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Research Article

Digital Reading Strategies for Learning: Basis for Developing Hybridized Reinforcement Material

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Abstract - *This study focused on the digital reading strategies used by Grade 12 Senior High School students from a private university in Angeles City enrolled in the school year 2021- 2022. These digital reading strategies are global reading, problem-solving, and support reading strategies. The study described the significant difference between students' profile (sex, strands, and socio-economic status) and their usage of digital reading strategies. Findings revealed that the problem-solving strategy was the most used strategy by the senior high school students across all strands. It showed that female respondents' usage of digital reading strategies was higher than males. Students from the high-income group utilize the digital reading strategies among the groups. However, the students who belonged to the low-income group had the lowest percentage score in digital reading, particularly in support reading. In view of this, all academic strands had a significant difference in their use of digital reading strategies. Students from the humanities and social sciences strands dominated all the digital reading strategies with the highest percentage score in problem-solving. On the other hand, the information communication and technology students got the lowest mean scores in all strategies, particularly in support reading. A hybridized reinforcement material was proposed by the researcher to enhance the digital reading strategy of students in hybrid or flexible learning. This instructional material should be aligned with learning objectives and must be carefully planned to address the lack of support reading of students.*

Keywords - *Digital, Hybridized Material, Reading, Strategies.*

I. INTRODUCTION

Globally, the COVID-19 pandemic caused unprecedented disruptions to education. This had introduced uncertainty on how school closures impacted students' achievement. Universities and academic institutions were compelled to transition from in-person education to emergency remote instruction on a global scale. Students were told to study online, with less access to resources and fewer interactions with classmates and professors, but with more freedom. Goldstein (2022) pointed out that learning loss was alarming, and learners were severely behind in reading. Numerous recent studies indicated that as the pandemic approached its third year, a higher percentage of primary school students roughly one-third were falling short of reading goals than they were before the virus.

The same article also noted that 60% of students in some high poverty in Boston area schools had been identified as being at high risk for reading problems twice as many students as before the pandemic. Relyea, et.al (2022) said that higher-achieving students who received remote teaching initially reported stasis or deterioration, notably in the spring 2021 semester. Students who got in-person teaching, however, had a higher likelihood of advancing in their reading throughout the course of the academic year. Domingue (2021) noted that reading fluency among second and third graders in the United States fell to around 30% below what would be anticipated in a regular school year during the pandemic, which caused reading abilities among young pupils to stagnate. Children's basic reading and math skills have deteriorated. According to Thompson (2022) from one of the articles in UNICEF, an organization of the United Nations tasked with providing humanitarian and development aid to children all over the world, millions of children had missed out on academic learning that they would have received in the classroom because of disruptions in education, with younger and more marginalized children bearing the brunt of the loss. Gautam (2020) emphasized the problems that arose in this

kind of now- normal setup, such as lack of focus and motivation, technological issues which may be experienced by both teachers and students, the inability to listen to the discussion, and a huge problem of distraction from social media. Adapting to this online setup, the reading strategies of students also changed. There had been talks regarding pupils' reading challenges dating back to the years before the pandemic. The severity of children who lack fundamental reading abilities was at danger, according to research by the UN Educational, Scientific and Cultural Organization (UNESCO), even before the worldwide pandemic. In 2020, results showed that the number of children experiencing reading difficulties jumped from 460 to 584 million.

Paz (2018) mentioned that reading failures have resulted in student misbehavior, anxiety, and a lack of motivation to comprehend any available reading materials. According to San Juan (2019), the Philippines had the lowest reading comprehension score in the 2018 Program for International Student Assessment (PISA). Manaog (2020) said that Filipino students' poor understanding is a fact. Poor understanding may be attributed to several variables, including poor study habits, a lack of classroom engagement time, the impact of technology, the internet, and social media. Additionally, it is also emphasized that the absence of teachers in guiding the students in their school activities may affect the whole learning process. If teachers will only instruct the students to just follow the instructions in the text without guiding them, there is no assurance that students learn something from it. With the transition from face-to-face classes to distance learning, it was a challenging part for teachers to monitor and assess the students' reading performance. Reading demands and affordances were also rapidly changing as new technologies developed. This gives way to the relevant emergence of digital reading and strategies that are needed to use, grasp, and acquire the expected learning competency in digital learning.

Reiber-Kujipers et.al (2021) said that computers and the internet have played a critical role in the lives of L2 readers by offering a source of input in their academic study, as well as assisting them in locating, reading, communicating information, learning, and entertainment. Digital reading, according to Nalahudin (2021), is the process of obtaining meaning from a text that is in a digital format, whether it be text, video, or images on an electronic screen. Students who have access to digital or online reading techniques may be better able to recognize appropriates strategies for specific contexts and derive meaning from digital reading texts. According to Ashfaq and Ansari (2020), the internet provides academically beneficial access to hyperlinks, language translation services, and online dictionaries, which can aid students in comprehending scholarly papers.

Digital reading has benefits and consequences. When digital readers come across a new word or subject to comprehend, their comprehension level might increase. It can also develop their interest which leads them to boost their concentration in reading. Internet presents educational and informative ideas in many formats such as text, audio, and video which surely catches learners' attention. Meanwhile, there are also disadvantages such as distraction of concentration because of too much exposure to smartphones and PC screens which may roughly disturb them from learning. Their recall level also might cause a disadvantage because when the concentration level is high, so does the recalling. Ganito and Ferreira (2016) mentioned that digital reading is commonly thought of as a replacement activity, but it is a cumulative activity. Digital readers are people who also read on paper. Reading on digital serves as a continuation of printed media. Additionally, those who already read a lot on paper will read more on digital devices, and vice versa. Indeed, reading on a digital device extends the use of paper.

Delgado, et.al (2018) explained that reading on a screen or using a digital device was consistently linked to worse reading comprehension ratings. Although, it was concluded that print is superior, it was also acknowledged that more work needs to be done to prepare students for handling reading tasks in digital media and to comprehend how to develop effective digital learning environments given the unavoidable inclusion of digital devices in our modern educational systems. In other words, you must learn how to deal with it since schools will continue to provide pupils with reading material online. However, Genc (2011) found out that the online learning environment and its visual and audio applications require new literacy for students and educators in the information age. In his study, the findings revealed that low-proficiency EFL learners only required a small number of new emerging techniques, but some of them were not noticed when reading on paper. Several more studies indicate the digital reading experiences of students. In the study conducted by Hayward (2019) revealed that middle school learners faced dilemmas in reading digitally. Students described

digital reading as a difficult task because there were a lot of websites that said the same thing, and they never know which one to look at and many websites and ways to choose from. This only suggests various strategies are required when reading digitally because learning is inextricably linked to reading and the comprehension of the digital text, in turn, aids in the security of learning.

As cited in Hayward (2019) students use their print-reading skills to read digitally. Digital reading and comprehension are not taught as 21st century comprehension skills. This is supported by Leu & Zawilinski (2014) that 21st century learners are lacking guidance in new literacies as they become digital readers. Additionally, Hayward (2019) emphasized that digital reading also shaped the learning environment. Based on the conclusions, digital reading affects some students unfavorably. Students said that reading digitally hurt their eyes and occasionally, they must stop reading. In this regard, students may also have faced physical consequences. Moreover, Akyel and Ercetin (2019) sought to determine if reading methods used online for hypermedia documents differed from those used for printed material in their research.

The researchers discovered that the processes employed while reading hypermedia were distinct from those used when reading paper-based text, however some of these strategies may not always be applicable when reading hypertext. Chen and Chen (2015) said that most learners lack specific strategies beneficial for their efficient reading. Learners find reading laborious, unpleasant, and unsuccessful process and they unwillingly read in the target language which is English. Additionally, there is a need for students to master sufficient and effective reading strategies to construct a good and relevant meaning of the text. Shiff and Califf (2014) explained that some students had reading problems because they did not know how to apply or use necessary reading strategies. Reiber-Kujipers et.al (2021) cited that reading approaches is divided into metacognitive, cognitive, and support. Students use metacognitive tactics to control or supervise their reading. Dictionary, notes, highlighting, and underlining aid comprehension. Working with material requires cognitive methods. Poole (2010) classifies EFL reading techniques as global, problem-solving, and support. Three authors came up with these strategies. Sheorey and Mokhtari (2002), as cited by Reiber-Kujipers, Kral & Meijer (2021), renamed metacognitive to global and cognitive to problem solving. Following the development of these methods, Anderson (2003) modified them for his research titled “Online Reading Methods in a Second/Foreign Language, that investigated the function of these reading strategies in the context of online reading assignments. The three digital reading techniques are as follows:

(GLOB) Global Reading Strategy. In this strategy, planning your reading strategy and controlling your reading comprehension are required. The inclusion of tables, figures and images in the online text, context clues, typographical elements, and critically examining and evaluating the data offered in the online text are a few examples of these. Additionally, this method encourages students to work with native English speakers and other English language learners and helps them understand the purpose of reading (Nalahudin, 2021). The top three online reading methods, according to De Leon and Tarrayo’s (2014) study, include reading for pleasure, having a goal in mind, and employing typographic characteristics like boldface and italics to highlight important information. Additionally, it was stressed that in terms of global reading, student respondents read for enjoyment.

In Huang, Chern, and Lin’s (2019) study on EFL learners’ online comprehension, global reading methods predominated and significantly improved comprehension, especially for low proficiency learners. This was supported by Taki and Soleimani (2012) that this can also be interpreted as evidence that those students employ strategies that allow them to anticipate the content of the text, identify the reading goal, draw on their prior knowledge, and confirm that the content is relevant to the goal. To undertake a worldwide analysis of the reading text, Rastegar, Kermani, and Khabir (2017) establish global reading strategies. For instance, observing the text’s traits, speculating on its subject, and so on. The reader may better prepare themselves to understand the main material by using these techniques. Most of these tactics are deliberate and general.

(PROB) Problem-Solving Strategy. This provides actions and procedures that are being executed in the text. These include focused and direct techniques that will help them better understand the meaning of the text. The learner’s reading speed, attempts to image or visualize material for retention, guessing the meaning of terms or

phrases they are unfamiliar with, capacity to discriminate between facts and opinions in online writings, and revisiting the text are all part of this method. Jusoh and Abdullah (2016) conducted a study about 'Students' Online Reading in Academic Context', and it was revealed that among the three online reading strategies, the problem-solving strategy was reported to have the highest score (mean=3.77) which can be interpreted that learner used problem-solving more frequently than any other type of strategies. According to Rastegar, Kermani, and Khabir (2017), the phrase "problem-solving strategy" is inherently ambiguous. As the content becomes harder to interpret, these techniques help the reader figure out the issue. Rereading for clarity, stopping to reflect on the material, picking up where you left off after losing focus, and other strategies are examples. These techniques help readers read texts more effectively by assisting them in the actual reading process. Par (2020) problem-solving reading strategies are the techniques readers use while interacting directly with the text. These are specific, targeted strategies used when reading comprehension issues develop. Examples include varying reading pace, reading at different levels, figuring out the meaning of words that are unclear, and revisiting the book to increase understanding.

(SUP) Support Reading Strategy. This involves using devices and techniques to understand and comprehend a text. This strategy is a support mechanism for students to give them the assistance they need in comprehending the meaning of the text. It includes reference materials such as online dictionaries, print-out hard copies, paraphrasing, and translation tool or webpages. This also involves elevating the reader's comprehension and retention by using notetaking and making larger connections to the text. It makes the readers reflect on the text and makes them use reference materials to discover unfamiliar terms and ideas and encourages them to ask questions while reading (Ryan, 2015). In her study on the digital reading strategies of graduate-level ESL students, Knezek (2015) found that only one participant out of four used a translation tool, such as clicking on an online dictionary or using a hyper-gloss, when confronted with difficult vocabulary in online reading. Support techniques, which include utilizing a dictionary, making notes, underlining, and highlighting textual content, are fundamental tools intended to aid the reader in understanding the text. There are the techniques that pupils or readers employ to grasp, build, and rebuild the text's meaning (Par, 2020). Most assisted reading techniques include the utilization of external resources, taking notes, highlighting information, and other useful techniques. By using supportive or practical reading techniques, a reader may maintain their reading-related reactions (Rastegar, Kermani, & Khabir, 2017). The least preferred reading approach of the three is the support reading method. This was discovered based on the findings of Par's (2020) study on the correlation between EFL student's reading achievement and reading strategies. Due to its lowest mean score among the three reading strategies used by EFL readers, "support strategies" (SUP) was shown to be both the least preferred and most often used reading approach. In view of all this, determining digital reading strategies to use might be of great help for both teachers and students in determining what specific digital reading skill must improve.

There are theories that could give foundation to this study. Firstly, the schema theory believes that comprehension is a process of combining prior knowledge and the ability to relate the text to previously acquired knowledge (Seymour, 2017). Schema theory's primary tenet is that written text does not provide meaning on its own but rather instructs readers on how to create and provide meaning from previously learned information. (An, 2013). Thus, exposing new information or previously acquired knowledge (schemata) that relates to the reader's background knowledge (prior knowledge) will help improve student's comprehension of that information (all cited in An, 2013). Furthermore, knowing how prior knowledge affects how new information is understood might aid in designing and improving reading abilities.

The digital reading theory, often known as the hypertext theory, is another theory that is relevant to this research. Students and academics utilize digital reading tools to deepen their comprehension, according to Nowak's (2018) essay on the Digital Reading Theory and its connection to academic reading practices. It is discussed in the study of hypertext theory which was used by Theodore H. Nelson in 1960, defining it as "text composed of blocks of words (or images) linked electronically by multiple paths, chains, or trails in an open-ended, perpetually unfinished textuality". This research, which aims to identify the digital reading methods employed by students in an online learning environment, may be well-founded on the hypertext theory. Given that the school environment has changed and that since the pandemic, learning modes have also altered, this

research seeks to analyze the novel reading methods that students utilize while reading digitally. Cognitive Constructivism Theory by Jean Piaget is also related to this study. According to this idea, the development of the human intellect is a process of organization and adaptation, in which organization necessitates the creation of conceptual frameworks and adaptation entails the assimilation and accommodation of new knowledge (Kanselaar, 2002). In 1990, Spiro and Jehng proposed the cognitive flexibility theory. It reads, "By cognitive flexibility, we mean the ability to spontaneously restructure one's knowledge, in many ways, in an adaptive response to radically changing situational demands." It uses prior knowledge and experiences to build comprehension and learning, and it emphasizes transfer of skills and knowledge. Coiro and Dobler (2007) assert that readers in online environments are expected to utilize prior information and generate new knowledge in a flexible way and use it in various reading contexts.

Given this, considering the schema, hypertext theory, and cognitive flexibility, the researcher initiated to determine the digital reading strategies of senior high school students from a private institution in Angeles City. It will be a basis to develop a hybridized reinforcement material that would help SHS improve their reading competence in a hybridized learning. The study aimed to describe and differentiate the digital reading strategies of grade 12 senior high school students from a private university in Angeles City, Philippines to develop a hybridized reinforcement material during the academic year 2021-2022. Specifically, it sought to answer the following questions: (1) how may the profile of the respondents be described in terms of: 1.1. sex; 1.2. strand; and 1.3. socioeconomic status?; (2) how may the digital reading strategies of students be described in terms of: 2.1. global reading strategy; 2.2. problem-solving strategy; and 2.3. support reading strategy?; (3) is there a significant difference in the digital reading strategies when respondents are grouped according to their sex, strand, and socioeconomic status?; and (4) what hybridized reinforcement material may be proposed to address students' digital reading strategies? Also, this study tested a hypothesis: There is no significant difference in the digital reading strategies when respondents are grouped according to their sex, strand, and socioeconomic status.

II. CONCEPTUAL FRAMEWORK

This study was anchored on the digital reading strategies of grade 12 senior high school students from a private university in Angeles City, Philippines enrolled during the school year 2021-2022. Figure 1 comprehensively showed the conceptual framework of the study. The input- process-output model (IPO) was used in the research.

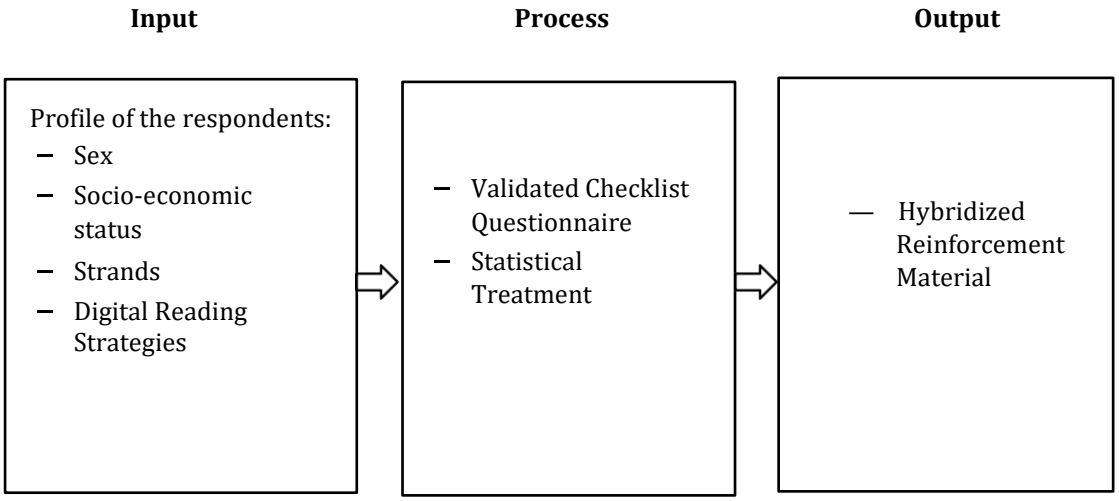

Figure 1. Schematic Diagram of the Study

The IPO model was employed to achieve the study's goals. According to Cristobal (2017), this model is one of the most popular paradigms for examining a main variable or component that contributes to a problem, phenomena, or transition in the topic. The input covered the profile of the respondents, including sex,

socioeconomic position, strands, and digital reading strategies. The process demonstrated how to collect data by means of validated checklist questionnaire and statistical treatment. The output was made to develop a reinforcement material to raise students' reading competence in a hybridized learning.

III. MATERIALS AND METHODS

This chapter encompassed the type of research design, which was quantitative, the sampling method that was used to select the target samples of the study was stratified random sampling, the data collection process was solely done through Google Forms and researcher ensured proper information dissemination and complied with ethical norms in the collection of data, and the statistical tools to compute the collected data were percentage, mean, independent group t-Test, and one-way analysis of variance (ANOVA).

A. Research Design

The type of research that was used in this study was quantitative. Cristobal (2017) defined quantitative as the type of research that utilizes numbers and statistical analysis. Moreover, descriptive-comparative research is a quantitative research design that aims to describe the differences between groups in a population without manipulating the independent variable. By understanding the substantial differences in the respondents' profiles and digital reading techniques, as well as the differences in those tactics among senior high school strands, this design may be used in the research to create hybridized teaching materials.

B. Respondents of the Study

The respondents of the study were the grade 12 senior high school students who were enrolled at a private university in Angeles City, Philippines during the academic year 2021- 2022, which made up 51.68 percent (51.68%) of the overall population. The study's sample strategy was stratified random sampling. Stratified random sampling, as noted by Cristobal (2017), is a technique for selecting samples in which every member of the population is given an equal opportunity to be chosen as the respondents. As samples are chosen randomly when the population is split into several strata or groups, it is an impartial method of selection.

C. Instrument

The survey questionnaire, which was developed from Sheorey and Mokhtari's (2001) Survey of Reading Strategies (SORS), was the main instrument used in this research to collect data. To assess three distinct kinds of digital reading strategies global reading strategies (18 items), problem-solving strategies (11 items), and support reading strategies (9 items) Anderson (2002) modified the validated instrument. The researcher asked the instrument's creator for permission to use it in this investigation. The authors successfully approved the use of the validated instrument.

D. Data Collection

The researcher requested authorization from the dean of the College of Education to distribute the questionnaire to the respondents after the thesis advisor and research panel approved it. After receiving the go signal, the researcher had already written a letter of approval to the principal of the basic education department of the target school. The link to the google survey was emailed to the student respondents after receiving the principal's clearance. The researcher ensured proper information dissemination and complied with ethical norms in the collection of data.

E. Ethical Consideration

The researcher made sure that the respondents' data and information were valued, secured, and kept confidential. Voluntary Participation was also considered in collecting the data from the respondents. No student-respondent was forced to answer the online survey for reading strategies (OSORS) and a letter addressed to their parents/guardians was added to the online survey as consent. All documents were secured and protected by the researcher.

F. Statistical Treatment

The data gathered was classified, tallied, recorded, and analyzed. The data was also treated by the following computations: (1) percentage (%) was used in this study to determine the percent of the data; (2) mean was

used to determine the final weight of each item in the respondents' digital reading strategies; (3) independent group t-test was designed to compare sex and average weighted mean of digital reading strategies; and (4) one-way Analysis of Variance (Anova) was used to determine whether there was any statistically significant difference between socio-economic status and digital reading strategies. This was also used to describe the statistical differences in digital strategies across all strands.

IV. RESULTS AND DISCUSSION

A. Frequency and Percentage of the Respondents' Profile

a. Respondents' Sex

Table 1. Frequency and Percentage of the Sex of the Respondents

Sex	Frequency	Percent
Male	285	39.47%
Female	437	60.53%
Total	722	100.00%

Table 1 showed the profile of the respondents garnered from the online survey of reading strategies. Considering the total population of (722) student-respondents coming from the academic and technical vocational livelihood tracks, data revealed that most of the respondents who participated in the survey were females (F=437) with a percentage score of 60.53% and male respondents have a percentage score 39.47% from the total population.

b. Respondents' Strands

Table 2. Frequency and Percentage of the Academic Strands of the Respondents

Strands	Frequency	Percent
STEM	199	27.56%
ABM	220	30.47%
GAS	73	10.11%
HUMSS	107	14.82%
TVL-HE	66	9.14%
TVL-ICT	57	7.89%
Total	**722**	**100.00%**

Table 2 showed the data garnered across all strands. Accounting and Business Management (ABM) has the highest participation in the survey with 30.47% of the total population. This was followed by Science, Technology, Engineering, and Mathematics (STEM) with a percentage of 27.56%, Humanities and Social Sciences (HUMSS) with 14.82%, and General Academic (GAS) with 10.11%. However, students from the TVL track got the lowest percentage scores which consisted of TVL- Home Economics (HE) with 9.14% and 7.89% of the respondents came from the Information Communication Technology (ICT) strand.

c. Respondents' Socio-Economic Status

Table 3. Frequency and Percentage of the Socio-Economic Status of the Respondents

Socio-economic status	Frequency	Percent
High Income	177	24.52%
Middle Income	482	66.76%
Low Income	63	8.73%
Total	**722**	**100.00%**

Table 3 showed the data on socioeconomic status across all strands. As gleaned from the table, there was a big percentage of student-respondents who came from the middle-income group with a percentage score of 66.76%, and the low-income group of students which had 8.73% of the total population. High-income group of students got the average percentage score of 24.54% of the total population. This means that most of the students enrolled in this school year were from families who were middle-income earners.

B. Descriptive Analysis of the Respondents' Digital Reading Strategies

a. Global Reading Strategy

Table 4. Descriptive Analysis of the Respondents' Reading Strategies in Terms of Global Reading

Indicator	Mean	Std. dev	Verbal Description
1. I have a purpose in mind when I read online.	3.88	0.99	usually
2. I participate in live chat with other learners of English.	3.13	1.22	sometimes
3. I participate in live chat with native speakers of English.	2.99	1.28	sometimes
4. I think about what I know to help me understand what I read online.	3.99	1.01	usually
5. I take an overall view of the online text to see what it is about before reading it.	3.94	1.02	usually
6. I think about whether the content of the online text fits my reading purpose.	3.93	1.00	usually
7. I review the online text first by noting its characteristics like length and organization.	3.68	1.10	usually
8.When reading online, I decide what to read closely and what to ignore.	3.83	1.07	usually
9. I read pages on the Internet for academic purposes.	3.79	1.04	usually
10. I use tables, figures, and pictures in the online text to increase my understanding.	3.64	1.15	usually
11. I use context clues to help me better understand what I am reading online.	3.84	1.08	usually
12. I use typographical features like boldface and italics to identify key information.	3.83	1.14	usually
13. I critically analyze and evaluate the information presented in the online text.	3.82	1.07	usually
14. I check my understanding when I come across new information.	3.97	1.05	usually
15. I try to guess what the content of the online text is about when I read.	3.80	1.07	usually
16. I check to see if my guesses about the online text are right or wrong.	3.76	1.10	usually
17. I scan the online text to get a basic idea of whether it will serve my purposes before choosing to read it.	3.83	1.05	usually
18. I read pages on the Internet for fun.	3.74	1.11	usually
General Weighted Mean	**3.74**	**1.09**	**Very Satisfactory**

Table 4 showed the descriptive ratings of the respondents' global reading strategy. As seen in the table, the top three (3) global reading strategies of students were 'I think about what I know to help me understand what I read online' (X=3.9, SD=1.01) and 'I check my understanding when I come across new information' (X=3.9, SD=1.05), and 'I take an overall view of the online text to see what it is about before reading it' with a mean score of (X=3.9, SD=1.02). The three strategies were interpreted as 'usually'. Meanwhile, the students 'sometimes' participate in live chat with native speakers of English (X=2.99, SD=1.28), and with other learners of English (X=3.13, SD=1.22), and students usually use tables, figures, and pictures in the online text to increase their understanding, (X=3.65, SD=1.15). These three digital reading strategies got the lowest mean scores. Overall, the students utilized the global reading strategy in digital learning as very satisfactory with a general weighted mean of (X=3.74, SD=1.09).

b. Problem-Solving Strategy

Table 5. Descriptive Statistics of the Respondents' Reading Strategies in Terms of Problem- Solving Strategy

Indicator	Mean	Std. dev	Verbal Description
1. I read slowly and carefully to make sure I understand what I am reading online.	4.11	1.01	usually
2. I try to get back on track when I lose concentration.	4.09	1.01	usually
3. I adjust my reading speed according to what I am reading online.	4.06	1.04	usually
4. When online text becomes difficult, I pay closer attention to what I am reading.	4.07	1.05	usually
5. I stop from time to time and think about what I am reading online.	3.71	1.12	usually
6. I try to picture or visualize information to help me remember what I read online.	3.97	1.07	usually
7. When online text becomes difficult, I reread it to increase my understanding.	4.09	1.07	usually
8. When I read online, I guess the meaning of unknown words or phrases.	3.59	1.16	usually
9. I critically evaluate the online text before choosing to use the information I read online.	3.78	1.09	usually
10. I can distinguish between facts and opinions in online texts.	3.77	1.02	usually
11. When reading online, I look for sites that cover both sides of an issue.	3.70	1.14	usually
General Weighted Mean	**3.91**	**1.07**	**Very Satisfactory**

Table 5 showed the descriptive ratings on the problem-solving strategy utilized by the student respondents. Based on the calculated descriptive statistics, it showed that among the problem-solving strategies, the item I read slowly and carefully to make sure I understand what I am reading online' (X=4.11, SD= 1.01) got the highest rating, described as 'usually' which indicated that the students take time to focus on the things that they read online for them to understand it better. This was followed by the items 'I try to get back on track when I lose concentration' (X=4.09, SD=1.01) and 'When online text becomes difficult, I reread it to increase my understanding' (X=4.09, SD=1.07). These items indicated that students 'usually' use these strategies when reading online. The response "When I read online, I guess the meaning of unknown words or phrases" (X=3.59, SD=1.16) had the lowest mean rating. Even though this item received the lowest grade, it was nevertheless given the qualifier "usually," which indicates that students often use this tactic when they read online. Overall, the students utilize the problem-solving strategy in digital learning as very satisfactory with a general weighted mean of (X=3.91, SD=1.07).

c. Support Reading Strategy

Table 7. Descriptive Statistics of the Respondents' Reading Strategies in Terms of Support Reading

Indicator	Mean	Std. Dev	Verbal Description
1. I take notes while reading online to help me understand what I read.	3.55	1.26	usually
2. When online text becomes difficult, I read aloud to help me understand what I read.	3.74	1.15	usually

3. I print out a hard copy of the online text and then underline or circle information to help me remember it.	3.09	1.38	sometimes
4. I use reference materials (e.g., an online dictionary) to help me understand what I read online.	3.79	1.10	usually
5. I paraphrase (restate ideas in my own words) to better understand what I read online.	3.69	1.20	usually
6. I go back and forth in the online text to find relationships among ideas in it.	3.75	1.10	usually
7. I ask myself questions I like to have answered in the online text.	3.61	1.16	usually
8. When reading online, I translate English into my native language.	3.29	1.31	sometimes
9. When reading online, I think about information in both English and my mother tongue.	3.66	1.20	usually
General Weighted Mean	**3.57**	**1.21**	**Very Satisfactory**

Table 6 presented the descriptive statistics of the respondents' digital reading strategies in terms of support reading strategies. As gleaned from the table, it showed that generally, students 'usually' do this strategy when they read online. Among the items, 'using reference materials (e.g., an online dictionary) to help them understand what they read online', (X=3.79, SD=1.10) gained the highest mean which indicates that the use of reference materials is one of the most utilized support reading strategies. The items, 'I go back and forth in the online text to find relationships among ideas in it', (X=3.75, SD=1.10) and 'when online text becomes difficult, I read aloud to help me understand what I read', (X=3.74, SD=1.15) got the highest mean, respectively. Overall, the students utilize support reading strategy in digital learning as very satisfactory with a general weighted mean of (X=3.57, SD=1.21). About 50% of the time, the students described that they 'sometimes' print out a hard copy of the online text then underline or circle information to help them remember it' (X=3.09, SD=1.38).

C. Significant Differences in Respondents' Digital Reading Strategies and Profile

a. Respondents' Digital Reading Strategies and Sex

Table 7. Differences in Respondents' Digital Reading Strategies when Grouped According to their Sex

Global Reading						
Sex	**Mean**	**Std. Dev**	**df**	**T-value**	**Sig.**	**Interpretation**
Male	3.63	.89	720			
				-3.142	.002	significant
Female	3.82	.68				
Problem-Solving						
Sex	**Mean**	**Std. Dev**	**df**	**T-value**	**Sig.**	**Interpretation**
Male	3.72	.93	720			
				-4.899	.000	significant
Female	4.03	.73				
Support Reading						
Sex	**Mean**	**Std. Dev**	**df**	**T-value**	**Sig.**	**Interpretation**
Male	3.42	1.01	720			
				-3.792	.000	significant
Female	3.68	.809				

The findings from Table 7 indicated that there was a significant difference between sex and digital reading strategies. As gleaned from the table above, most of the female respondents got the highest mean score of 3.82 (SD=73) in problem-solving. On the other hand, the male respondents got the lowest mean score of 3.42 (SD=1.01) in support reading. Based on the study by Chen &Chen (2015) revealed that female students showed greater awareness and usage of EFL reading strategies than male students in all three sub-categories, as well as in the 30 individual reading strategies. This contrasts with Ganito and Ferreira's (2016) study titled "Women and Digital Reading: The Gendering of Digital Reading Practices", which found that when men and women were compared in digital reading, women fell slightly behind, owing to a lack of access to digital devices. According to the findings, men outperformed women and are more interested in digital reading, particularly in digital format.

b. Respondents' Digital Reading Strategies and Status

Table 8. Differences in Respondents' Digital Reading Strategies when Grouped According to their Status

Global Reading						
Status	**Mean**	**Std. Dev**	**df**	**Computed F**	**Sig.**	**Interpretation**
High Income	3.93	0.68	2			
Middle Income	3.74	0.74		20.622	.000	significant
Low Income	3.22	1.04				
Problem Solving						
Status	**Mean**	**Std. Dev**	**df**	**Computed F**	**Sig.**	**Interpretation**
High Income	4.00	0.73	2			
Middle Income	3.93	0.80		10.742	.000	significant
Low Income	3.46	1.14				
Support Reading						
Status	**Mean**	**Std. Dev**	**df**	**Computed F**	**Sig.**	**Interpretation**
High Income	3.74	0.83	2			
Middle Income	3.57	0.89		12.592	.000	significant
Low Income	3.09	1.00				

Table 8 showed that there was a significant difference in socioeconomic status and digital reading strategies of student-respondents. From what can be gleaned from the table, among all strategies, students from the high-income group got the highest mean score of 4.0 (SD=0.73) in problem-solving. In contrast, students from the lower class got the lowest mean score of 3.09 (SD=1.00) in support reading.

c. Respondents' Digital Reading Strategies and Strands

Table 9. Differences in Respondents' Digital Reading Strategies when Grouped According to their Strands

Global Reading						
Age	**Mean**	**Std. Dev**	**df**	**Computed F**	**Sig.**	**Interpretation**
STEM	3.86	0.56				
ABM	3.79	0.54				
GAS	3.33	1.11				
HUMSS	4.05	0.70	5	12.410	.000	significant
TVL- HE	3.44	1.08				
TVL- ICT	3.49		1.02			
Problem Solving						
Age	**Mean**	**Std. Dev**	**df**	**Computed F**	**Sig.**	**Interpretation**

STEM	4.06	0.61				
ABM	4.01	0.55				
GAS	3.41	1.13				
HUMSS	4.17	0.70	5	16.155	.000	significant
TVL- HE	3.53	1.15				
TVL- ICT	3.53	1.14				
Support Reading						
Age	**Mean**	**Std. Dev**	**df**	**Computed F**	**Sig.**	**Interpretation**
STEM	3.68	0.73				
ABM	3.55	0.74				
GAS	3.27	1.20				
HUMSS	3.97	0.87	5	9.792	.000	significant
TVL- HE	3.34	1.08				
TVL- ICT	3.21	1.06				

Table 9 presented the digital reading strategies employed by student respondents across all strands. Data revealed that students from the humanities and social sciences (HUMSS) strand dominated all strategies with the highest mean score of 4.17 (SD=0.70) in problem-solving. This was followed by the respondents from the general academic strand who got the mean scores in global reading of 3.33 (SD=1.11) and problem-solving strategies of 3.41 (SD=1.11). Moreover, based on the results, that students from the TVL-ICT strand had the lowest mean score of 3.21 (SD=1.06) in support reading.

D. Proposed Hybridized Reinforcement Material

Instructional Materials are the content or the body of knowledge that teachers and learners can use to adhere to the learning objectives and assessment. Redesigning instructional materials from the face-to-face setup that can be used in online classrooms must be modified and applied to be effective in a hybridized or flexible learning. These hybridized reinforcement materials should be aligned with the learning objectives, assessment, and activities. To address the students' low usage of support reading strategy, the researcher proposed a hybridized instructional material that will integrate the role of educational technologies. It is also proposed that teachers should adopt specific online reference materials that will enhance students' vocabulary and comprehension. These online reference materials include (e.g., online dictionaries, e- journals, hyperlinks, and the like) and using credible educational online resources. Instructional content such as recorded lectures (audio or video) presentation materials (lecture noted, PowerPoint) online articles (textbooks, links to online resources and textbooks) should be easy to follow and accessible in a learning management system. This LMS will keep students engaged and on task to meet the learning outcomes if instructional material is carefully planned, selected, organized, refined, and used. It is also proposed that teachers should make students collaborate with other speakers of English through chat or online discussions.

V. CONCLUSION

Based on the findings, male students exhibited a low usage of digital reading as compared to female students. Male students from senior high school need further assistance in the usage of digital reading strategies of the students who belong to low-income group and technical vocational livelihood track. Problem-solving strategy is the most used strategy among all strategies by senior high school students across all strands. Students usually read slowly and carefully to make sure they understand what they read online. However, students sometimes

translate reading text in English into their native language. This support reading strategy got the overall lowest mean score described by the students. This only concludes that students of this generation, who are native speakers of the digital language of the internet, need assistance from their teachers to acquire needed digital literacy skills that will help them comprehend digital information.

There is a significant difference in the digital reading strategies when respondents are grouped according to their sex, socio-economic status, and strand. Based on the summary of findings, females have the highest usage of digital reading strategies than males. There is also the highest usage of digital reading strategies among students from the high-income group. Students who have low family income need academic reading assistance in support-reading strategy. Additionally, there is a significant difference in digital reading strategies across the senior high school strands. Although there is the highest percentage of participants made by ABM students, it can be gleaned from the findings that HUMSS students usually strategize in global, problem-solving and support to enhance their academic reading practices digitally. Conversely, the students from TVL-ICT and TVL-HE have the lowest mean scores in problem-solving strategy. TVL-ICT students sometimes strategize in support reading. This means that students who majored in technical, vocational, and livelihood track need academic reading support to improve their digital reading.

With these findings mentioned above, it is concluded that the hybridized reinforcement material will be of great help for students to develop their global, problem-solving and support reading strategies. Particularly, this will address students' low usage of strategies in notetaking, reading aloud, using of printed hard copies, reference materials, paraphrasing, and translations. Based on the concluded findings, the researcher recommended having further research about digital reading that will consider a bigger group of respondents in other private institutions and state universities. Future researchers might also consider choosing students coming from public schools to further differentiate the digital reading strategies used by the public-school students. With this, another sampling method is suggested to be used like cluster sampling which divides the population into clusters, such as districts or schools, and then randomly selects some of these clusters as the sample.

Future researchers need to explore and investigate more related works of literature and studies about digital reading strategies. Action research can be conducted by investigating the effectiveness of using hybridized reinforcement materials in improving the digital reading of students. It is advised that teachers adapt and encourage written assignments, performance challenges, and quarterly projects that require students to employ appropriate digital reading skills. For those students who come from the technical vocational livelihood tracks, teachers should help students acquire the necessary digital literacy so they can access, retrieve, and interpret digital information. The proposed hybridized reinforcement material can be piloted to senior and junior high school students in a hybridized flexible learning.

Conflicts of Interest

The authors declare that there is no conflict of interest concerning the publishing of this paper.

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