Digital Learning In Social Studies Among Key Stage 2 Learners

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Abstract— The rapid growth of Information and Communication Technology (ICT) in the Fourth Industrial Revolution (IR 4.0) has driven new paths for the teaching and learning process towards digital learning. The emergence of digital learning created an environment for engaged learning however, studies show that such opportunities cannot be fully harnessed without holistic technological access. Therefore, the researchers aimed to find out how the key stage 2 learners of the National Capital Region perceived their digital learning experience (DLE), and how their perceived DLE is related to their sex and the perceived ability of their Social Studies teacher in using and integrating ICT tools for learning. The study used a descriptive correlational design in which data was gathered from 201 respondents through a survey questionnaire with an 8-point Likert scale. The results showed that the learners perceived that they have a very good DLE in their Social Studies subject (M= 6.36), and their Social Studies teachers' ability in using (M= 6.98) and integrating (M= 6.76) ICT tools is also very good (M= 6.87). Furthermore, data analysis using Pearson's r revealed that there is a positive relationship between the learners' perception of their digital learning experience and their perception of their social studies teachers' abilities. However, there is no significant sex difference in learners' perception of their digital learning experience nor their perception of their social studies teachers' abilities. The results imply that the ability of the teacher is a significant factor in determining the digital learning experience of the learners thus, the cultivation of digital literacy skills among the pre-service and in-service teachers is vital in shaping the learners' future with IR 4.0. (*Abstract*)

Keywords— emerging pedagogies; digital learning; social studies; key stage 2 learners (key words)

I. INTRODUCTION

The emergence of the Industrial Revolution (IR) 4.0 has transformed our lifestyle and prompted significant changes in our education system. The rapid growth in the field of Information and Communication Technology (ICT) has driven new paths for the teaching and learning process. Thus, revolutionizing our perspectives on the roles of teachers, students, and educational institutions towards digital learning. Digital learning created an environment for engaged learning however, studies show that such opportunities cannot be fully harnessed without holistic technological access. The implementation of digital learning will affect how the country may experience 4IR in the future (Asmaa,

2016) [1]. In a word, cybergogy emerges globally but the development is not linear across countries. The rise of digital learning has materialized however, the development in the country is slower than others. According to Lee et al. (2018) [2] in 4IR, learners who have been prepared, advanced, and technology-driven will achieve professional competencies through their education in a digital learning environment.

A. *Digital Learning*

Digital learning is an approach that creates engagement through digital learning that improves teaching and learning through experiences. A study by Lin & Chen (2017) [3], shows that digital learning has a positive impact on teacher motivation and student engagement, resulting in positive learning outcomes. On the other hand, studies suggest that courses that integrate ICT in their class have higher course satisfaction and they are more ready to engage in online learning. According to Wei & Chou (2020) [4], their perception of their digital learning experience can affect their future use of ICT. Those with a positive experience with the educational use of ICT are more likely to choose a class that requires the use of the internet, while courses that use ICT tools in their digital learning have higher satisfaction among the students [4][5][6][7][8][9]. Based on these studies, a positive perception of the digital learning experience makes online learning more enjoyable and satisfactory. Furthermore, fully utilized ICT tools during online learning have a positive influence on learners' attitudes to online learning and their learning outcomes [10][11][12]. However, digital learning will happen when learners achieve readiness to learn online [13].

According to studies, digital learning for engaged learning involves the cognitive, social, and emotive domains of the students [14]. Indicators of cognitive learning engagement are self-regulated learning, ownership of learning, generative learning, and knowledge construction. On the other hand, the emotive domain states that mutual affection and respect are both given aspects in a classroom to form a rapport for the teaching and learning process rather than resort to fear and intimidation. Wang and Kang [14] found out that learners experience different emotions in a technology-based environment on their learning journey. Some of those may be excitement or frustrations, fascination or boredom which may all contribute to the learning process of the student that may attribute a positive or negative experience. Lastly, the social domain is simply defined as an interaction with self and others. Social engagement happens through the sharing of resources and information, cohesiveness, acceptance, and collaborative learning. Learning digitally is greatly founded by technologies, networks of information, and discourse with a diverse number of people. But beyond these factors is also the *digital access* that enables learners to participate in digital learning.

B. *Digital Access*

To achieve an engaged learning environment, we need inclusive technology access to cater to students in digital learning. Roberts and Hernandez (2018) [15], highlight the importance of holistic digital access to participate in digital learning. According to their study, aside from the Availability and Affordability of digital devices and internet access, other domains like Awareness, Ability, and Agency also take part in participative learning.

In a study by Balahadia (2022) [16], results showed that the majority of the students from selected universities and colleges in the Philippines have ICT accessibility-related problems interrelated with their class participation. Poor internet connection and lack of learning devices (smartphones, tablets, computers) are the primary hindrances to digital learning. In a study by Alvarez (2020) [17], students who have access to the internet are more at ease to comply with remote learning requirements. Furthermore, a study by Martinez-Gaitier et al. (2021) [18], has shown that there is a significant relationship between educational performance and technology. Those who have available devices at home and school are more likely to have higher levels of educational achievement. Alvarez (2020) [17] said that the pandemic had emphasized the disparity between students from high-income families and low-income families. It shows that only privileged students have the opportunity to learn at a distance while students who are lacking in technological devices are left behind.

When technology is accessible and affordable with adequate awareness, ICT tools can be utilized for digital learning. According to Yunus et al. (2020) [19], integrating technology into the learning process has helped students improve their proficiency and engagement levels. Lim et al. (2020) [20], agree with this statement as they believe that using technology in instruction increases the level of interest in learning and gives the students an impression of fun and engaging learning. On the other hand, a classification based on Lim and Tay (2003) [21] can best describe the different roles of ICT in the instructional process. These are informative tools, situating tools, constructive tools, and communicative tools. This set of tools can complement one another to create an engaged learning environment.

Despite the presence of the previously mentioned technological access, an individual's capacity to take full advantage of technology can be restricted by the lack of digital literacy. An adequate *ability* is needed to manipulate various devices and information to produce knowledge and certain outputs. Many discussions focused on staying safe online and were very particular about what to avoid in cyberspace and not what to do. Culatta (2021) [22], introduced a fresh take on teaching digital citizenship that explores the possibilities and opportunities of the proactive use of technology. He outlined five competencies that we can use in teaching comprehensive digital citizenship— *Balance, Informed, Inclusive, Alert, and Engaged*. These competencies give importance to the

efficient teaching of digital citizenship which goes beyond online safety. He suggests that a good way to find balance in digital use is to immerse the child in different applications that may help him develop different skills.

Looking at these variables sums up how *agency* encapsulates the discussed requisites for technological access. Only when a learner has available and affordable resources, awareness of technologies, and digital competence can they be confident in participating in online learning.

C. Digital Learning Experience

From engaged learning and digital access, emerged the *Digital Learning Experience* (DLE) to describe how the learners participate and learn in this environment. With all, it is safe to say that DLE does not only beg the question of who has access and who hasn't but also who can navigate through it. While DLE is engaged learning through cognitive, emotive, and social domains and having adequate holistic digital access to use information and communication technologies in an online learning environment, according to studies, DLE is also related to the students' sex and teachers' ability.

D. DLE and Teachers' Ability

Teachers' ability to integrate ICT tools plays an important role in learners' DLE. The increase in digital learning awareness of teachers correlates with the increase in students' connection towards online learning [23]. The impact of performance and abilities of teachers in digital learning adequate to delivery of instructional strategies and implementation of technologies readiness [24]. As a result, the students readily adjust to their new environment.

E. DLE and Sex

Meanwhile, studies about sex differences in online learning present contradicting claims. Studies about sex differences in online learning present contradicting claims. The ICT profession is predominated by males and thus is regarded as a field of men [25]. As such, some studies claim that males are better in computer-related courses while others beg to differ.

In a study by Vekiri and Chronaki (2008) [26], males are found to have higher self-efficacy than females in a pattern that emerges from elementary to tertiary education that transcends national borders. They continue to add that this positive self-efficacy towards computers puts males at a greater advantage in online learning. Moreover, Ashong and Commander (2012) [27] found out in their study that assigned sex has a significant effect on how students perceive their experience and learning environment in an online setting.

On the other hand, an opposite finding was presented by Yu (2021) [28] when he found out that even though males have a higher self-efficacy in their ICT abilities, females show more positive outcomes in online learning. But regardless of this, no sex difference in learning outcomes was revealed because males are more consistent while females are more participative which balances it out. In a study by Yu and Deng (2022) [29], no significant sex difference in self-efficacy in online learning was also found. It appears that gender inequalities in e-learning results may have been reduced partly by the popularity of information technology among both men and women.

Korlat (2021) [30], believes that although it is possible that sex differences in digital learning map onto students' gender role self-concepts rather than their biological sex. An increased focus on gender role self-concept and its relationship with gendered domains has resulted from the realization that people can describe themselves in terms of both stereotypically feminine and stereotypically masculine attributes regardless of their biological sex.

F. Research Problem and Hypothesis

The researchers aimed to find out how the key stage 2 learners of the National Capital Region perceived their digital learning experience.

Specifically, the researchers sought to answer the following questions:

1) What is the demographic characteristic of the respondents in terms of sex?
2) What is the learners' access to ICT tools in terms of:
   a) gadgets;
   b) required use of ICT tools in Social Studies;
   c) Internet access;
   d) time spent on the internet synchronously in Social Studies;
   e) time spent on the internet asynchronously in Social Studies;
   f) amount of money spent on the internet.
3) What is the perception of the digital learning experience of selected key stage 2 learners in terms of:
   a) feelings towards their digital learning experience;
   b) level of their digital learning experience.
4) What is the extent of learners' perception of their Social Studies teachers' ability in terms of:

   a) use of ICT tools and platforms for learning;
   b) frequency of integrating ICT tools in developing digital learning.
5) Is there a significant difference between the level of perception of digital learning experience and perception of their Social

Studies teachers' ability when the respondents are grouped according to their sex?

6) Is there a significant relationship between the levels of perception of digital learning experience and learners' perception of their Social Studies teachers' ability?

Based on the objectives of the study, the following hypotheses have been formulated.

H1: There is no significant difference between the sex of the key stage 2 learners and the level of perception of their digital learning experience

H2: There is no significant relationship between the learners' level of perception of their digital learning experience and their perception of their Social Studies teachers' ability.

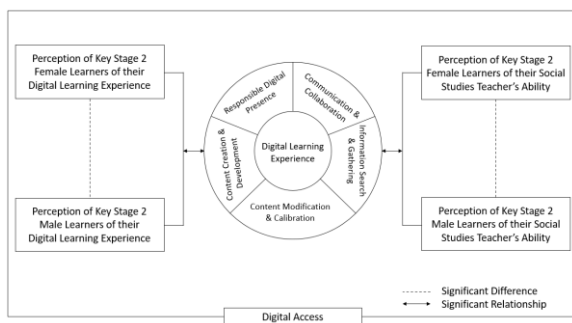### G. Conceptual Framework

Figure 1. Conceptual Framework of the Study

According to Roberts and Hernandez (2018) [15], we need holistic digital access to actively participate in a digital learning environment. As such, the first variable of the conceptual framework pertains to the digital access needed to engage in digital learning.

The second variable, which is the digital learning experience, is expressed into five digital learning themes. These themes are pruned from various related literature such as the Holistic Digital Access of Roberts and Hernandez (2018) [15], Different ICT Tools by Lim and Tay (2003) [21], and Digital Citizenship of Culatta (2021) [22]. The two remaining variables will be based on these pruned digital learning themes. Both of these variables are divided into biological sex to further investigate the significant relationship between the learners' perception of their Social Studies teachers' ability and their digital learning experience.

II. METHODOLOGY

A. Quantitative Research Design

The purpose of this study was to determine the perceived digital learning experience (DLE) of the key stage 2 learners of the National Capital Region. The literature review revealed that several themes comprise DLE and factors that shape the DLE of the learners. Thus, to describe the significance difference, and relationship between the variables, a descriptive correlational design was employed. The researchers used a systematic data collection method by utilizing Google Forms as a survey questionnaire.

B. Sampling and Participants

The researchers used two sampling techniques to administer the survey among the respondents. First, *Cluster Sampling* was used to gather data focused on compiling a comprehensive list of clusters of private and public schools in Manila. From this, 50 respondents per grade level were the target sample in both the randomly selected schools through the fishbowl technique which were Adamson University Manila and Sta. Isabel College of Manila. The researchers were able to gather substantial data at Adamson University Manila but unfortunately, Sta. Isabel College of Manila did not respond.

Going forward, the researchers decided to use *Non-Probability Purposive Sampling*. The inclusion criteria are; key stage 2 learners, attend online mode of learning, and go to any school in the National Capital Region may it be private or public.

C. Instrument

In this study, the researchers will use a survey questionnaire implemented online through *Google Forms.* The survey questionnaire was developed based on the nine-step model of the *Model for Online Survey Development and Implementation* (Strachota et al., 2006) [31].

D. Data Gathering Procedure

The initial target population of the study is Key Stage 2 Learners (Grades 4, 5, and 6) in private or public schools in the City of Manila. To get the target participants of 50 learners per grade level in key stage 2, the researchers used *cluster sampling* and randomly selected Adamson University and Sta. Isabel College of Manila. The researchers used *stratified sampling* to randomly select the sections among the subgroups per grade level in key stage 2. However, the data collected was insufficient therefore, a second and third data collection in *Quezon City* and *Nemesio I. Yabut Elementary School*, a public school in Makati City, was implemented. In total, the desired respondents were fulfilled with a total of 201 respondents from grades 4,5, and 6. The researchers changed the sampling technique to purposive due to unforeseen circumstances of the research target local.

E. Data Analysis

In the first and second part of the questionnaire, frequency distribution was used to determine the demographic profile of the respondents and to identify the digital access of the learners. In the third and fourth parts, a simple mean and average were used to determine the level of perception of the digital learning experience of key stage 2 learners, and their perceived ability of their Social Studies teacher. The mean was then interpreted using the scale below.

TABLE I. SCALE FOR LEVEL OF PERCEPTION OF DIGITAL LEARNING EXPERIENCE

Mean	Description	Interpretation
7.23-8.00	Strongly Agree; Very Satisfied; Always	Excellent
6.44-7.22	Agree; Satisfied; Usually	Very Good
5.45-6.33	Mildly Agree; Slightly Satisfied; Often	Good
4.56-5.44	Moderately Agree; Moderately Satisfied; Occasionally	Fair
3.67-4.55	Mildly Disagree; Slightly Dissatisfied; Somewhat	Poor
2.78-3.66	Moderately Disagree; Moderately Dissatisfied; Seldom	Bad
1.89-2.77	Disagree; Dissatisfied; Rarely	Very Bad
1.00-1.88	Strongly Disagree; Very Dissatisfied; Never	Negative

The Shapiro-Wilk Normality Test was used to see if the sample data gathered were evenly distributed. Since all of the p-values of the Shapiro-Wilk test are greater than 0.05, we accepted the null hypothesis that the data gathered is normally distributed.

The second statistical presumption that must be evaluated when contrasting two independent groups on a continuous outcome is the assumption of homogeneity of variance. To assess the homogeneity of variances we used Levene's test for equality of variances. Since all the results of p-values are greater than 0.05, this indicates that the homogeneity of variances has been achieved.

As data were established in equal distribution and our two independent variables had homogenous variances, the researchers used the Independent Sample T-Test to determine if there were significant differences between our two variables. If the p-values are greater than 0.05 level of significance, we will accept the null hypothesis that there is no significant difference between variables.

Determining the relationship between the digital learning experiences of learners and their perception of social studies teachers' ability in digital learning, the researchers used the Independent Samples T-Test. The researchers used a correlational matrix to display the correlation coefficient for the different variables and Pearson's r p-value correlation coefficient that indicates if one variable increases, the second variable will increase.

F. Potential Ethical Issues

The duration in which this research was conducted was thoroughly handled with adherence to ethical practice. Since the participants were underage, parental consent was required, and the Data Privacy Act of 2012 was observed in handling the data of the respondents.

This research was voluntarily participated by the respondents, with the knowledge that the respondents are guided by a more knowledgeable other to participate.

III. RESULTS

1) What is the demographic characteristic of the respondents in terms of sex?

TABLE II. FREQUENCIES OF SEX

Sex	Counts	% of Total
Female	103	51 %
Male	98	49 %
TOTAL	201	100%

Table 2 shows the demographic characteristics of the respondents in terms of SEX. The data revealed that 103 out of 201, or 51%, were female respondents while 98 or 49% were male respondents. This suggests that the majority of the respondents are female.

2) What is the learners' access to ICT tools?

a) Gadgets

TABLE III.   FREQUENCIES OF GADGETS

Gadgets	Counts	% of Total
Desktop	8	4 %
Smart Phones	52	26 %
Tablet	22	11 %
Laptop	27	13 %
Desktop and Laptop	25	12 %
Desktop and Smartphones	7	3 %
Desktop and Tablet	6	3 %
Laptops and Smartphones	43	21 %
Laptop and Tablet	9	4 %
None	2	1 %

Descriptive statistics, particularly frequency and percentage, were used to present the learners' access to digital resources, particularly the gadgets that they used during online classes. The data shows that 8 or 4% of the respondents used desktops, 52 or 26% used smartphones, 22 or 11% used tablets, and 25 or 12% used laptops. Other students used combinations of gadgets such as desktops and laptops 25 or 12%, desktops, and smartphones with 7 or 3%, 6 or 3% used desktops and tablets, 43 or 21% used both laptops and smartphones, and only 2 respondents, or 1%, did not have access to gadgets during the online classes. Based on the tabulated data, most of the students used smartphones as their primary gadgets that they use during online classes.

b) Required Use of ICT Tools in Social Studies

TABLE IV.   FREQUENCIES OF REQUIRED USE OF ICT TOOLS
IN SOCIAL STUDIES

Levels	Counts	% of Total
No	37	18 %
Yes	164	82 %

The data analysis found that the majority of students (164 or 82% of all respondents) were obliged to use ICT tools such as desktops, laptops, and the like in the Social Studies course.

c) Internet Access

TABLE V.   FREQUENCIES OF INTERNET ACCESS

Levels	Counts	% of Total
Both Fixed Wi-Fi internet access and Mobile data	1	0 %
Fixed Wi-Fi internet access	143	71 %
Internet access outside of the home via relatives, friends, neighbors, etc.	6	3 %
No access at all	1	0 %
Pocket Wi-Fi/Broadband	9	4 %
Prepaid/Mobile Data	41	20 %

Table 5 displays the internet access frequencies of the selected students. The majority, 143 or 71%, had access to fixed Wi-Fi internet, followed by prepaid or mobile data connection with 41 or 20%.

d) Time Spent on the Internet (Synchronous)

TABLE VI.   FREQUENCIES OF TIME SPENT ON THE
INTERNET (SYNCHRONOUS)

Levels	Counts	% of Total
I do not access the internet	2	1 %
Less than 1 hour a day	40	20 %
Over 1 hour but not exceeding 2 hours a day	57	28 %
Over 2 hours but not exceeding 3 hours a day	46	23 %
Over 3 hours but not exceeding 4 hours a day	37	18 %
Over 4 hours a day	19	9 %
Over 3 hours but not exceeding 4 hours a day	37	18 %
Over 4 hours a day	19	9 %

Table 6 shows the frequencies of time spent on the internet by the students, in which 40 (20%) of them have less than 1 hour a day, 57 (28%) were over 1 hour but not exceeding 2 hours a day, 46 (23%) were over 2 hours but not exceeding 3 hours a day, while 37 (18%) were over 3 hours but not exceeding 4 hours a day on the internet, 19 (9%) were over 4 hours a day, and only 2 (1%) reported that they do not have access to the internet. Analysis of data revealed that most of the students have spent over 1 hour on the internet during the synchronous activities in the Social Studies subject.

e)   Time Spent on the Internet (Asynchronous)

TABLE VII.   FREQUENCIES OF TIME SPENT ON THE INTERNET (ASYNCHRONOUS)

Levels	Counts	% of Total
I do not access the internet	10	5 %
Less than 1 hour a day	40	20 %
Over 1 hour but not exceeding 2 hours a day	69	34 %
Over 2 hours but not exceeding 3 hours a day	57	28 %
Over 3 hours but not exceeding 4 hours a day	16	8 %
Over 4 hours a day	9	4 %

Table 7 illustrates the number of hours spent during asynchronous classes in Social Studies subjects. The data revealed that 40 or 20% had less than 1 hour a day, 69, or 34% had over 1 hour but not exceeding 2 hours a day, 57, or 28% were over 2 hours, while 16, or 8% were over 3 hours, 9 or 4% were over 4 hours a day, and only 10 or 5% of the respondents reported that they did not have access to the internet. This suggests that most of the students had over an hour of class time during asynchronous classes in their Social Studies subject.

f)   How Much Money Spent on the Internet

TABLE VIII.   FREQUENCIES OF HOW MUCH MONEY SPENT

Levels	Counts	% of Total
I do not use the internet because my family cannot afford it	10	5 %
Less than PhP 500 a month	24	12 %
Over PHP 1000 but not exceeding PhP 1500 a month	46	23 %
Over PHP 1500 but not exceeding PhP 2000 a month	61	30 %
Over PHP 500 but not exceeding PhP 1000 a month	32	16 %
Over PhP 2000 a month	28	14 %

Table 8 presents the frequencies of how much the students spent on the internet. The data revealed that 61 out of 201 students have spent over P1500 on the internet.

What is the perception of the digital learning experience of selected key stage 2 learners?

3)   What is the perception of the digital learning experience of selected key stage 2 learners?

d) Feelings towards their digital learning experience

TABLE IX.   FREQUENCIES OF FEELINGS TOWARDS THEIR DIGITAL LEARNING EXPERIENCE

Feelings	Counts	% of Total
Boring	26	13 %
Engaging	46	23 %
Entertaining	86	43 %
Frustrating	6	3 %
Informative	22	11 %
Isolating	0	0 %
Productive	4	2%
Relaxing	7	3.5 %
Stressful	1	0.5 %
Time-Consuming	2	1 %

Table 9 shows the frequencies of what students feel about their digital learning experience. The data revealed that 86 or 43% of the respondents felt that their digital learning experience was entertaining while 46 or 23% said that it was engaging

TABLE X.   LEVEL OF PERCEPTION ON DIGITAL LEARNING EXPERIENCE

	Digital Learning Experience	Mean	Remarks
1.	I am comfortable using online tools, devices, or platforms to communicate with my teachers, classmates, and others.	6.73	Agree
2.	I am proficient in utilizing collaborative apps (e.g. Google Docs, Google Sheets, Google Slides, Canva, etc.) to keep track of group work and ideas.	6.31	Mildly Agree
3.	I make sure that I access websites that provide credible information.	6.96	Agree
4.	I enjoy reading various online journal articles from various sources like ResearchGate, Elsevier, Philippine EJournal, JSTOR, etc. to deepen my knowledge about a certain topic.	5.48	Mildly Agree
5.	I ask and compare the sites that my classmates use as a source for their school work to check the accuracy of the information gathered.	5.58	Mildly Agree
6.	I suggest ideas to reconstruct		

		Mean	Remarks
	and improve our output from the group discussion.	6.11	Mildly Agree
7.	I can create, publish, and present my ideas interactively using different applications.	6.09	Mildly Agree
8.	I am comfortable using social media platforms and apps to further understand our lesson share my insights and gather information.	6.46	Agree
9.	I practice basic internet etiquette inside the online classroom as a sign of respect for my teacher and classmates.	7.06	Agree
10.	I make sure that I cite sources I use in my schoolwork.	6.84	Agree
	Overall Mean	**6.36**	**Very Good**

Table 10 depicts the level of students' perception regarding their digital learning experience, which received an overall mean score of 6.36, indicating that the respondents have a very good digital learning experience in their Social Studies class.

4) What is the extent of learners' perception of their Social Studies teachers' ability?

TABLE XI. LEVEL OF LEARNERS' PERCEPTION OF THEIR SOCIAL STUDIES TEACHER'S ABILITY

Perception of Social Studies Teacher's Ability	Mean	Remarks
Use of ICT tools and platforms for learning		
1. My Social Studies teacher is always available whenever I try to ask for guidance in using learning apps or sites.	6.74	Satisfied
2. My Social Studies teacher uses collaborative and interactive platforms (e.g., Jam board, Kahoot, Padlet, etc.) in our class so everyone can participate in the activities.	6.56	Satisfied
3. My Social Studies teacher provides educational materials that can be accessed online to support my learning.	7.05	Satisfied
4. My Social Studies teacher uses several articles to compare and identify whether the information is reliable and factual.	6.81	Satisfied
5. My Social Studies teacher always checks our group's work explains it further and adds the things missing.	7.05	Satisfied
6. My Social Studies teacher answers our questions during our synchronous class and gives supplementary lessons via messenger or other platforms.	6.91	Satisfied
7. My Social Studies teacher uses interactive presentations, videos, and activities to present the lesson.	7.21	Very Satisfied
8. My Social Studies teacher uses a variety of formats such as text, images, audio, and videos to deepen our understanding of the lessons.	7.26	Very Satisfied
9. My Social Studies teacher introduces us to basic internet etiquette in ensuring a courteous and well-regulated online classroom.	7.14	Satisfied
10. My Social Studies teacher exposes us to engage in safe online communities relevant to our social studies lessons.	7.03	Satisfied
Mean	**6.98**	**Satisfied**
Frequency of integrating ICT tools in developing digital learning		
11. Foster collaboration among members of the class	6.34	Often
12. Promote communication among peers and the teacher	6.55	Usually
13. Use credible sources/tools for information search and gathering	6.81	Usually
14. Improve digital skills for independent learning	6.84	Usually
15. Engage in safe online communities	7.05	Usually
16. Create relevant content or materials in Social Studies	6.77	Usually
17. Design learning materials that appeal to and accommodate its user	6.64	Usually
18. Adapt materials available	6.69	Usually

online		
19. Make social studies more interactive	6.87	Usually
20. Equip the students with the tools to be safe in an online environment	7.03	Usually
Mean	6.76	Usually
Overall Mean	**6.87**	**Very Good**

Legend: 1.00-1.88: Very Dissatisfied/ Never; 1.89-2.77:Dissatisfied/ Rarely; 2.78-3.66: Moderately Dissatisfied/ Seldom; 3.67-4.55: Slightly Dissatisfied/ Somewhat; 4.56-5.44: Moderately Satisfied/ Occasionally; 5.45-6.33: Slightly Satisfied/ Often; 6.44-7.22: Satisfied/ Usually; 7.23-8.00: Very Satisfied/ Always

Table 11 demonstrates the learners' perception of their teacher's ability in the Social Studies subject, which received an overall mean score of 6.87 which shows that learners perceive that their Social Studies teachers' ability in using and integrating ICT tools and platforms is very good. In terms of their ability to use ICT tools and platforms for learning, the data revealed that students were satisfied with a mean score of 6.98. While learners perceived that their teacher usually integrates ICT tools in developing their digital learning. This implies that those who participated in the study agreed that their Social Studies teacher used interactive presentations, films, and activities to convey the lesson using a variety of forms, including text, images, audio, and videos, to enhance their understanding of the teachings.

5) Are there significant differences between the level of perception of digital learning experience and perception of their Social Studies teachers' ability when the respondents are grouped according to their sex?

TABLE XII.   NORMALITY TEST (SHAPIRO-WILK)

	W	**p**
Perception	0.94	.061
Social Teachers Ability	0.88	0.84

TABLE XIII.   HOMOGENEITY OF VARIANCES TEST (LEVENE'S)

	F	**df**
Perception	0.36	n-2
Social Teachers Ability	0.10	n-2

TABLE XIV.   INDEPENDENT SAMPLES T-TEST

		Statistic
Digital Learning Experience	Student's t	-0.30
Social Studies Teachers' Ability	Student's t	-0.36
Social Studies Teachers' Ability	Student's t	-0.36

The p-values of 0.763 (digital learning experience) and 0.717 (teacher's ability) are greater than the 0.05 level of significance. The researchers will accept the null hypothesis and will therefore conclude that there are no significant differences between the levels of students' perception of digital learning experience and teacher's ability in Social Studies subject. This implies that regardless of their assigned sex, respondents have similar levels and favorable perceptions of their digital learning experience as well as their Social Studies teacher's skill.

6) Is there a significant relationship between the levels of perception of digital learning experience and learners' perception of their Social Studies teachers' ability?

TABLE XV.   CORRELATION MATRIX

		Digital Learning Experience	**Remarks**
Social Studies Teachers' Ability	Pearson's r	0.57	Moderately
	p-value	< .001	Positive

Analysis of data using Pearson's r revealed that the student's perception of digital learning experiences has a relationship with their perception of their social studies teachers' ability since the p-value of <.001 is less than the 0.05 level of significance. Hence, there is sufficient sample evidence to say that the variables have a positive relationship, indicating that as the level of perception of digital learning experience increases, the level of perception of Social Studies teachers' ability also improves, and vice versa.

IV.   DISCUSSION

The results showed no significant sex difference in learners' perception of their digital learning experience nor their perception of their social studies teachers' abilities. However, it revealed that there is a significant relationship between the learners' perception of their digital learning experience and their perception of their social studies teachers' abilities.

Most of the students use smartphones during online classes. Of all the learning devices there are, smartphones are the most accessible and easiest to use. The software industry now considers it standard practice to create a mobile app version and a website version for an application so you may use it regardless of what gadget you are using [32].

On the other hand, Tables 6 and 7 revealed that learners both spent over 1 hour a day for their synchronous and asynchronous classes in Social Studies, but not exceeding 2 hours. This suggests that students spent at least 2-4 hours a day using ICT tools in their AP class. Salem, Alsyed, & Elshaer (2022) [33] study states that there is a positive correlation between increased time spent using technology and the students' perception of their digital skills. This explains that contrary to the literature review, the students' perception of their digital skills did not decrease during the pandemic.

A. Level of Perception in DLE

In terms of emotions, 43% of the respondents expressed that their DLE was entertaining, 23% for engaging, and 13% felt boredom. It was found that since students have digital access, it enables them to participate in an engaged learning environment. However, some students may have felt boredom because of distractions and lack of self-regulation [34]. Moreover, the level of students' perception regarding their digital learning experience received an overall mean score of 6.36, indicating that the respondents perceived that they had a very good digital learning experience. This corroborates with the existing studies that students with access to multiple ICT devices have greater confidence and ability to navigate online [35] thus, having quality experience in online learning.

The digital learning experience encompasses having holistic technological access that enables a user to perform communication and collaboration, information search and gathering, content modification and calibration, content creation and development, and responsible digital presence using ICT tools. These themes reflect the learners' engaged learning online in which the cognitive, emotional, and social well-being of the learners are developed [14]. According to Roberts and Hernandez (2019) [15], holistic technology access enables a user to take proactive movements in the digital world. Moreover, Wei & Chou (2020) [36] stated that students who have a positive perception of their digital learning experience are more likely to choose a course that integrates ICT in their class, and they are more ready to engage in online learning. Meanwhile, courses that integrate ICT into their class have higher course satisfaction if students have the skills to manipulate ICT tools [7]. The learners' level of perception of their digital learning experience in their subject is a factor that may influence their future readiness and engagement in online learning.

B. Learners' Perceptions of their Teachers' Ability

The results of Table 11 show that the students are in an agreeable state as to how their teachers perform digital skills in aid to their learning. Gros, Garcia, and Escofet (2012) [37] noted that the better skills provided by teachers in digital learning influence their students' learning. To note, applications proposed by teachers are more popularly used than those that aren't. Since the student's view of the teacher's abilities is highly favorable, it involves them in collaboration, communication, and learning creation through the digital platform. As was in the findings of Aditya (2021) [38], teachers must have technological knowledge in advancement because, in digital learning, pedagogy alone would not make any difference to student learning.

C. Sex difference in Digital Learning

The data analysis indicates that male and female students have equal levels of perception concerning their digital learning experience and their social studies teachers' ability. As opposed to previous studies which suggest that males have more advantage in the online classroom because of positive computer self-efficacy and value beliefs [26], the findings show that there is no significant gender difference in online learning.

This may be explained through the high level of academic engagement of females in online settings [30]. Although previous studies suggest that males are more confident with their ICT abilities [39][40], recent studies suggest that females are more tenacious and dedicated [28] which helps them to get better learning results. The academic competence of women which cancels out the unfavorable stereotype impacts in digital learning, may be the reason for the lack of significance of sex difference.

Furthermore, the COVID-19 pandemic has forced students to learn in an online setting. This allows the students to learn and master technical tools [41] which contributes to closing the gap between male and female abilities and advantages when it comes to ICT.

Although ICT is seen as a stereotypically male field which implies the greater advantage of males in online learning, gender differences may be more rooted in gender role concepts rather than biological sex. A study by Korlat et al. (2021) [30], explains that people can identify themselves in terms of both stereotypically feminine and stereotypically masculine qualities regardless of their biological sex. This implies that people who possess masculine characteristics such as independence and bravery, have a higher perception of their mathematics-related competence and performance while people who possess feminine characteristics such as gentleness and kindness have a higher perception of their reading performance. This supports the finding of the study that there is no significant gender difference when it comes to the perception of the students' digital learning experience and their teachers. It also suggests that instead of

biological sex, gender role concepts play more part in the perception of students' digital learning experience.

D. Relationship of Learners Perception of their DLE and their Teachers' Ability

The learners' level of perception of their digital learning experience and their perception of their Social Studies Teacher ability were found to have significant positive relationships.

Such results indicate that learners who have experienced digital learning and their social studies teacher's ability to navigate and include ICT tools in teaching the subject had a positive effect on learning the subject. Thus, according to Khan, Nabi, Khojah, & Tahir (2020) [42], online learning is preferred by learners because it allows them to interact with teachers, other students, and study materials at their convenience. It also helps that the information is easily accessible in a digital learning environment which contributes to the learners' positive perception of online learning. A similar study by Gros, Garcia, and Escofet (2012) [37], found that there is a relationship between the students' perception of the usefulness of an ICT tool and platform and the instructors' suggested uses of technologies introduced by teachers' perceived as highly rated technologies by the students. Moreover, learners' relationship towards learning social studies depended on the teachers' ability to use and utilize ICT tools while learning the subject. It is implied that due to emergency remote learning, the rapid utilization of digital technologies helps the teachers' proficiency and confidence in using ICT tools and found an increase in the motivation of both teachers and students [43].

E. Conclusion

In recognizing the holistic factors that affect the learners' participation in digital learning, the researchers found out that the key stage 2 learners in the National Capital Region have positive digital learning experiences in their social studies subject. Based on the findings, most of the key stage 2 learners in the research locale have access and are required to use ICT in their social studies subject which is a direct effect of industrial revolution 4.0 and the impact of pandemic in our education system. In addition, there is no sex difference in learners' perception of their digital learning experience. This debunks the notion that males have more advantage in digital learning compared to females as suggested by some studies. Regardless of sex, learners have the same learning experience and perception in digital learning. Furthermore, when learners' perception of their digital learning experience increases, their perception of their Social Studies teachers' ability also improves, and vice versa. This brings light to the important role of teachers in the classroom as the primary catalyst of digital literacy skills development and learning.

F. Recommendations

The researchers concluded that there is a significant and positive relationship between learners' experiences and their perceptions of social science teachers' ability in digital learning. However, it implies that regardless of their assigned sex, respondents have similar levels and favorable perceptions of their digital learning experience as well as their Social Studies teacher's skill.

The result of this study arrived at the following recommendations:

1) As researchers found out that the sex of learners has no significance in digital learning, future research should focus on other variables such as age, demographic location, and others.
2) The transition from the traditional environment to digital learning affects different aspects of learning. Future research should investigate how digital learning can affect academic performance.
3) The skill of the teacher is a significant factor in the digital learning experience of the learners. The researchers recommend developing and enhancing the digital literacy skills of pre-service and in-service teachers.

The research may have overlooked lapses insignificant to the intended outcome because of the scope and limitations of the study. The researchers recommend that future studies should focus on the valuable addition to the discoveries for this field using a different research design.

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