	3
<b>Total</b>	<b>345</b>	<b>69</b>

Municipality of Candijay, is a 3<sup>rd</sup> class municipality in the Province of Bohol, Philippines. The municipality has a land area of 103.26 square kilometers or 39.87 square miles which embodies 2.16% of Bohol's total area. While, Municipality of Alicia is a 4<sup>th</sup> class municipality in the Province of Bohol, Philippines. The municipality has a land area of 114.50 square kilometers or 44.21 square miles which embodies 2.40% of Bohol's total area. Then, Municipality of Mabini, is a 4<sup>th</sup> class municipality in the Province of Bohol, Philippines. The municipality has a land area of 104.57 square kilometers or 40.37 square miles which embodies 2.19% of Bohol's total area. Meanwhile, the Municipality of Anda is a 5<sup>th</sup> class municipality in the Province of Bohol, Philippines. The municipality has a land area of 61.89 square kilometers or 23.90 square miles which embodies 1.30% of Bohol's total area. Whereas, the Municipality of Guindulman, is a 4<sup>th</sup> class municipality in the Province of Bohol, Philippines. The municipality has a land area of 125.63 square kilometers or 48.51 square miles which embodies 2.63% of Bohol's total area. The map illustrates the locale of the study. The yellow stars represent the elementary schools included as respondents in the study.

Table 2  
Alicia district

School	Learners	Teachers
Alicia Central Elementary School	30	6
Alicia Central Elementary School-Annex	15	3
Cabatang Elementary School	15	3
Cagongcagong Elementary School	15	3
Cambaol Elementary School	15	3
Cayacay Elementary School	15	3
Del Monte Elementary School	15	3
Katipunan Elementary School	15	3
Katipunan Elementary School-Annex	15	3
La Hacienda Elementary School	15	3
Mahayag Elementary School	15	3
Napo Elementary School	15	3
Pagahat Elementary School	15	3
Progreso Elementary School	15	3
Putlongcam Elementary School	15	3
Sudlon Elementary School	15	3
Untaga Elementary School	15	3
<b>Total</b>	<b>270</b>	<b>54</b>

Table 3  
Mabini district

School	Learners	Teachers
Abaca Elementary School	15	3

Abad Santos Elementary School	15	3
Aguipo Elementary School	15	3
Banlas Elementary School	15	3
Baybayon Elementary School	15	3
Bulawan Elementary School	15	3
Cabidian Elementary School	15	3
Cawayanan Elementary School	15	3
Del Mar Elementary School	15	3
Lungsodaan Elementary School	15	3
Mabini Central Elementary School	15	3
Mahayag Elementary School	15	3
Marcelo Elementary School	15	3
Minol Elementary School	20	3
Paraiso Elementary School	15	3
San Jose Elementary School	15	3
San Rafael Elementary School	15	3
San Roque Elementary School	15	3
Tabunoc Elementary School	15	3
Tambo Elementary School	15	3
Tangkigan Integrated School Elementary	15	3
Valaga Elementary	15	3
<b>Total</b>	<b>345</b>	<b>69</b>

Pansul Elementary School	15	3
Tabunoc Elementary School	15	3
Tambis Elementary School	15	3
Trinidad Elementary School	15	3
<b>Total</b>	<b>325</b>	<b>63</b>

The study includes one thousand five hundred seventy-five (1575) learners and three hundred nine (309) teachers. A cumulative count of one thousand eight hundred eighty-four (1884) respondents in the study. The table A shows the distribution of respondents.

Table 4  
Anda district

School	Learners	Teachers
Anda Central Elementary School	40	6
Abihid Elementary School	15	3
Almaria Elementary School	15	3
Bacong Elementary School	15	3
Badiang Elementary School	15	3
Buenasurte Elementary School	15	3
Candabong Elementary School	15	3
Casica Elementary School	15	3
Ipo Elementary School	15	3
Linawan Elementary School	15	3
Londag Elementary School	15	3
Mahayahay Elementary School	15	3
Porcenas Elementary School	15	3
Suba Elementary School	15	3
Talisay Elementary School	15	3
Tanod Elementary School	15	3
Virgen Elementary School	15	3
<b>Total</b>	<b>270</b>	<b>54</b>

Table 5  
Guindulman district

School	Learners	Teachers
Guindulman Central Elementary School	40	6
Basdio Elementary School	15	3
Bato Elementary School	15	3
Bayong Elementary School	15	3
Biabas Elementary School	15	3
Bulawan Elementary School	15	3
Cabantian Elementary School	15	3
Cabugan Elementary School	15	3
Canhaway Elementary School	15	3
Cansiwang Elementary School	15	3
Catungawan Elementary School	15	3
Casbu Elementary School	15	3
Guinacot Elementary School	15	3
Guio-ang Elementary School	15	3
Lombog Elementary School	15	3
Mayuga Elementary School	15	3

It utilized stratified random sampling was applied to the respondents. Stratified random sampling is a probability sampling technique where a population is divided into smaller subgroups, known as strata, based on shared characteristics such as gender, age, or education level. This method ensures that each stratum is proportionally represented in the sample, which enhances the total accuracy and reliability of the research findings.

### C. Instrument

The survey questionnaire is categorized by the profile of the learner, social relationships, wellbeing, and academic performance. The first part deals with the profile of the learners. It determines the gender, age, grade level, gadget used, and highest award received.

The second part assesses the learners' social connections which is composed of twenty-seven (27) items using Motives for Online Gaming Questionnaire (MOGQ). It is an adapted survey questionnaire from the study of Demetrovics, et al. (2011) The questionnaire is in a checklist form wherein the learners made to assess the seven motivational factors that would affect their social relationships, using the corresponding weight equivalent of 4,3,2,1 to the different descriptions used as follows:



Legend: ★ Public elementary schools  
Fig. 2. Map of candijay, alicia, mabini, anda, and guindulman bohol

Table 6

Point	Scale Range	Explanation
1	4.00-3.00	Strongly Agree

2	2.99-2.00	Agree
3	1.99-1.00	Disagree
4	1.00-0.99	Strongly Disagree

The third part determines the learners' overall wellbeing which is composed of twenty (20) items using EPOCH Measure of Adolescent Well-being. It is an adapted survey questionnaire based on the book of Seligman (2011). The questionnaire is in a 4-point Likert scale wherein the learners-respondents are made to reflect on their general wellbeing while engaging with electronic games using the corresponding equivalent weight of 4,3,2,1 to the different descriptions used as follows:

Table 7

Point	Scale Range	Explanation
1	4.00-3.00	Strongly Agree
2	2.99-2.00	Agree
3	1.99-1.00	Disagree
4	1.00-0.99	Strongly Disagree

The fourth part determines the respondents' academic performance which is composed of sixty-four (64) items using the Study Skills Questionnaire. It is a modified survey questionnaire with reference from the University of Houston Clear Lake Counseling and Mental Health Center (2023). The questionnaire is in a 4-point Likert scale wherein the learners reflect on their study skills using the corresponding weight equivalent of 4,3,2,1 to the different descriptions used as follows:

The questionnaires used in this study were an adapted instrument which undergone rigorous validation. Consequently, revalidation of the individual items was deemed unnecessary. However, a reliability analysis was conducted to ensure the instrument's suitability for the current sample and research context.

#### D. Data Gathering Procedure

This research aimed to thoroughly understand how learners' engagement in electronic games impact their motives, wellbeing, and study skills. To achieve this, the study used a quantitative approach, relying on structured questionnaires to gather data from both learners. These questionnaires measured their experiences related to electronic games and their overall effect. The collected data were analyzed using descriptive and inferential statistics to identify trends and correlations within the educational environment.

Before data collection, the researcher obtained necessary approvals from the Dean of the School of Advanced Studies and relevant educational authorities, including the Schools Division Superintendent of Bohol, the District Supervisors of Candijay, Alicia, Mabini, Anda, and Guindulman, and school heads of each public schools. The questionnaires will be distributed in person.

Once collected, the data were processed through tallying, tabulation, and collation. This organized data was analyzed and interpreted using both descriptive and inferential statistics, focusing on the specific research questions.

#### E. Statistical Treatment

To determine the demographic profile (sex, age, grade level, gadget used, and highest award received) of the learners, the percentage will be utilized with the formula:

$$P = f/N \times 100\%$$

Where:

P = Percentage

F = Frequency

N = Sample Size

Weighted Mean (WM) will be employed to measure the perceived learners' social relationships, wellbeing, and academic performance with the formula.

$$WM = \frac{\sum fi xi}{N}$$

Where:

WM = Weighted Mean

fi = frequency per cell

xi = weighted value per cell

$\sum fix$  = summation of the product of the frequency and its weighted value

N = total number of respondents

In relation to inferential statistics, the research assessed the relationship between variables to obtain meaningful observations across simple description. To examine the relationships between wellbeing and motives, study skills and motives, and study skills and wellbeing of learners engaged in e-games, the regression analysis was applied.

Moreover, Test of Normality and Spearman's rho were applied to determine the significance and correlations of the relationships between the scale of learners' engagement in e-games and learners' motives, wellbeing, and study skills. This enabled the researcher to identify predictive patterns and associative relationships of the data between learners' motivation, wellbeing, and study skills.

#### 4. Definition of Terms

The succeeding definitions clarified the elements of the problem and their theoretical and methodological basis.

**E-Games.** In other words, "Electronic Games. A generic term for any amusement or recreation using a stand-alone video game, desktop computer or over the Internet with one or more players.

**Intervention Measure.** A strategy or action implemented to address a specific problem or to improve a situation, often involving direct involvement or influence in a process or activity.

**Learners.** They encompass people who are actively engaged in the process of acquiring knowledge, skills, or understanding learners who are officially enrolled as grade 4 to grade 6 learners of Guindulman district in the Division of Bohol.

**Motives of Playing.** It refers to the reasons or drives that lead to the action or behavior of playing.

**Social Relationships.** It is any voluntary or involuntary

interpersonal link between two or more people, individually or within/between groups.

**Study Skills.** It is a range of techniques and strategies that help students process and retain information, manage time, and organize their learning.

**Wellbeing.** It encompasses the overall health of a student, including their social, mental, physical and emotional health. Enjoyment and satisfaction with life are inextricably tied to learner well-being.

### 5. Presentation, Analysis and Interpretation of Data

This chapter presents, analyzes, and interprets the data which comprised the demographic profile of Candijay, Alicia, Mabini, Anda, and Guindulman Districts learners and teachers, its motives, well-being and study skills engaged with e-games.

Table 8 showed the demographic profile of learners and teachers in terms of sex, age, grade level, gadget used and highest award received. The first attributes that the table describes was the gender of the learners in Candijay, Alicia, Mabini, Anda, and Guindulman Districts. The information revealed that eight hundred ninety-two (892) or 56.63% were males, and the females were six hundred eighty-three (683) or 43.37%. It appears to have minor predominance of male participation in electronic games compared to female involvement.

As to age of learners, majority of the respondents were 9 years old and 10 years old, consisted five hundred twenty-five (525) or 33.33% of the total respondents, ranking first in terms of frequency. Next, ages 11 years old with frequency of two hundred sixty-seven (267) or 16.95%. After, ages 12 years old with frequency of two hundred nineteen (219) or 13.91%. The age group with the lowest representation is above 12 years old, with thirty-nine (39) or 2.48% of respondents in this category.

As reflected in the table, there were 41.33% or six hundred fifty-one (651) in Grade 4 level, 33.91% or five hundred thirty-four (534) in Grade 5 level, and 24.76% in Grade 6 level.

Table 8  
Profile of the learner-respondents  
N=1575

1 Sex	Frequency	Percentage (%)	Rank
Male	892	56.63	1
Female	683	43.37	2
Total	1575	100%	
2 Age			
9 years old	525	33.33	1.5
10 years old	525	33.33	1.5
11 years old	267	16.95	2
12 years old	219	13.91	3
Above 12 years old	39	2.48	4
Total	1575	100%	
3 Grade Level			
Grade 4	651	41.33	1
Grade 5	534	33.91	2
Grade 6	390	24.76	3
Total	1575	100%	
4 Gadget used			
Mobile phone	1535		1
Laptop	12		4

Tablet	37		2
Personal computer	3		5
PSP or Video Game	0		6
Console			
Television	24		3
Total	1611		
5 Highest Award received			
With Highest Honors	19	1.21	4
With High Honors	101	6.41	3
With Honors	389	24.70	2
None	1066	67.68	1
Total	1575	100%	

The table demonstrates the most prevalent gadget used by the respondents' which was mobile phone with one thousand five hundred thirty-five of the respondents and ranking first. Next, tablet with thirty-seven (37) respondents. Television with twenty-four (24) respondents as third in rank. Succeeded by laptop with twelve (12) respondents. Followed by personal computer with three (3) respondents. The least commonly used by the respondents was Playstation Portable (PSP) or Video Game Console.

In connection to the respondents' highest award received, the modal level was none with the total of 67.68% or one thousand sixty-six (1066), thereby ranking first in frequency. Followed by, With Honors with 24.70% or three hundred eighty-nine (389) respondents. Ranked next was With High Honors with 6.41% or one hundred one (101) respondents. The least represented level was With Highest Honors, with 1.21% or nineteen (19) respondents in this category.

Table 9 illustrated the demographic profile of the teachers in view of their learners in terms of sex, age, grade level, gadget used and highest award received. The table depict the distribution of sex of their learners engaged with electronic games in Candijay, Alicia, Mabini, Anda, and Guindulman Districts; it was exhibited that four hundred thirty-five (435) were males, and the females were only three hundred (300). It can be inferred that there was a marked gender difference with a higher respondent of male learners than female learners. It indicates that electronic games engagement is more prevalent among males.

In terms of age, the table showed that the age 11 years old ranked the highest with the frequency of sixty-five (65). Followed by, sixty-four (64) of the respondents in age 12 years old. Third highest frequency was age 10 years old with sixty-two (62) of the total respondents. The ages 9 and above 12 years old ranked the lowest with the frequency of sixty-one (61). The findings revealed that online gaming is rampant among age 11 years old. This may imply that this age group has developed the necessary skills and interest to engage actively in electronic games.

Table 9  
Profile of the Teacher-Respondents  
N=309

1 Sex	Frequency	Percentage (%)	Rank
Male	435		1
Female	300		2
Total	735		

2 Age			
9 years old	61		4.5
10 years old	62		3
11 years old	65		1
12 years old	64		2
Above 12 years old	61		4.5
Total	313		
3 Grade Level			
Grade 4	71	22.98	3
Grade 5	113	36.57	2
Grade 6	125	40.45	1
Total	309	100%	
4 Gadget used			
Mobile phone	307		1
Laptop	20		2
Tablet	6		4
Personal computer	2		5
PSP or Video Game	0		6
Console			
Television	11		3
Total	346		
5 Highest award received			
With Highest Honors	7	2.27	4
With High Honors	23	7.44	3
With Honors	88	28.48	2
None	191	61.81	1
Total	309	100%	

As stated in the table, there were 40.45% or one hundred twenty-five (125) of the total teacher-respondents in Grade 6, 36.57% or one hundred thirteen (113) respondents in Grade 5, and 22.98% or seventy-one (71) were from Grade 4.

In the gadget used, as it was demonstrated in the table most were mobile phone with the frequency of three hundred seven (307). Consecutively followed by, twenty (20) in laptop. Next, with eleven (11) respondents in television, six (6) respondents in tablet and two (2) respondents in personal computer. On the other hand, there were zero (0) respondents used PlayStation Portable. This indicated that ease of access makes mobile phones the favored platform in electronic gaming.

The highest award received of the learners from the assessment of the teacher-respondents expressed that one hundred ninety-one (191) or 61.81% of them were none. Eighty-eight (88) or 28.48% earned With Honors. Twenty-three (23) or 7.44% of the learners attained With High Honors. The number of learners who obtained With Highest Honors were comparatively lower at seven (7) or 2.27%. This shows that most of the learners receiving no awards could indicate active players in electronic games might be allocating most of their time in gaming than academic activities which could affect their academic performance. While learners who earned higher distinctions (*With Honors, With High Honors, and With Highest Honors*) reveals low percentage implying fewer high-performing learners are likely shows balance between gaming with academic responsibilities.

The results supported with the study administered by Veltri, et al. (2015), wherein both genders have similarities and differences in gaming behavior. Overall, it shows that male gamers start playing video games earlier in life, play more frequently, and spend more time playing video games than female gamers.

A survey by the Norwegian Media Authority reveals that the proportion of girls aged 9–18 who play video games regularly increased from 2018 to 2020. In 2020, 96% of boys and 76% of girls reported playing video games regularly, while the corresponding figures were 96% and 63% in 2018.

In accordance with Donati, et al. (2019), children are increasingly involved in video games. According to the Swedish Internet Foundation (2021), 94% of children in Sweden ages 8–12 play internet games (Andersson and Bäck, 2021).

Moreover, the findings were in line with Newzoo (2021) in which it revealed that smartphones are the most commonly used, largest and fastest-growing video-gaming platform worldwide and the primary device children use to access the largely unregulated internet-based world (Stoilova et al., 2021; Gurtner et al., 2022). As mentioned by Pew Research Organization (2020), 51% of parents whose young child has their own smartphone say this child got the device between the ages of 9 and 11.

Furthermore, a study carried out by Kumar et al. (2021) where academic performance refers to the overall achievement demonstrated by students in their educational pursuits at any stage of learning, from primary to higher education. Several studies have been conducted to examine the relationship between problematic gaming and academic performance and found that they are negatively correlated. With research consistently showing a negative relationship between problematic gaming and academic performance, many may intuitively assume that poor academic performance is a consequence of problematic gaming. This may be a valid conclusion since problematic gaming may cause neglect of academic responsibilities (e.g., completing homework and assignments, studying for exams), leading to decreased academic performance (Suryawanshi et al., 2021; Toker & Baturay, 2016).

Table 10 presented the Motives of Playing Games of learners in Candijay, Alicia, Mabini, Anda, and Guindulman Districts. The weighted mean of all statements regarding the motives of playing for Learner-respondents and Teacher-respondents alike fall on the descriptive interpretation “Agree” which meant the motives mentioned in the questionnaires were exhibited as Very Good in the learners.

In the category of Socializing, learners saw item 3 which expresses “experience a good social experience.” as the most motive getting 2.86, the highest weighted mean. The least weighted mean of 2.58, item 4, that can “consider gaming gives me good company”. Based on the teachers’ assessment, item 2, the learners “can meet many different people” with 3.59 as highest weighted mean. The least weighted mean was 3.43, items 3 on which it can “experience a good social experience”.

Overall, the highest weighted mean was 3.22 which “can meet many different people” while the lowest weighted mean was 3.01 which “consider gaming gives me good company”.

From the data, it is evident that learners motive in engaging in electronic games is to mainly increase social relationships rather than personal comfort given by gaming.

These findings align with the study of Yilmaz and Griffiths (2023) posited that the diverse interactions facilitated by pro-social video games bolster the development of children's peer relationships. Stone et al. (2019) mentioned on which many of these games feature multiplayer functionality, fostering improved communication and cooperative skills among children. In online communities, social contact and communication with other players often lead to the creation of friendships and interpersonal growth (Pietersen et al., (2018).

Under escape, the learners observed item 4 wherein "it able to forget about unpleasant things or offenses" with 2.66 as the highest weighted mean while the lowest weighted mean with 2.43 in item 3 which states, "gaming helps me escape reality". Based on teachers' review, item 3 which states "gaming helps me escape reality" got the highest weighted mean of 3.30 while item 2 which asserts. "It makes me forget real life" had the

lowest weighted mean of 3.07.

In general, the highest weighted mean was 2.96 wherein "it able to forget about unpleasant things or offenses" while the lowest weighted mean was 2.86 wherein "it makes me forget real life". Analysis of the data showed that learners' motive to engage with electronic games is a form of emotional escape from everyday stress instead of completely detach from real-life experiences.

These findings reveal that when escapism used in gaming will not fully carry a negative meaning. This is accord with the study of Kosa and Uysal (2020) where it can also serve as an emotional regulation strategy, encompassing attentional distraction during emotionally intense situations and emotional suppression following an already established emotional impact. In addition, with the study of Melodia et al. (2020) the process of leaving reality and avoidant coping is the game's capability to help the person deal with "real" problems by favoring the management of unpleasant emotional states. Hence, it is undeniable that playing online games can provide some

Table 10  
Respondents' assessment on motives of playing games  
N1 = 1575; N2 = 309T

Statements	Learners		Teachers		Overall		Rank
	WM	DI	WM	DI	WM	DI	
<b>Socializing</b>							
<i>Playing online games, the learner....</i>							
1. can get to know new people.	2.77	A	3.44	SA	3.11	A	3
2. can meet many different people.	2.84	A	3.58	SA	3.22	A	1
3. experience a good social experience.	2.86	A	3.43	SA	3.15	A	2
4. consider gaming gives me good company.	2.58	A	3.44	SA	3.01	A	4
<b>Escape</b>							
1. is involved in the preparation of school development plan.	2.59	A	3.17	A	2.88	A	2
2. it makes me forget real life.	2.64	A	3.07	A	2.86	A	4
3. gaming helps me escape reality.	2.43	D	3.30	SA	2.87	A	3
4. it able to forget about unpleasant things or offenses.	2.66	A	3.26	SA	2.96	A	1
<b>Competition</b>							
1. I enjoy competing with others.	2.91	A	3.27	SA	3.09	A	3
2. I like to win.	3.05	A	3.33	SA	3.19	A	1
3. it is good to feel that I am better than others.	2.73	A	3.46	SA	3.10	A	2
4. it finds the pleasure of defeating others.	2.67	A	3.24	A	2.96	A	4
<b>Coping</b>							
1. gaming helps me get into a better mood.	2.75	A	3.11	A	2.93	A	3.5
2. it helps me get rid of stress.	2.80	A	3.21	A	3.01	A	1
3. it helps me channel my aggression.	2.71	A	3.18	A	2.95	A	2
4. it reduces tension.	2.63	A	3.26	SA	2.95	A	3.5
<b>Skill development</b>							
1. gaming sharpens my senses.	2.80	A	3.21	A	3.01	A	3.5
2. it improves my skills.	2.87	A	3.21	A	3.04	A	2
3. it improves my concentration	2.80	A	3.22	A	3.01	A	3.5
4. it improves my coordination skills	2.94	A	3.21	A	3.08	A	1
<b>Fantasy</b>							
1. I can do things that I am unable to do or I am not allowed to do in real life.	2.68	A	3.21	A	2.95	A	3.5
2. feel as if I was somebody else.	2.90	A	3.21	A	3.06	A	1
3. become somebody else for a while.	2.69	A	3.21	A	2.95	A	3.5
4. I can be in another world.	2.76	A	3.21	A	2.99	A	2
<b>Recreation</b>							
1. for recreation.	3.08	A	3.21	A	3.15	A	2
2. it entertain me.	3.30	SA	3.21	A	3.26	SA	1
3. I enjoy gaming every day.	2.99	A	3.21	A	3.10	A	3
Average Weighted Mean	2.79	A	3.26	SA	3.03	A (Good)	
<b>Legend:</b>							
Rating Scale	Descriptive Interpretation (DI)		Meaning				
3.25 – 4.00	Strongly Agree (SA)		- Very Good				
2.50 – 3.24	Agree (A)		- Good				
1.75 – 2.49	Disagree (D)		- Fair				
1.00 – 1.74	Strongly Disagree (SD)		- Poor				

incomparable pleasure. Some people claim that playing online games is just a pastime, stress-reliever, relaxation, and fun (Ani, et al. 2023).

In the area of competition, the learners perceived item 2 which feels “I like to win” as the highest weighted mean of 3.05 whereas item 4 which “it finds the pleasure of defeating others” as the lowest weighted mean of 2.67. With reference to teachers’ evaluation, item 3 expresses “it is good to feel that I am better than others” obtained the highest weighted mean of 3.46 whereas item 4 wherein “it finds the pleasure of defeating others” obtained the lowest weighted mean of 3.24.

Together, the highest weighted mean was 3.19 wherein “I like to win” while the lowest weighted mean was 2.96 wherein “it finds the pleasure of defeating others”. The results indicated that learners are motivated in seeking for victory contrary with opposition.

These results illustrated with the study of Perlas & Ea (2023) which revealed a fascinating psychological dynamic: most gamers experience a sense of satisfaction and reward upon victory, while defeat, rather than discouraging them, heightens their determination. A loss prompts players to reevaluate their strategies, sparking an eagerness to restart the game and experiment with alternative tactics, ultimately driving them toward mastery.

In terms of coping, the learners considered item 4 such “it helps me get rid of stress” as the highest weighted mean of 2.80 in contrast on item 4 such “it reduces tension” as the lowest weighted mean of 2.63. As reflected in teachers’ analysis, item 4 that “it reduces tension” indicated the highest weighted mean of 3.26 while item 1 that “gaming helps me get into a better mood” indicated the lowest weighted mean of 3.11.

In summary, the highest weighted mean was 3.01 which “it helps me get rid of stress” while the lowest weighted mean was 2.96 which “gaming helps me get into a better mood”. The outcome demonstrated that learners utilize on playing electronic games in order to cope with stress alternately to improve entire mood.

These findings corresponded with the study of Perlas & Ea (2023) on which gaming is more entertaining and a stress reliever, it is a recreational activity that can help relieve stress when engaged in it purposively. During school hours, students tend to feel stressed due to loads of schoolwork, and playing it will relieve their stress (Dumrique & Castillo, 2018). Hence, it is undeniable that playing online games can provide some incomparable pleasure. Some people claim that playing online games is just a pastime, stress-reliever, relaxation, and fun (Ani, et al. 2023).

In relation to skill development, the learners identified item 4 which states “it improves my coordination skills” as the highest weighted mean of 2.94 while items 1 and 3 wherein “gaming sharpens my sense” and “it improves my concentration” had the lowest weighted mean of 2.80. As shown by teachers’ assessment, item 3 which states “it improves my concentration” was the highest weighted mean of 3.22 and items 1,2, and 4 which “gaming sharpens my senses”,

“it improves my skills”, and “it improves my coordination skills” were the lowest weighted mean of 3.21.

Collectively, the highest weighted mean was 3.08 item 4 wherein “it improves my coordination skills”. While the lowest weighted mean was 3.5 items 1 and 3 wherein “gaming sharpens my senses” and “it improves my concentration”. The findings indicated electronic games are associated with the development of physical and coordination-related skills than concentration and sensory enhancement.

These findings were matched with the report by Health 360 (2023) which stated video games can also improve hand-eye coordination and fine motor skills. Many games require precise movements, and the repetitive nature can help children develop muscle memory and dexterity. These skills can be useful in everyday activities, such as writing, drawing, and sports.

Pertaining to fantasy, the learners recognized item 4 which “feel as if I was somebody else” was the highest weighted mean of 2.90. The lowest weighted mean was 2.68 on item 1 which states “I can do things that I am unable to do or I am not allowed to do in real life.” In light of teachers’ evaluation, items 1, 2, 3, and 4 which includes “I can do things that I am unable to do or I am not allowed to do in real life”, “feel as if I was somebody else”, “become somebody else for a while”, and “I can be in another world” were the highest weighted mean of 3.21.

Overall, the highest weighted mean was 3.06 item 2 that “feel as if I was somebody else”. On the other hand, the lowest weighted mean was 2.95 items 1 and 3 that “I can do things that I am unable to do or I am not allowed to do in real life” and “become somebody else for a while”. The outcome pointed that learners tend to play electronic games where players identify during gameplay characters strengthening their sense of presence within the virtual environment.

These findings established with the study of Kurniawan et al. (2024) entitled “Games as a Bullying Prevention Intervention in Children Aged 6-18 Years: A Scoping Review” shows some of the effectiveness of educational games in preventing bullying at the age of 6 to 18 years. First, a game application called “School of Empathy Game” which is a simulation-type game that provides an experience for players to witness and handle bullying scenarios directly. In addition, there is also a game called “Conectado” which is a combination of first-person shooter, adventure and simulation where the player will play the character as a victim of bullying in the game so that he can feel what the victim of bullying feels. Relatively, Allen & Anderson (2018) mentioned that online gaming can fulfill the (i) need for relatedness by directing players to social relationships with real or fictional characters, (ii) need for autonomy by giving them management and control within the game, and (iii) need for competence by making them feel successful in playing challenging videogames.

Relative to recreation, the learners manifested item 2 that “it entertains me” was the highest weighted mean of 3.30 and item 3 which “I enjoy gaming every day” was the lowest weighted mean of 2.99. With reference to the teachers’ assessment, items 1, 2, and 3 were the highest weighted mean of 3.21 wherein “for

recreation”, “it entertains me”, and “I enjoy gaming every day.” In general, the highest weighted mean was 3.26 item 2 that “it entertains me”. Then, the lowest weighted mean was 3.10 which “I enjoy gaming every day”. The results indicated that learners’ motive to engage with electronic games was for enjoyment and leisure. However, it may not be consistently enjoyed on a daily basis.

This result is supported by Wong & Lam (2016) who state “Games are simply good fun providing great enjoyment. They loved the excitement and satisfaction derived from playing and winning games”. Teenagers are just having fun and they use gaming as a leisure activity (Dumrique & Castillo 2018).

Table 4 describes the assessment of learner and teacher-respondents on the Wellbeing within Candijay, Alicia, Mabini, Anda, and Guindulman Districts. There was an item which garnered a weighted mean that fall under the descriptive interpretation “Strongly Agree” which means there was positive

weighted mean of 2.68; it fell under descriptive interpretation “Agree” or Very Good. In teachers’ perspective items 1, 2, 3, and 4 respectively, “When I do an activity, I enjoy so much that I lose track of time”, “I get completely absorbed in what I am doing”. “I get so involved in activities that I forget about everything else”, and “When I am learning something new, I lose track of how much time has passed”, got the same weighted mean of 3.21.

As derived from the computed data results, the highest weighted mean was 2.84 item 2 wherein “I get completely absorbed in what I am doing.” The lowest weighted mean was 2.95 which states “When I am learning something new, I lose track of how much time has passed.” This suggested a favorable engagement on the cognitive and emotional wellbeing of learners. Meanwhile, losing track of time when learning something new means that while engagement is present, the level of commitment depends on the learning environment.

Table 11  
Respondents’ assessment on wellbeing of learners  
N1 = 1575; N2 = 309

Statements	Learners		Teachers		Overall		Rank
	WM	DI	WM	DI	WM	DI	
<b>Engagement</b>							
1. When I do an activity, I enjoy so much that I lose track of time.	2.74	A	3.21	A	2.98	A	2
2. I get completely absorbed in what I am doing.	2.84	A	3.21	A	3.03	A	1
3. I get so involved in activities that I forget about everything else.	2.72	A	3.21	A	2.97	A	3
4. When I am learning something new, I lose track of how much time has passed.	2.68	A	3.21	A	2.95	A	4
<b>Perseverance</b>							
1. I finish whatever I begin.	3.02	A	3.21	A	3.12	A	3
2. I keep at my school work until I am done with it.	3.10	A	3.21	A	3.16	A	1
3. Once I make a plan to get something done, I stick to it.	3.07	A	3.21	A	3.14	A	2
4. I am a hard worker.	2.96	A	3.21	A	3.09	A	4
<b>Optimism</b>							
1. I am optimistic about my future.	2.91	A	3.21	A	3.06	A	2
2. In uncertain times, I expect the best.	2.85	A	3.21	A	3.03	A	4
3. I think good things are going to happen to me.	2.99	A	3.21	A	3.10	A	1
4. I believe that things will work out, no matter how difficult they seem.	2.90	A	3.21	A	3.06	A	3
<b>Connectedness</b>							
1. When something good happens to me, I have people who I like to share the good news with.	3.10	A	3.21	A	3.16	A	2
2. When I have a problem, I have someone who will be there for me.	3.17	A	3.21	A	3.19	A	1.5
3. There are people in my life who really care about me.	3.16	A	3.21	A	3.19	A	1.5
4. I have friends that I really care about.	3.08	A	3.21	A	3.15	A	3
<b>Happiness</b>							
1. I feel happy.	3.30	SA	3.21	A	3.26	SA	1
2. I have a lot of fun.	3.23	A	3.21	A	3.22	A	2
3. I love life.	3.21	A	3.21	A	3.21	A	3
4. I am a cheerful person.	3.11	A	3.21	A	3.16	A	4
Average Weighted Mean	3.01	A	3.21	A	3.11	A	(Good)

Legend:

Rating Scale	Descriptive Interpretation (DI)	Meaning
3.25 – 4.00	Strongly Agree (SA)	- Very Good
2.50 – 3.24	Agree (A)	- Good
1.75 – 2.49	Disagree (D)	- Fair
1.00 – 1.74	Strongly Disagree (SD)	- Poor

influence which contributes to a Very Good overall wellbeing towards learners. Nonetheless, the rest of average weighted mean falls under descriptive interpretation “Agree” which means there were consistent positive impact of learners that presented to a good wellbeing.

The learners viewed that “I get completely absorbed in what I am doing” item 2 under engagement with the highest weighted mean of 2.84. While, item 4 “When I am learning something new, I lose track of how much time has passed” got the least

A related study revealed by Kahu and Nelson (2018) on which emotional engagement refers to students’ responses to their academic content and learning environment. The emotional responses to academic content include students’ emotional responses such as interest or disinterest in learning during academic activities. Meanwhile, cognitive engagement is often associated with internal processes such as deep processing, using cognitive strategies, self-regulation, investment in learning, the ability to think reflectively, and

making connections in daily life (Khan et al., 2017).

In terms of perseverance, the learners regarded item 2 “I keep at my school work until I am done with it” as the highest weighted mean of 2.84. The lowest weighted mean was 2.96 item 4 “I am a hard worker.” On the other hand, teachers outlook items 1, 2, 3, and 4 respectively had the same weighted mean of 3.21 which mentions “I finish whatever I begin.”, “I keep at my school work until I am done with it.”, “Once I make a plan to get something done, I stick to it.”, and “I am a hard worker.”

As indicated by the overall data findings, the highest weighted mean was 3.16 item 2 where, “I keep my school work until I am done with it”. In contrast, item 4 got the lowest weighted mean of 3.09, regarding “I am a hard worker”. This implied that learners demonstrated consistent perseverance mainly in completing activities they started which considers a benefit of their wellbeing.

In line with the study of Lardinoix et al. (2023) that addiction to the internet, which is reportedly a broad concept interpreted as such that it includes online gaming, lowers motivation to study, leading to procrastination when tasks are deprioritized or left idle. According to Miel et al. (2022) academic perseverance is the quality of being able to sustain effort and persistence in the face of difficulties and setbacks, and it is the ability of students to persist in their academic activities in the face of difficulties and obstacles that impede the achievement of their goals, as well as sustained enthusiasm, effort, and perseverance towards long-term goals (Alhadabi & Karpinski, 2020)

On the basis of optimism, the learners considered item 3 where “I think good things happen to me” as the highest weighted mean of 2.99. The lowest weighted mean was 2.85 under item 2 where “In uncertain times, I expect the best.” However, teachers’ standpoint received the same weighted mean of 3.21 wherein “I am optimistic about my future”, “In uncertain times, I expect the best”, “I think good things are going to happen to me”, and “I believe that things will work out, no matter how difficult they seem”, respectively.

As shown in the overall analysis of the data, item 3 obtained the highest weighted mean of 3.10 which “I think good things are going to happen to me.” Whereas, item 2 which “In uncertain times, I expect the best” acquired the lowest weighted mean of 3.03. This suggested that learners remain hopeful with positive things signifying that online games can sustain a right mindset.

In accordance with the study of Ferguson (2020) that expressing emotion is positive, but research shows that for boys, who make up most video game players, this expression is most helpful when done in a safe and familiar context. Supported with the study of Gaetan et al. (2016) where video games are excellent at allowing their players to regulate emotions by either suppressing them or using a reappraisal process that forces them to approach their situation differently.

Relating to connectedness, the learners reflected on item 2 which “When I have a problem, I have someone who will be there for me” as the highest weighted mean of 3.17. While the

lowest weighted mean was 3.08 which falls on item 4 where “I have friends that I really care about.” In teachers’ perspective, all of the items had the similar weighted mean of 3.21 wherein “When something good happens to me, I have people who I like to share the good news with”, “When I have a problem, I have someone who will be there for me.”, “There are people in my life who really care about me.”, and “I have friends that I really care about.”, respectively.

From the analysis of the data, items 2 and 3 respectively acquired the highest weighted mean of 3.19 which “When I have problem, I have someone who will be there for me.”, and “There are people who really care about me.” Meanwhile, the lowest weighted mean was 3.15 over item 4 where “I have friends that I really care about.” These findings recommended that although the learners spend more time in playing electronic games, they still show appreciation to their support system.

Several studies support digital games can positively affect family relationships by 1) reinforcing family bonds, 2) enhancing reciprocal learning, 3) increasing understanding of the other generation, and 4) reducing social anxiety (Costa & Veloso, 2016; De la Hera, et al. 2017; Zhang & Kaufman, 2016).

With reference to happiness, the learners strongly agree with item 1 that “I feel happy” as the highest mean of 3.30. Conversely, item 4 where “I am a cheerful person” was the lowest weighted mean with 3.11. With teachers’ point of view, items 1, 2, 3, and 4, respectively wherein “I feel happy.”, “I have a lot of fun.”, “I love life.”, and “I am a cheerful person.” were similar weighted mean of 3.21.

Overall, the highest weighted mean was 3.26 on item 1 where “I feel happy.” And the lowest weighted mean was 3.16 on item 4 where “I am a cheerful person.” This inferred that learners sense a significant happiness which demonstrates a positive emotional wellbeing and that proposed that engagement with electronic games can able to sustain good mood and enjoyment.

This result is supported by the book of Nguyen (2020) which researchers have theorized that the communicative process of playing structured games enables players to access new forms of autonomy. The structure and environment of video games often create greater opportunity for choice and self-expression, allowing individuals to practice autonomous decision-making and better understand how to effectively express their agency.

Table 5 demonstrated the learner and teacher - respondents’ assessment on study skills of learners. The items for this assessment were from University of Houston-Clear Lake Study Counseling and Mental Health Center 2023, an assessment tool used to evaluate the study techniques of learners. The data showed that all items got an average weighted mean which fell on descriptive interpretation “Agree” which meant that the academic skills and practices were observed to be Good by the learners to help organize, understand and retain knowledge.

On the basis of learners’ answers the highest weighted mean was 3.10 item 8 which entails that “I begin assignments well in

Table 5  
Respondents' assessment on study skills of learners  
N1 = 1575; N2 = 309

Statements	Learners		Teachers		Overall		
	WM	DI	WM	DI	WM	DI	Rank
<b>Time Management and Procrastination</b>							
I arrive at classes on time.	3.07	A	3.21	A	3.14	A	2
I devote sufficient study time to each of my subjects.	2.89	A	3.21	A	3.05	A	5
I schedule definite times and outline specific goals for my study time.	3.01	A	3.21	A	3.11	A	3.5
I prepare a "to do" list daily.	2.84	A	3.21	A	3.03	A	6
I avoid activities which tend to interfere with my planned schedule.	2.77	A	3.21	A	2.99	A	7
I use prime time when I am most alert for my study.	3.00	A	3.21	A	3.11	A	3.5
At the beginning of term, I make up daily activity and study schedules.	2.89	A	3.21	A	3.05	A	4
I begin assignments well in advance.	3.10	A	3.21	A	3.16	A	1
<b>Concentration and Memory</b>							
1. I have the "study-place" habit, that is, merely being at a certain place at a certain time means time to study.	3.06	A	3.21	A	3.14	A	1
2. I study in a place free from auditory and visual distractions.	2.96	A	3.21	A	3.07	A	3
3. I find that I am able to concentrate – that is, give undivided attention to the task for at least 20 minutes.	2.90	A	3.21	A	3.06	A	5.5
4. I am confident with the level of concentration I am able to maintain.	2.88	A	3.21	A	3.05	A	6
5. I have an accurate understanding of the material I wish to remember.	3.01	A	3.21	A	3.11	A	2
6. I learn with the intention of remembering.	2.92	A	3.21	A	3.07	A	4
7. I practice the materials I am learning by reciting out loud.	2.76	A	3.21	A	2.99	A	7
8. I recall readily those things which I have studied.	2.89	A	3.21	A	3.05	A	5.5
<b>Study Aids and Note Taking</b>							
1. While I am taking notes, I think about how I will use them later.	3.05	A	3.21	A	3.13	A	2
2. I understand the lecture and classroom discussion while I am taking notes.	2.97	A	3.21	A	3.09	A	3
3. I organize my notes in some meaningful manner (such as outline format).	3.14	A	3.21	A	3.18	A	1
4. I review and edit my notes systematically.	2.79	A	3.21	A	3.00	A	7
5. I take notes on supplementary reading materials.	2.83	A	3.21	A	3.02	A	6
6. I have a system for marking textbooks.	2.76	A	3.21	A	2.99	A	8
7. When I am reading, I mark or underline parts I think are important.	2.87	A	3.21	A	3.04	A	5
8. I write notes in the book while I read.	2.87	A	3.21	A	3.04	A	4
<b>Test Strategies and Test Anxiety</b>							
1. I try to find out what the exam will cover and how the exam is to be graded.	2.89	A	3.21	A	3.05	A	4
2. I feel confident that I am prepared for the exam.	2.85	A	3.21	A	3.03	A	6.5
3. I try to imagine possible questions during my preparation for an exam.	2.88	A	3.21	A	3.05	A	5
4. I take time to understand the exam questions before starting to answer.	3.18	A	3.21	A	3.20	A	1
5. I follow directions carefully when taking an exam.	3.12	A	3.21	A	3.17	A	2
6. I usually get a good night's rest prior to a scheduled exam.	2.86	A	3.21	A	3.04	A	6.5
7. I am calmly able to recall what I know during an exam.	2.92	A	3.21	A	3.07	A	3
8. I understand the structure of different types of tests and am able to prepare for each type.	2.84	A	3.21	A	3.03	A	7
<b>Organizing and Processing Information</b>							
1. When reading, I can distinguish readily between important and unimportant points.	2.87	A	3.21	A	3.04	A	6
2. I break assignments into manageable parts.	3.01	A	3.21	A	3.11	A	2.5
3. I maintain a critical attitude during my study--thinking before accepting or rejecting.	2.97	A	3.21	A	3.09	A	4
4. I relate material learned in one course to materials of other courses.	3.02	A	3.21	A	3.12	A	2.5
5. I try to organize facts in a systematic way.	2.90	A	3.21	A	3.06	A	5
6. I use questions to better organize and understand the material I am studying.	3.00	A	3.21	A	3.11	A	3.5
7. I try to find the best method to do a given job.	3.00	A	3.21	A	3.11	A	3.5
8. I solve a problem by focusing on its main point.	3.07	A	3.21	A	3.14	A	1
<b>Motivation and Attitude</b>							
1. I sit near the front of the class if possible.	2.96	A	3.21	A	3.09	A	6
2. I am alert in classes.	2.83	A	3.21	A	3.02	A	8
3. I ask the teacher questions when clarification is needed.	3.05	A	3.21	A	3.13	A	4
4. I volunteer answers to questions posed by teachers in the class.	3.06	A	3.21	A	3.14	A	3
5. I participate in meaningful class discussions.	3.00	A	3.21	A	3.11	A	5
6. I attend class regularly.	3.19	A	3.21	A	3.20	A	2
7. I take the initiative in group activities.	2.92	A	3.21	A	3.07	A	7
8. I use a study method which helps me develop an interest in the material to be studied.	3.20	A	3.21	A	3.21	A	1
<b>Reading and Selecting Main Idea</b>							
1. I survey each chapter before I begin reading.	3.00	A	3.21	A	3.11	A	4
2. I follow the writer's organization to increase meaning.	2.89	A	3.21	A	3.05	A	5.5
3. I review reading material several times during a school year.	3.03	A	3.21	A	3.12	A	2
4. When learning a unit of material, I summarize it in my own words.	3.19	A	3.21	A	3.20	A	1
5. I am comfortable with my reading rate.	3.01	A	3.21	A	3.11	A	3.5
6. I look up parts I don't understand.	3.01	A	3.21	A	3.11	A	3.5
7. I am satisfied with my reading ability.	2.89	A	3.21	A	3.05	A	5.5
8. I focus on the main point while reading.	3.02	A	3.21	A	3.12	A	3.5
<b>Writing</b>							
1. I find that I am able to express my thoughts well in writing.	2.93	A	3.21	A	3.07	A	1.5
2. I write rough drafts quickly and spontaneously from notes.	2.66	A	3.21	A	2.94	A	7
3. I put aside a written assignment for a day or so, then rewrite it.	2.80	A	3.21	A	3.01	A	3
4. I review my writing for grammatical errors.	2.93	A	3.21	A	3.07	A	1.5

Table 5  
Respondents' assessment on study skills of learners  
N1 = 1575; N2 = 309

5. I have someone else read my written work and consider their suggestions for improved writing.	2.89	A	3.21	A	3.05	A	2
6. I am comfortable using library sources for research.	2.68	A	3.21	A	2.95	A	6
7. I am able to narrow a topic for an essay, research paper, etc.	2.73	A	3.21	A	2.97	A	5
8. I allow sufficient time to collect information, organize material, and write the assignment.	2.78	A	3.21	A	3.00	A	4
Average Weighted Mean	2.94	A	3.21	A	3.06	A (Good)	

Legend:

Rating Scale	Descriptive Interpretation (DI)	Meaning
3.25 – 4.00	Strongly Agree (SA)	- Very Good
2.50 – 3.24	Agree (A)	- Good
1.75 – 2.49	Disagree (D)	- Fair
1.00 – 1.74	Strongly Disagree (N)	- Poor

mean was 2.77, item 5 it stated that “I avoid activities which tend to interfere with my planned schedule.” The teachers’ perspective revealed 3.21 as the same weighted mean item 1 for “I arrive at classes on time.”, item 2 “I devote sufficient study time to each of my subjects.”, item 3 “I schedule definite times and outline specific goals for my study time.”, item 4 “I prepare a “to do” list daily.”, item 5 “I avoid activities which tend to interfere with my planned schedule.”, item 6 “I use prime time when I am most alert for my study.”, item 7 “At the beginning of term, I make up daily activity and study schedules.”, and item 8 “I begin assignments well in advance.”, respectively.

In general, the highest weighted man was 3.16, item 8 where “I begin assignments well in advance.” Though still Agree, the least weighted mean was 2.99, item 5 which was about “I avoid activities which tend to interfere with my planned schedule.” It means that the learners have the target and capability to study ahead however, they conflict with self-control and challenging distractions which lead to procrastination.

The lack of control over their use of electronics can lead to poor academic performance since they may experience difficulties concentrating and completing their academic responsibility (Salguero-Pazos, 2024). According to He (2017), procrastination in academic settings rises in parallel with the amount of time spent on the Internet. Moreover, strong correlations are found between excessive use of electronic devices and psychological variables that are related to procrastination. Specifically, high screen use is associated with lower levels of self-regulation, self-efficacy, and self-esteem and higher levels of anxiety (Salguero-Pazos, 2024).

In relation to concentration and memory, the learners claimed the highest weighted mean was 3.06, item 1 which states “I have the “study-place” habit, that is, merely being at a certain place at a certain time means time to study.” Based on their answers the lowest weighted mean was 2.76, item 7 wherein “I practice the materials I am learning by reciting out loud.” The teachers’ viewpoint expressed 3.21 with the same weighted mean in all items. Item 1 that states “I have the “study-place” habit, that is, merely being at a certain place at a certain time means time to study.”, item 2 which shows “I study in a place free from auditory and visual distractions.”, item 3 where “I find that I am able to concentrate – that is, give undivided attention to the task for at least 20 minutes.”, item 4 wherein “I am confident with the level of concentration I am able to maintain.”, item 5 “I have an accurate understanding of the material I wish to remember.”,

item 6 which “I learn with the intention of remembering.”, item 7 that states “I practice the materials I am learning by reciting out loud.”, and item 8 which “I recall readily those things which I have studied.”, respectively.

The collective responses convey that the highest weighted mean as 3.14; item 7 regarding “I have the “study-place” habit, that is, merely being at a certain place at a certain time means time to study.” The least observed was item 7, “I practice the materials I am learning by reciting out loud.” which got 2.99; the lowest weighted mean. It can be implied learners show capability of concentration, however, there is a need to boost dynamic study method to enhance memory particularly in environments wherein distractions like electronic games are present.

In the study of Aydoğan & Özyürek (2020) discussed on another aspect that may be responsible for the absence of a mediating effect of memory on the association between video game addiction and cognitive and learning skills is the presence of the many factors that affect learning and cognitive skills besides memory alone. Life circumstances can affect learning skills rather than memory itself, for example. Problem solving (one of the learning skills) requires a brain that works effectively. Therefore, it is critical to address needs such as physical health, which is influenced by self-care needs such as diet, sleep, and relaxation, as well as children’s social and emotional needs. Furthermore, learning experiences that use all the senses, rather than only hearing or seeing information, result in effective and straightforward information retrieval from memory during problem-solving processes. Such abilities are supposed to be acquired by active participation in learning activities by children.

In connection with study aids and note-taking, the learners expressed the highest weighted mean was 3.14, item 3 which “I organize my notes in some meaningful manner (such as outline format).” While, item 6 which “I have a system for marking textbooks” got the lowest weighted mean of 2.76. The teachers’ perspectives were consistent across all indicators, as demonstrated on 3.21 weighted mean scores like item 1 where “While I am taking notes, I think about how I will use them later.”, item 2 that states “I understand the lecture and classroom discussion while I am taking notes.”, item 3 which “I organize my notes in some meaningful manner (such as outline format).”, item 4 wherein “I review and edit my notes systematically.”, item 5 which states “I take notes on

supplementary reading materials.”, item 6 that states “I have a system for marking textbooks.”, item 7 where “When I am reading, I mark or underline parts I think are important.”, and item 8 which “I write notes in the book while I read.”, respectively.

The overall findings point to the highest weighted mean of 3.18; item 3 as to “I organize my notes in some meaningful manner (such as outline format).” The least prevalent was item 6 “I have a system for marking textbooks.”, acquired the lowest weighted mean of 2.99. These results suggested the learners can organize information well, however, they do not fully make use of educational resources to support learning.

As mentioned by Harahap and Ramadan (2021), higher addiction to gaming leads to greater negative effects on students' learning, as they become less interested in studying. Moreover, Rafee (2022), addiction to games, gadgets, and social media among school students has led to negative effects, including neglecting studies. This is because students prefer the enjoyment of gadgets over completing school work or studying. The study found that respondents lose motivation for learning, resulting in a decline in their academic performance.

In relation to test strategies and test anxiety, the learners demonstrated the highest weighted mean was 3.18, item 4 which states “I take time to understand the exam questions before starting to answer.” While, item 8 where “I understand the structure of different types of tests and am able to prepare for each type.” obtained the lowest weighted mean of 2.84. Meanwhile, the results indicate consistency in the teachers' perspectives, as evidenced by identical weighted mean values across all items with weighted mean scores of 3.21 with item 1 wherein “I try to find out what the exam will cover and how the exam is to be graded.”, item 2 which states “I feel confident that I am prepared for the exam.”, item 3 that states “I try to imagine possible questions during my preparation for an exam.”, item 4 where “I take time to understand the exam questions before starting to answer.”, item 5 which states “I follow directions carefully when taking an exam.”, item 6 that states “I usually get a good night's rest prior to a scheduled exam.”, item 7 where “I am calmly able to recall what I know during an exam.”, and item 8 which “I understand the structure of different types of tests and am able to prepare for each type.”, respectively.

The gathered data reveal that the highest weighted mean of 3.20; item 4 referring to “I take time to understand the exam questions before starting to answer.” The least frequently observed was item 7 pertaining to “I understand the structure of different types of tests and am able to prepare for each type.”, received the lowest weighted mean of 3.03. This outcome indicated the learners can handle test questions carefully, yet, absence of preparation may influence confidence during examination resulting to anxiety.

An interesting study conducted by Thomas et al. (2017) to identify the factors which influence students' academic performances. Results indicated that students with cognitive test anxiety and emotion focused coping had experienced with decreased in their four-year grade point average (GPA). This

study emphasized the necessities to develop various intervention strategies that will strengthen these students emotionally by enhancing their self-regulation and emotion regulation skills.

With regard to organizing and processing information, the learners exhibited the highest weighted mean was 3.07, item 8 wherein “I solve a problem by focusing on its main point.” Though, item 1 where “When reading, I can distinguish readily between important and unimportant points.” got the lowest weighted mean of 2.87. Whereas, all items received the same weighted mean of 3.21 based on the teachers' responses, which are the following: item 1 that states “When reading, I can distinguish readily between important and unimportant points.”, item 2 which states “I break assignments into manageable parts.”, item 3 wherein “I maintain a critical attitude during my study--thinking before accepting or rejecting.”, item 4 wherein “I relate material learned in one course to materials of other courses..”, item 5 which states I try to organize facts in a systematic way.”, item 6 that states “I use questions to better organize and understand the material I am studying.”, item 7 where “I try to find the best method to do a given job.”, and item 8 which “I solve a problem by focusing on its main point.”, respectively.

The results collectively demonstrated the highest weighted mean of 3.14; item 8 concerning to “I solve a problem by focusing on its main point.” The least exhibited was item 1 relating to “When reading, I can distinguish readily between important and unimportant points.”, gained the lowest weighted mean of 3.04. This indicates the learners engaged with electronic games are well at pointing on key ideas when solving problems.

Many researchers (AlAli, 2024; Crescenzi-Lanna, 2022; Allee-Herndon, 2021) have reported that games focusing on critical thinking and problem-solving skills are better in terms of learning effectiveness when compared to conventional instructional approaches. Moreover, Al-Barakat (2025) concluded that electronic game-based learning increases student engagement, understanding, and performance. This new model of teaching moves away from traditional approaches because children find it easier to interact with complex ideas, such as multiplication, using sophisticated forms of electronic games, as electronic games allow learners to progress at their own speeds, which, in turn, results in responsibility, interest, and enhancement of performance at school.

In connection with motivation and attitude, the learners demonstrated the highest weighted mean was 3.20, item 8 wherein “I use a study method which helps me develop an interest in the material to be studied.” Though, item 2 where “I am alert in classes.” got the lowest weighted mean of 2.83. Whereas, all items received the same weighted mean of 3.21 based on the teachers' responses, which are the following: item 1 that states “I sit near the front of the class if possible.”, item 2 which states “I am alert in classes..”, item 3 wherein “I ask the teacher questions when clarification is needed.”, item 4 wherein “I volunteer answers to questions posed by teachers in the

class.”, item 5 which states “I participate in meaningful class discussions.”, item 6 that states “I attend class regularly.”, item 7 where “I take the initiative in group activities.”, and item 8 which “I use a study method which helps me develop an interest in the material to be studied.”, respectively.

Simultaneously, the overall highest weighted mean was 3.21, item 8 which states “I use a study method which helps me develop an interest in the material to be studied.” While the lowest weighted mean was 3.02, item 2 where “I am alert in classes.” These findings appeared that learners show interest in learning however, they need to develop increased focus in class.

In the current study of Ani et al. (2023) further state that child gamers have better memory, problem-solving, synchronization, and critical-thinking skills. Besides, Wong & Lam (2016) reported that interviewees found gaming satisfying, fostering teamwork, sociability, and cognitive agility. Games targeting memory, reasoning, and logic were seen as cognitive boosters, improving players’ strategic thinking and creativity. On the contrary, screen time likely impacts children’s behavior and capacity to pay attention via several mechanisms as it leads to sleep disturbances and adversely impacts brain development. A study of Parent et al. (2016) linked increased screen time with poor sleep quality and behavior problems.

From the perspective of learners’ reading and selecting main idea, presented the highest weighted mean of 3.19, item 4 wherein “When learning a unit of material, I summarize it in my own words.” However, items 2 and 7 wherein “I follow the writer’s organization to increase meaning.”, and “I am satisfied with my reading ability.”, had same lowest weighted mean of 2.89. Seeing the teachers’ responses conceded identical weighted mean scores across all items of 3.21 which included: item 1 that states “I survey each chapter before I begin reading.”, item 2 which states “I follow the writer’s organization to increase meaning.”, item 3 where “I review reading material several times during a school year.”, item 4 wherein “When learning a unit of material, I summarize it in my own words.”, item 5 which states “I am comfortable with my reading rate.”, item 6 that states “I look up parts I don’t understand.”, item 7 where “I am satisfied with my reading ability.”, and item 8 which “I focus on the main point while reading.”, respectively.

The compiled responses highlighted the highest weighted mean of 3.20; item 4 referring to “When learning a unit of material, I summarize it in my own words.” The least practiced were items 2 and 7 pertaining to “I follow the writer’s organization to increase meaning.”, and “I am satisfied with my reading ability.” garnered the lowest weighted mean of 3.05.

These results expressed the learners good summarizing skills signifying ability to reiterate ideas but struggling with wider reading comprehension and structure. These gaps probably influenced by disturbances from electronic games.

In a small study of 19 elementary school children by Horowitz-Kraus & Hutton (2018), magnetic resonance imaging of brains demonstrated that there was increased brain connectivity between areas involved in visual word formation, language formation and executive functions in children who spent more time reading. Conversely, lower connectivity was found in children who were exposed to more screen time.

In relation to learners’ writing, it displayed the highest weighted mean of 2.93, item 1 where “I find that I am able to express my thoughts well in writing.”, and item 4 which “I review my writing for grammatical errors.”, respectively. Nonetheless, items 2 that states “I write rough drafts quickly and spontaneously from notes.”, got lowest weighted mean of 2.94. The teachers demonstrated consistent responses, as reflected by equal weighted means for all items of 3.21 which contained: item 1 that states “I find that I am able to express my thoughts well in writing.”, item 2 which states “I write rough drafts quickly and spontaneously from notes.”, item 3 where “I put aside a written assignment for a day or so, then rewrite it.”, item 4 wherein “I review my writing for grammatical errors.”, item 5 which states “I have someone else read my written work and consider their suggestions for improved writing.”, item 6 that states “I am comfortable using library sources for research.”, item 7 where “I am able to narrow a topic for an essay, research paper, etc.”, and item 8 which “I allow sufficient time to collect information, organize material, and write the assignment.”, respectively.

The accumulated responses revealed the highest weighted mean of 3.07; item 1 mentioning “I find that I am able to express my thoughts well in writing.”, and item 4 suggesting “I review my writing for grammatical errors.”, respectively. The least experienced was item 2 related to “I write rough drafts quickly and spontaneously from notes.” acquired the lowest weighted mean of 2.94. These results expressed the learners good summarizing skills signifying ability to reiterate ideas but struggling with wider reading comprehension and structure. These gaps probably influenced by disturbances from electronic games. The results articulated that learners demonstrated strength in communicating their ideas clearly and revising their work displaying careful writing habits. On the other hand, constrained exercises in doing draft notes indicates poor proficiency in impromptu writing and reduce productivity in

Table 6  
Test of relationship between the wellbeing and motives of learners engaged in E-Games n = 309

Variables	r	p-value	Interpretation	Decision
Wellbeing				
Motives of Learners				
Socializing	0.260	<.001	Significant	Reject H <sub>0</sub>
Escape	-0.118	0.038	Significant	Reject H <sub>0</sub>
Competition	0.023	0.693	Not Significant	Reject H <sub>0</sub>
Coping	0.133	0.019	Significant	Reject H <sub>0</sub>
Skills Development	0.202	<.001	Significant	Reject H <sub>0</sub>
Fantasy	0.265	<.001	Significant	Reject H <sub>0</sub>
Recreation	0.156	0.006	Significant	Reject H <sub>0</sub>

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

completing written assignments due to habitual use of electronic games.

Writing proficiency is a skill that developed through consistent writing practice. Games might contribute to the process by supporting to the development that supports various elements and skills connected to writing. According to previous research, digital games can positively affect the development of writing skills in terms of language production (Bal 2019; El Tantawi et al. 2018)

Table 6 presents the results of the correlation analysis examining the relationship between learners' wellbeing and their motives for engaging in electronic games. The results revealed that several gaming motives were significantly associated with learners' wellbeing.

Specifically, socializing showed a significant positive relationship with wellbeing,  $r = .260, p < .001$ , indicating that learners who engage in e-games for social interaction tend to report higher levels of wellbeing. Similarly, skills development ( $r = .202, p < .001$ ), fantasy ( $r = .265, p < .001$ ), recreation ( $r = .156, p = .006$ ), and coping ( $r = .133, p = .019$ ) also demonstrated significant positive relationships with wellbeing, suggesting that these motives contribute positively to the learners' psychological or emotional state.

These findings denotes that not all electronic games have similar influence on learners' wellbeing. Relatively, the objective behind online games shows vital role in assessing its effects. When learners involve in electronic games with positive purpose including building relationships, increasing competence, or coping with stress electronic games can serve as a meaningful action to their day-to-day lives.

In connection with the study of Dumrique & Castillo (2018), online gaming is one of the widely used leisure activities by many people since playing video games has many reasons to be played, for it can be a stress reliever, challenge and competition, relaxation, enjoyment, social interaction, and even mentally escaping from the real world.

Conversely, escape motive exhibited a significant negative

recreation, and personal development, are significantly related to the wellbeing of learners engaged in e-games.

Therefore, the results imply that e-games can serve as social and cognitive engagement platforms that promote interaction, relaxation, and personal growth among learners. However, the negative association between escape motive and wellbeing indicates that some learners may use gaming as a coping mechanism to avoid real-life stress or problems, which could potentially lead to unhealthy gaming behaviors if not monitored.

In accordance with study carried out by eSafety (2023), most of the young gamers surveyed reported having positive experiences. The majority of young gamers felt online gaming was good for their skill development or learning, social connections and/or emotional wellbeing. In addition to the study of Kaye et al. (2017), the team found that MMO engagement correlated to a stronger sense of social identity, or how people self-identify based on their affiliation to groups, which corresponded with higher self-esteem, more social competence, and lower levels of loneliness (Urwin, 2023).

On the contrary, Bowditch et al. (2018) cited where evidence shows that under certain conditions, escapism is not maladaptive, particularly when associated with an engaged, emotion-focused coping style Hussain et al. (2021) proposed a dual nature of escapism, encompassing both avoidance behavior and higher-order immersion, associated with relaxation and well-being. In the current study, findings suggest that escapism in an online video game context may tap into three distinct concepts, avoidance as a passive means of coping that provides temporary relief from stress, distraction in the form of actively directing attention away from something else, and immersion including dimensions such as self-care, relaxation, and well-being.

Moreover, in the article of Laderer (2023), it mentioned the negative impact of video games towards students which video games can serve as a fun escape from the pressures and challenges of everyday life. However, this can easily veer into

Table 7  
Test of relationship between the study skills and motives of learners engaged in E-Games n = 309

Variables	r	p-value	Interpretation	Decision
Study Skills				Reject $H_0$
Motives of Learners				
Socializing	0.179	0.002	Significant	
Escape	-0.152	0.008	Significant	
Competition	0.301	<.001	Significant	
Coping	0.258	<.001	Significant	
Skills Development	0.332	<.001	Significant	
Fantasy	0.308	<.001	Significant	
Recreation	0.329	<.001	Significant	

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

relationship with wellbeing,  $r = -.118, p = .038$ , implying that learners who primarily play e-games to escape real-life situations may experience slightly lower levels of wellbeing. Meanwhile, competition did not show a statistically significant relationship with wellbeing ( $r = .023, p = .693$ ), indicating that competitive gaming motives are not associated with variations in learners' wellbeing. The findings indicate that most gaming motives, particularly those related to social interaction,

unhealthy territory when young people spend too much time gaming. They may use video games to avoid facing their real-life challenges or emotions. Young people may develop an unhealthy dependence on this escapism, causing them to rely on video games more and more. Further, problematic gaming behavior, such as gaming excessively, is linked to depression, which is one of the common depressive disorders affecting teens. If a young person is alone gaming for hours on end,

ignoring their real-life friendships and connections, this can lead to isolation which is a risk factor for depression. Additionally, excessive escapism through video games is related to depression (Bachert, 2022).

Table 6 shows the results of the correlation analysis assessing the relationship between learners' study skills and their motives for engaging in e-games. The analysis revealed that all gaming motives examined were significantly related to study skills.

The results indicated that skills development had the strongest positive relationship with study skills,  $r = .332, p < .001$ , followed by recreation ( $r = .329, p < .001$ ), fantasy ( $r = .308, p < .001$ ), and competition ( $r = .301, p < .001$ ). These findings suggest that learners who play games for skill improvement, enjoyment, imaginative experiences, or competitive challenges tend to demonstrate better study-skills.

Schenk et al. (2017) mentioned a positive effect of gaming which improves learning capabilities. Video games can improve players' learning capabilities more generally, not just through skills gained while gaming. This is backed by research

participants took breaks from academic work without completely disengaging. This helped prevent burnout and improve productivity. Short gaming breaks helped reduce the stress they experienced. Likewise, video games as a source of social interaction and community feeling. Effective communication is important in online gaming, leading to improved social skills that benefit undergraduate students in the reality of their classrooms. In games, the participants learned to express themselves clearly, listen actively, and work collaboratively with others, enhancing their communication skills. Furthermore, aligned with the previously identified subtheme, communicating effectively with others helped the participants build stronger relationships, resolve conflicts, and achieve shared goals.

In contrast, escape motive showed a significant negative relationship with study skills,  $r = -.152, p = .008$ , indicating that learners who engage in gaming primarily to avoid real-life responsibilities may demonstrate lower levels of study skills. The negative relationship between escape motive and study

Table 8  
Test of relationship between the study skills and wellbeing of learners engaged in E-Games n = 309

Variables	r	p-value	Interpretation	Decision
Study Skills Wellbeing	0.458	<.001	Significant	Reject H <sub>0</sub>

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

which shows that gamers have an advantage at learning<sup>4</sup> compared to non-gamers. In a weather prediction task, gamers performed significantly better than non-gamers – especially in situations with high uncertainties – and gamers showed an increased activity in the brain areas relevant for learning. A follow-up questionnaire demonstrated that gamers had acquired more declarative knowledge than non-gamers.

On top of that the National School Boards Association (NSBA) (2020) referred that it's time for schools to harness the potential of scholastic esports organized video game competitions between teams. As well as gaining real-world skills, playing esports can help students thrive socially and academically. The NSBA reveals that students who join esports programs have better attendance (+10%) and earn better grades (GPA +1.7) than their non-esports peers, and 80% of students who play esports at high school have never previously taken part in an extracurricular activity.

Additionally, coping ( $r = .258, p < .001$ ) and socializing ( $r = .179, p = .002$ ) were also significant and positively related to study skills. These results imply that gaming motivations associated with stress management and social engagement may still support the development of effective study habits among learners.

In relation to the study of Urian & Chavez (2024) entitled "Exploring the Role of Video Games in Reducing Academic Stress among Filipino students" discussed that video games are used as a source of stress relief and relaxation. Enhancing communication skills through online interaction. Mindful break from demanding studies. Short gaming breaks helped refresh the participants' minds and improve their focus. By engaging in another mentally stimulating activity, such as video games, the

skills highlights the need for monitoring excessive or avoidance-based gaming behaviors. Learners who use gaming primarily to escape academic pressures may struggle with time management and study discipline.

Subsequently, Melodia et al. (2021) pointed out students who experience academic difficulties and stressors may use videogames to escape real-life problems or to compensate for unmet needs (e.g., feeling of power and success). This compensatory behavior can lead to an unhealthy reliance on videogames as a coping mechanism, which may result in the development of problematic gaming behaviors.

A current review by Cilligol Karabey et al. (2023) found that poor academic performance was among the consequences and risk factors of smartphone addiction. Smartphones have been used to play videogames. Thus, problematic gaming may establish substantial aspect of smartphone addiction.

Table 7 discloses the results of the correlation analysis examining the relationship between learners' study skills and their wellbeing. The findings revealed a moderate positive correlation,  $r = .458, p < .001$ , indicating a positive significant relationship between the two variables. This result suggests that learners who demonstrate stronger study skills also tend to experience higher levels of wellbeing. The moderate strength of the relationship indicates that effective study skills are associated with improved wellbeing among learners engaged in e-games.

Aligned with the study of Jackson et al. (2022) agreed the interactive and challenging nature of these games' fosters students' engagement, encouraging them to invest time and effort in problem-solving and task completion. As well with the study of Fokides (2018), the digital game system recognizes

outstanding performance by displaying the names of high-achieving students, fostering a sense of accomplishment and encouraging positive behaviors, such as attentive listening in class.

In contrast to studying, games are primarily designed to provide enjoyment and to promote human interaction. Several games are design to reciprocate disappointment and victory. As a result, game-based learning can represent a practical tool for developing a growth mindset. Games retain students' interest and develop their commitment because the activities are fun, which helps students remain positive even if they are unsuccessful (Taub et al., 2017). Students may not directly attain their desire outcomes, nevertheless, the competence to identify continuous progress in the game stimulates constant effort and improve the performance.

## 6. Summary, Conclusions and Recommendations

This chapter presents the results, interpretations, and recommendations acquired from the findings in the previous chapter. The summary presented supports as the basis for concluding the study, determining its implications, and formulating recommendations. The insights attained from this research aim to instruct approaches for developing motives, wellbeing and study skills of learners through intervention measures. By promoting comprehensive intervention, the study pursues to foster to the foundation of student motivation, digital literacy, diverse learning styles and productive tool for teaching and learning. The recommendations highlight procedures for promoting a positive gameplay with learning goals, securing pedagogy thrusts technology use, and advancing an engaging and inclusive school environment.

The main objective of this study was to assess the learners' motives, wellbeing and study skills as basis for intervention measures in the elementary of the Candijay, Alciia, Mabini, Anda, and Guindulman Districts for the School Year 2025-2026. The study involved participants from various schools in the different district, using a descriptive research design to seek the relationships between motives of learners engaged in e-games, wellbeing and study skills of learners. The study desired to determine whether learners' engagement, perseverance, optimism, connectedness, and happiness as overall wellbeing significantly influences the learners' motive of playing e-games and their study skills.

Hypotheses were tested to distinguish significant correlations between the wellbeing and motives of the learners engaged in e-games, study skills and motives of the learners engaged in e-games, and to look into the wellbeing and study skills of learners engaged in electronic games. This research is designed to better understand the learners' motives in engaging electronic games in order to create an effective intervention measure for their overall wellbeing, and efficient study skills to improve academic performance.

To analyze these relationships, the study made us of survey questionnaires to collect data on the assessment of learners and teachers pertaining to learners' motives of playing e-games.

wellbeing of learners, and study skills of learners. Descriptive and correlational statistical analyses were used to interpret the data and identify significant relationships, providing an evidence-based approach to understand how electronic games affect motives, wellbeing, and study skills of the learners.

The results were thoroughly analyzed, systematically tabulated, and extensively interpreted to assess the influence of learners' engagement in electronic games on its motives, wellbeing and study skills. This comprehensive and empirical approach provided a structured and evidence-based analysis of how intervention measures can decrease the risks of excessive online gaming. Conclusively, these positive changes are essential in contributing a balanced digital lifestyle, at which point the learners can engage to electronic games without jeopardizing their study habits and total wellbeing.

### A. Findings

The following narrates the summary of the result of this study:

1. Demographic Profile of the Respondents. The following were the results of the demographic of the learners, in terms of sex, age, grade level, gadget used and highest award received.
  1. As to sex, the majority of the learners and teacher respondents were male, where boys are more likely to play electronic games than girls daily.
  2. As to age, most of it belonged to the 9-10 age group, suggesting that their engagement to electronic games should be guided appropriately.
  3. In grade level, the highest number was Grade 4, emphasizing the importance of learners at this developmental stage in engaging with electronic games.
  4. In terms of gadget used, the majority of gadget used among the respondents was mobile phone, favoring for accessibility, convenience and no-cost when using electronic games unlike other gadgets.
  5. As to highest award received, for most learners received no academic award disclosing relationship among electronic games and reduced motivation to strive more on academic achievement.
2. Profile of the Teachers. The following were the results of the demographic of the teachers in terms of sex, age, grade level, gadget used and highest award received of their learners.
  1. As to sex, the teacher-respondents viewpoint were males, indicating a larger proportion of male in the world of electronic games.
  2. As to age, the largest age group among their learners was 11 years old, suggesting a critical stage of development wherein active engagement in electronic games may affect learners'

- motivation, wellbeing and study skills.
3. As for the grade level, the highest representation was Grade 6 level, indicating that this level has higher access to the virtual world.
  4. In terms of gadget used, the topmost gadget was smartphone, indicating the availability and leisure as main basis for learners' engagement in e-games.
  5. In relation to highest award received, most teachers reported that their learners had not received academic award, concerning a possible gap in academic performance as a result of excessive online gaming.
3. Assessment of the Respondents on the Motives of Playing Games. The following were the results of the assessment of the respondents on the motives of playing games, towards socializing, escape, competition, coping, skill development, fantasy, and recreation.
    1. In terms of socializing, one of the motives of learners is to increase their social connections.
    2. With regards to escape, learners' escape from real-life world to avoid stress.
    3. In reference to competition, the learners seek electronic games to attain winning.
    4. In relation to coping, learners cope with electronic games to evade tension.
    5. When it comes to skill development, learners engaged electronic games to enhance their coordination-related skills.
    6. In the context of fantasy, most of the learners' motive were to feel that they are part of the characters in the games.
    7. In terms of recreation, learners tend to play electronic games for entertainment and relaxation.
  4. Assessment of the Respondents on Wellbeing of Learners. The following were the results of the assessment of the respondents on engagement, perseverance, optimism, connectedness, and happiness.
    1. In terms of engagement, learners' engagement is present.
    2. In the area of perseverance, learners demonstrate persistent perseverance.
    3. With regard to optimism, it indicates hopefulness to the wellbeing of learners.
    4. In the context of connectedness, learners consider the people around them as a form of connectedness.
    5. In the matter of happiness, it can maintain better mood and feel delighted towards the learners.
  5. Assessment of the Respondents on Study Skills of Learners. The following were the results of the assessment of the respondents on time management and procrastination, concentration and memory, study aids and note taking, test strategies and test anxiety, organizing and processing information, motivation and attitude, reading and selecting main idea, and writing.
    1. In the terms of time management and procrastination, it can maintain better mood and feel delighted towards the learners.
    2. In the aspect of concentration and memory, learners' lean to have study techniques to easily remember.
    3. With regard to study aids and note taking, learners show systematic way of taking given notes but they don't maximize to use it.
    4. In the context of test strategies and test anxiety, the learners don't fully prepare for the examinations but during the exam they still take time to comprehend the test questions.
    5. When it comes to organizing and processing information, the learners have their study habits however, they have only limited attention span.
    6. In the area of motivation and attitude, learners show interest in learning however, they need to develop increased focus in class.
    7. With regard to reading and selecting main idea, learners can outline the idea by their own words but limited in expanding their comprehension in a higher level.
    8. In relation to writing, learners can express their ideas by writing it.
  6. Test of Relationship Between the Wellbeing and Motives of Learners Engaged in E-Games. The results revealed that several gaming motives were significantly associated with learners' wellbeing. However, no significant associations were found between teachers' performance and their age, experience, position, and educational attainment. However, the negative association between escape motive and wellbeing indicates that some learners may use gaming as a coping mechanism to avoid real-life stress or problems, which could potentially lead to unhealthy gaming behaviors if not monitored.
  7. Test of Relationship Between the Study Skills and Motives of Learners Engaged in E-Games. The analysis revealed that all gaming motives examined were significantly related to study skills. In contrast, the negative relationship between escape motive and study skills highlights the need for monitoring excessive or avoidance-based gaming behaviors.
  8. Test of Relationship Between the Study Skills and Wellbeing of Learners Engaged in E-Games. A significant correlation was found between study skills and wellbeing of learners.

#### B. Conclusion

The study infers that there are significant relationships

among learners' motives, wellbeing, and study skills Purposeful gaming including social interaction and relieve stress can promote both wellbeing and study skills. Whereas, utilizing games as a form of escape can negatively affect study habits and discipline. Furthermore, learners with stronger study skills leaning towards better wellbeing, promoting the importance of balanced and purposeful engagement with e-games.

### C. Recommendations

Based on the findings, the following recommendations were presented:

1. For policy makers, they should take a proactive step to limit learners' danger to online gaming by implementing regulations that restrict access to electronic games, probably the cause of distraction and hinder academic achievement.
2. For principals, school heads, and school administrators, they may reinforce existing policies on the prohibition of mobile phones and other electronic devices within the school premises to reduce distractions that could prevent learning and negatively affect students' academic performance. In addition, schools may implement an electronic identification system that informs parents via text message when their child enters and exits the campus, thereby promoting both responsibility and student safety.
3. For teachers, they should establish creative and diverse instructional strategies by setting learning through varied activities aligned with students' multiple intelligences. Such approaches can help divert students' attention away from online gaming while fostering engagement, intrinsic motivation, and continuous interest in learning.
4. For guidance counselors, they may identify student who are engaged with electronic games and ensure intended assistance through orientation, guidance and counseling, and school-based symposium. Through these actions may inform both learners and their parents or guardians on the probable effects of excessive online gaming on academic performance, wellbeing, and social relationships.
5. For parents, they are encouraged to closely monitor their children's activities at home, especially their use of electronic devices as these could rise the exposure to online gaming. They should also remain proactively involved in their children's academic development by regularly attending parent-teacher meetings each quarter. Furthermore, parents may support their children's holistic development by engaging them in meaningful life-skills activities within the home environment and participate recreational activities across the community.
6. For future researchers, they may examine the effectiveness of intervention programs designed to promote adaptive gaming motives next to the

development of study skills. With these, it provides beneficial insights in guiding the learners toward a balanced and efficient usage of electronic games while supporting their overall being.

## 7. Proposed Intervention Plan in Augmenting Learners' Motives, Wellbeing, and Study Skills

### A. Rationale

The growing involvement of learners with electronic games has raised both opportunities and concerns within the educational setting. Purposeful gaming—such as playing for social connection, cognitive challenge, or stress relief—has been proved to support learners' emotional well-being and reinforce study-related skills. Conversely, excessive gaming motivated by escapism or avoidance of responsibilities can negatively impact academic performance, self-discipline, and social relationships. Studies show that students with stronger study skills are more probably to balance their game-play effectively, which promotes their overall well-being.

Under these conditions, there is a clear need for a structured intervention measures that addresses the relationship among learners' gaming motives, well-being, and study skills. By targeting unbalanced gaming behaviors while reinforcing flexible ones, learners can benefit to engage with electronic games in ways that support instead of delaying their academic and personal growth.

By incorporating these approaches, the intervention aligns learners' gaming motivations toward successful outcomes while reducing the consequences of unhealthy gaming. The intervention's comprehensive and holistic approach ensures the learners develop self-discipline, establish proper gaming habits, sharpen their study skills, and elevate their general wellbeing.

### B. Objectives

The proposed intervention measures were aimed to:

1. develop learners' understanding on gaming motives, such as social interaction, escapism, competition, coping, skill development, fantasy, and recreation.
2. enhance learners' emotional and psychological well-being by promoting stress management, resilience, and healthy coping mechanisms that reduce dependence on gaming for escape.
3. strengthen learners' study habits, self-regulation, and time management skills enabling them to balance gaming with academic responsibilities effectively.

### C. Mechanics of Implementation

Comprehensive approach that addresses learners' gaming motives, study skills, and overall well-being by first assessing their gaming patterns and academic and emotional needs, followed by the preparation of appropriate materials and activities. Learners will participate in educational sessions to distinguish adaptive from maladaptive gaming motives, engage in study skills development to enhance time management, goal setting, and self-regulation, and take part in wellness activities

such as stress management, mindfulness, and peer support to promote emotional health. The program emphasizes balanced

Table 9

Proposed intervention plan in augmenting learners motives, wellbeing, and study skills

Areas of Concern	Goals/Objectives	Activities/Strategies	Persons Involved	Time Frame	Source of Budget	Success Indicator
Gaming Motives	Develop learners' awareness of adaptive and maladaptive gaming motives and promote purposeful engagement	Conduct seminars and workshops on gaming motives, reflective group discussions, and distribution of informational materials	Guidance counselors Teachers Parents	Quarterly	MOOE  Pts5,000	Increased awareness of healthy gaming motives; reduced escapism-driven gaming
Wellbeing	Enhance learners' emotional well-being and coping strategies	Implement wellness programs such as mindfulness exercises, stress management workshops, peer support sessions, and counseling for at-risk learners	Guidance counselors Teachers parents	Monthly / As needed	MOOE  Pts5,000	Improved resilience, reduced stress levels, better emotional regulation.
Study Skills	Strengthen learners' study habits and self-discipline	Organize workshops on study skills, time management, goal setting, and practical exercises; monitor learners' academic routines	Teachers Guidance counselors Parents	Monthly	MOOE  Pts5,000	Improved academic performance, enhanced study routines, stronger self-regulation.
<b>TOTAL PROPOSED BUDGET</b>					<b>Pts 20,000</b>	

and purposeful gaming, guiding learners to adopt responsible habits and integrate gaming constructively into daily routines, while teachers, parents, and school administrators collaborate to monitor, guide, and reinforce these behaviors consistently across home and school environments. Continuous evaluation through feedback, observations, and assessments will measure effectiveness and inform adjustments, ensuring a holistic and flexible framework that fosters responsible gaming, strengthens study skills, and supports learners' overall well-being.

#### D. Schedule of Implementation

The implementation schedule includes quarterly, monthly, and weekly monitoring of seminars, sessions, and workshops for the School Year 2026-2027 on gaming motives, study habits, emotional and psychological wellbeing, and academic engagement to ensure consistent application, monitoring, and improvement in learners general wellbeing and study skills. Quarterly activities will include seminars and workshops on gaming motives, reflective group discussions, and distribution of informational materials. Monthly will consist wellness programs such as mindfulness exercises, stress management workshops, peer support sessions, and counseling for at-risk learners, Organize workshops on study skills, time management, goal setting, and practical exercises; monitor learners' academic routines. Weekly activities will create personalized gaming schedules, encourage educational and socially interactive games, integrate gamified learning in the classroom, maintain regular communication among teachers, parents, and school administrators, conduct progress check-ins, and provide feedback and adjust intervention.

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