

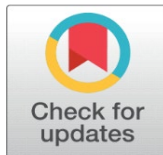


# ENHANCING LITERACY SKILLS OF OUT OF SCHOOL YOUTH USING DRAW APPROACH

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## ABSTRACT

This paper explored the importance and acceptability of Digital Reading and Writing (DRAW) Approach to the improvement of literacy skills of the Out-of-School Youth (OSY) in Asingan, Pangasinan. The three-month intervention involved the use of video based teaching, Power-Point presentations, vodcasts and digital assessment tools. The findings of 61 respondents indicated that there was a significant improvement in the average literacy levels- 12.13 to 18.90. The majority of participants (59) were aged 18-24 and had been out of school 02 years (60.6) most likely because of financial reasons (68.9). The most available learning tool and used to design the program was cellphones (80.3%). Although the digital accessibility was rated down, survey results indicated that the DRAW Approach was supported overall. The outcomes of ANCOVA proved the existence of the improvements by demographic groups, in particular, English-speaking participants. It is also important to note that people who dropped out because of academic struggles also registered improvements. On the basis of these results, a community-based project, the 3-Wheeled Classroom, was suggested, which would take DRAW to poorly served youth so that they can develop localised literacy together.

**Keywords:** Digital Reading and Writing (DRAW) Approach, Literacy Skill, Out-of-School Youth (OSY, Digital Learning, Mobile Classroom and Community-Based Learning)

## 1. INTRODUCTION

The COVID-19 pandemic has created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents. The crisis is exacerbating pre-existing education disparities by reducing the opportunities for many of the most vulnerable children, youth, and adults – those living in poor or rural areas, girls, refugees, persons with disabilities and forcibly displaced persons – to continue their learning [United Nations \(2020\)](#). Also, this significantly shifted education from traditional to a digital version, which was an emergent state for teaching and learning. The substantive situation thus raises the importance of technology integration and application of information communication technology (ICT) in education. Vulnerable groups—such as out-of-school youth (OSY), those in rural and underserved communities, and learners with disabilities—faced the most significant

learning losses. As education systems pivot toward recovery and resilience, there is an urgent need to explore non-formal, flexible, and technology-driven interventions that cater to marginalized learners.

One who does not learn how to read and write will forever pay the price of illiteracy and ignorance. There is a myriad issue that should be investigated to improve learner's literacy with the use of technology and explore the aspirations of the OSY. Classroom teachers are not the only literacy educators in schools, while other volunteers can play an important role in supporting learning in literacy and literature.

There is a dearth of literature on the experiences of youth dropouts whose basic and tertiary education opportunities are just at their doorsteps, thus, this study will be conducted to get a grasp of the first-hand data on the aspirations of these youth dropouts, and to reinforce the existing pieces of technological information of learning and improving their reading and writing skills.

While classroom teachers are traditionally viewed as the primary literacy educators, recent research underscores the vital role of community members and volunteers in delivering informal and non-formal literacy support [OECD \(2022\)](#). Given the proliferation of digital tools and platforms, there is a growing need to explore how technology can be leveraged to improve literacy outcomes among marginalized populations. Despite these advancements, there remains a dearth of literature specifically addressing the lived experiences and aspirations of youth dropouts—especially those with learning opportunities practically within reach yet remain unengaged.

Bringing education to OSYs and other marginalized groups is central to the global commitment to "Education for All" [UNESCO \(2023\)](#). With many OSYs having dropped out due to poverty, academic difficulties, or lack of access to schools, targeted interventions must move beyond formal systems. Non-formal literacy programs, especially those supported by information and communication technology (ICT), offer practical pathways for learning continuity and reintegration into the mainstream education system [Philippine Statistics Authority \(2022\)](#), [Department of Education \(DepEd\) \(2020\)](#). This requires to move beyond formal education and explore non-formal initiatives that could pave the way for youth to return to mainstream education later on.

The increasing out-of-school youth (OSY) is a problematic issue to the goal of Education for All especially in the enhancement of the literacy skills of marginalized groups [UNESCO \(2023\)](#), [PSA \(2022\)](#). However, in contrast to the traditional formal education systems, which do not reach this group of people, the use of technology-enhanced non-formal education programs such as Digital Reading and Writing (DRAW) Approach can provide some opportunities, which have proven to be successful with such programs as the mobile literacy programs by [UNESCO \(2021\)](#) and the eSkwela of the [Philippines \(2019\)](#). These interventions have conformed with social constructivism, which focuses on collaborative learning presented by [Vygotsky \(1978\)](#) and technology acceptance model, which states that user-friendly nature is important [Davis \(1989\)](#). Nevertheless, much is still unknown about the OSY-specific literacy needs and the efficacy of the low-tech solutions that are localized [SEAMEO-INNOTECH \(2021\)](#), [World Bank \(2022\)](#), which is why innovative solutions, such as DRAW that should involve the use of digital tools alongside community-based systems of support, can help to encourage inclusive and transformative literacy education.

Some of the studies are in favor of incorporating digital technologies in literacy interventions. As an example, [Warschauer and Matuchniak \(2010\)](#) stress that the gap in education of the marginalized population can be filled with the help of digital literacy tools, which must be contextualized. On the same note, [UNESCO \(2021\)](#) exemplified the effectiveness of mobile literacy initiatives in remote territories, in particular, those that involve a learner-focused design and local context and community engagement. The programmes like Eskwela and the Alternative Learning System (ALS), in the Philippine context, have demonstrated potential in meeting the literacy requirements of OSYS employees by delivering the learning process through blended and flexible methods [DepEd \(2019\)](#), [SEAMEO-INNOTECH \(2021\)](#).

The theory of social constructivism by [Vygotsky \(1978\)](#) is based on the idea of the relevance of interaction and scaffolding in the process of learning, and it implies that it is possible to develop literacy through interpersonal, contextualized practices. The DRAW Approach corresponds to such an outlook where it incorporates digital information into the real life learning context and promotes peer- and mentor-support. Moreover, the Technology Acceptance Model (TAM) created by [Davis \(1989\)](#) emphasizes the importance of the perceived usefulness and ease of use in the process of adopting digital platforms. These models support the topicality of user-friendly, low-end technologies that access learners in their location, and in particular in the low resource context.

Contemporary education is, in part, concerned with improving the literacy performance of the youth [Greenwood et al. \(2010\)](#). This negative trend of out of school is harmful to these youngsters. This is the aim of the research study to

struggle with OSYs in order to improve their literacy, especially their reading and writing abilities, through the formation of recommendations or current intervention strategies in order to make OSY fulfill their dreams and be capable of making productive members of the society. The problem of illiteracy still makes young people unable to obtain information, find a decent job and be active members of society. Literacy problems tend to encourage poverty and social marginalization. To address this, the suggested solution in this paper is the Digital Reading and Writing (DRAW) Approach, an ICT based literacy model, which incorporates video-based instruction, digital tools, and mobile-friendly tests, as a scalable intervention to improve reading and writing abilities of OSYs in Asingan, Pangasinan.

Regardless of the existence of promising technologies, it has been shown that most literacy programs fail to accommodate the needs and goals of OSYs. Additionally, the non-formal support of literacy often requires teachers, as well as volunteers, local leaders, and community stakeholders, who could be crucial in teaching and guidance [OECD \(2022\)](#), [Kim et al. \(2021\)](#). Therefore, the community-based and context-responsive interventions should be based on the environment, the resources, and cultural realities of the learners.

The proposed study aims to collect primary information about the profile and literacy requirements of OSYs and determine the efficiency of the technology-based intervention, i.e., the Digital Reading and Writing (DRAW) Approach. By this it will be able to add value and viable solutions to promote inclusive and transformative literacy education. Through formulated recommendations or contemporary intervention strategies will enable the OSYs to achieve their dreams and become fully functioning citizens of the society.

This paper will address this knowledge gap in the literature by assessing the effectiveness and acceptability of DRAW Approach within one of the local contexts. This study will bring the benefits of effective design and implementation of technology-mediated literacy instruction to the field of policy and practice of teaching inclusive education in order to see OSYs reach their potential and be productive members of society.

## 2. OBJECTIVES OF THE STUDY

This study aimed to determine the effectiveness and acceptability of the Digital Reading and Writing (DRAW) approach in enhancing the literacy skills of Out-of-School Youth (OSY). Specifically, it sought to answer the following questions:

- 1) What is the profile of the respondents in terms of:
  - age;
  - gender;
  - language spoken at home;
  - number of years as out-of-school youth;
  - parents' educational attainment;
  - monthly family income;
  - technology use at home;
  - occupation of parents?
- 2) What are the reasons why Out-of School-Youth (OSY) for drop out or discontinue their education?
- 3) What is the literacy performance level of OSY in terms of their pretest and posttest results?
- 4) What is the level of acceptability of the DRAW approach in improving the literacy skills of OSY?
- 5) Is there a significant difference between the pretest and posttest literacy performance of the respondents based on their profile? ANCOVA
- 6) What community -based initiative can be developed to provide accessible, inclusive and engaging literacy education for out of school youth (OSY)?

## 3. MATERIALS AND METHODS

This study employed a **quantitative research design** using a **pretest-posttest approach** to determine the effectiveness and acceptability of the Digital Reading and Writing (DRAW) Approach in enhancing the literacy skills of

Out-of-School Youth (OSY) in Asingan, Pangasinan. The intervention was conducted over a three-month period and was supported by the implementation of digital learning technologies.

### **3.1. PARTICIPANTS**

A total of **61 OSYs** from selected barangays in Asingan participated in the study. The participants came from diverse socioeconomic and educational backgrounds, as captured in their profile data and, and willing to participate in the intervention and assessments.

### **3.2. INSTRUMENTS**

To assess the literacy skills of the participants, pretest and posttest reading and writing assessments were administered. The literacy test was modeled in order to read the comprehension and writing ability of the Out-of-School Youth (OSY).

The validity of the assessment tools was tested at Alternative Learning System (ALS) teachers of district I, Asingan, and at English teachers of Pangasinan State University -Asingan Campus, where content and construct validity was confirmed.

A survey questionnaire was also formulated to ascertain the level of acceptability of DRAW approach. The tool measured four domains, namely (A) Usefulness and Effectiveness, (B) Digital Accessibility and Ease of Use, (C) Motivation and Engagement, and (D) Overall Acceptability. The items were rated on the 5-point Likert scale. The survey was expertly validated by the professionals in the sphere of education, assessment, and educational technology to ensure the relevance, clarity, and reliability.

### **3.3. PROCEDURE**

All the participants were requested to fill a Personal Data Sheet in order to collect their background and demographic data before the intervention was realized. After this, a pretest was conducted to determine their initial level of literacy when it comes to reading and writing. The intervention was a month long, where the participants had a set of structured learning sessions based on Digital Reading and Writing (DRAW) Approach.

The workshops were face-to-face and included a range of digital learning tools such as Power-Point presentations, video discussions, interactive assessment, and tablet based activities. In order to increase accessibility and strengthen learning and assure that they will make an effort, all the digital learning resources were additionally distributed directly to the OSYs through their contact numbers and Facebook accounts, which allowed participants to have a regular access to reference materials as they could learn at their own pace.

A reward system was proposed to motivate the participants to engage actively. The incentives were given to the participants who scored high in their tests and showed active participation in the sessions. This also created a feeling of accomplishment and positive feedback in the minds of the learners besides boosting their compliance and this led to their long term interest and involvement in the program.

The posttest was administered through the same assessment structure as the pretest to test the literacy gains after the intervention. Also, the acceptability survey was given to the respondents to get a response on the usability, effectiveness, and overall experience with the DRAW approach.

### **3.4. DATA ANALYSIS**

Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to analyze the demographic profile of respondents and literacy performance levels. The difference between pretest and posttest scores was analyzed using Analysis of Covariance (ANCOVA) to determine the effectiveness of the intervention while controlling for profile variables. The level of acceptability of the DRAW approach was interpreted using Average Weighted Mean (AWM) and categorized according to a defined Likert scale interpretation.

## 4. RESULTS AND DISCUSSION

Table 1

n=61

Table 1 Frequency Distribution of the Respondents Along Profile Variables		Frequency	Percent
Age	(10-14) Middle Childhood	4	6.6
	(15-17) Junior Youth	9	14.8
	(18-24) Senior Youth	36	59
	(25-30) Young Adult	7	11.5
	(31 above) Adult	5	8.2
Gender	Female	26	42.6
	Male	35	57.4
Language Used at Home	Ilocano	46	75.4
	English	3	4.9
	Tagalog	24	39.3
Number of Years	0 - 2 Years	37	60.6
	3 - 5 Years	15	24.6
	6 and Above	9	14.8
Highest Educational Attainment of Parents	Elementary	20	32.8
	High School	23	37.7
	High School Undergraduate	3	4.9
	College Graduate	12	19.7
	College Graduate	3	4.9
Monthly Family Income	Less than P9100	55	90.2
	Between P9,100 to P18,200	5	8.2
	Between P36,000 to 63,700	1	1.6
Technology Use at Home	Laptop	1	1.6
	Television	20	32.8
	Cellphone	49	80.3
	Others	11	18
Mothers Occupation	Professional	2	3.3
	Skilled	17	27.9
	Non-skilled	42	68.9
Fathers Occupation	Professional	1	1.6
	Skilled	19	31.1
	Non-skilled	41	67.2

Table 1 shows that the profile of the Out-of-School Youth (OSY) respondents reveals the significance for the implementation of DRAW (Digital Reading and Writing Approach) program. The findings show that the greater number of respondents belongs to the 18–24 age group (59.0%), indicating that most respondents are in their senior youth level. Out of the 61 respondents, it could be noted from the data gathered that the 57.4% are male and 42.6% are female. This observation means that there are more male respondents engaged as OSY as compared to female respondents. This may be attributed to the fact that many females, especially those who are already married, are often occupied with household duties and taking care of children at home. These roles limit their mobility and availability to participate in literacy programs or community-based learning sessions. The high percentage of men participants also hints at the necessity of the flexible and livelihood-based learning [OECD \(2022\)](#) and gender-sensitive schedules to address females that combine their household responsibilities with learning. This underscores the need to ensure the development of inclusive and accessible learning opportunities, which also take into account the special condition of young women, especially those who have family obligations.

Most of them speak Ilocano at home (75.4%), and this fact also supports the idea that it is necessary to implement either mother tongue-based instruction or code-switching strategies to better understand the concept. It was observed that 60.6 out of the OSYs have not been out of school longer than 0 2 years therefore indicating they are still up to date with the basic learning capabilities and could still resume schooling. In terms of educational attainment of parents, most respondents' parents attained either elementary (32.8%) or high school level (37.7%), that implies the need for guidance /intervention for literacy instruction from other source. The respondents' families earning (₱9,100/month) belong to the poverty line (90.2%), cellphone with 80.3% is the most available technological learning tools. Additionally, most parents work in non-skilled occupations (mothers: 68.9%, fathers: 67.2%) thus the OSYs then grow up who also face the same challenges in education. This supports the need for a literacy enhancement program that not only addresses the academic needs of OSYs but also empowers families toward lifelong learning. According to [UNESCO \(2023\)](#), literacy programs targeting marginalized youth must be inclusive, multilingual, and designed around technologies already available to the learners, especially mobile phones, to bridge persistent educational inequalities.

**Table 2**

Table 2 Reasons for Osy Dropping Out or Discontinuing Education		
Reasons	Frequency	Percent
Financial Problem	42	68.9
Family Issues	16	26.2
School Environment	5	8.2
Academic Difficulty	2	3.3
Housekeeping	0	0.0
Lack of Personal Interest	0	0.0
Employment /Looking for Work	16	26.2
Illness/Disability	0	0.0
Marriage	0	0.0
Others	2	3.3

The data in [Table 2](#) presents the key reasons why Out-of-School Youth (OSY) discontinue their education. Financial difficulty is the most dominant one (68.9 percent of the respondents), which highlights how poverty is a significant hindrance to schooling, a pattern also observed by [UNESCO \(2016\)](#) across several developing countries, such as Southeast Asia.

The need to work and family issues are both next at 26.2%. These are care giving responsibilities, family conflicts or lack of such, which agrees with [Lamb et al. \(2011\)](#), who identified the effects of family instability on school retention. Economic strains of having to earn money also compel many youth to drop out of school as [Bridgeland et al. \(2006\)](#) discovered in such studies.

Often, but not as frequently, there were school-related problems (8.2%) and academic difficulties (3.3%). This could demoralize learners, which is in line with [Rumberger \(2011\)](#) and [Battin-Pearson et al. \(2000\)](#), who proposed that dropout rates were attributed to unfavorable school environments and absence of academic support.

**Table 3**

Table 3 Literacy Performance Level of Osy on Their Pretest and Posttest Results					
		Pretest		Posttest	
		Frequency	Percent	Frequency	Percent
Frequency Distribution	Very Poor	1	1.6	0	0.0
	Poor	25	41.0	5	8.2
	Fair	21	34.4	6	9.8
	Good	11	18.0	30	49.2
	Very Good	2	3.3	15	24.6
	Outstanding	1	1.6	5	8.2
Minimum		3.00		8.00	
Maximum		26.00		28.00	

Mean	12.1311	18.9016
Std. Deviation	4.60968	4.54498
Shape of the Distribution	Skewness	0.716
	Std. Error of Skewness	0.306
	Description	Positively Skewed
	Kurtosis	0.392
	Std. Error of Kurtosis	0.604
	Description	Mesokurtic
Over-all Description	Non-parametric	Parametric

The information on the level of literacy performance of out-of-school youth (OSY) indicates that the results were significantly higher in the posttest as compared to those of pretest, which proves the high effectiveness of the DRAW (Digital Reading and Writing Approach) intervention. Most of the OSYs before the intervention were ranked as Poor (41.0%) and Fair (34.4% with only a small proportion of Very Good (3.3% and Outstanding (1.6)). After the program was implemented the performance changed significantly: almost half of the participants (49.2) achieved the Good level, and 32.8% achieved the Very Good or outstanding literacy performance. The average score rose significantly, 12.13 to 18.90 and the score distribution shifted to a non-skewed one, which shows that there were extensive and uniform improvements in the literacy of the participants. These results highlight the radical effect of the structured and context responsive literacy programs, especially in the event of meeting the learning requirements of the marginalized groups. In its favor, some recent studies have proven the efficiency of the targeted literacy interventions. [Wheldall et al. \(2017\)](#) reported substantial changes in various literacy areas in disadvantaged students in interventions in small groups. The same results were noted by [Tamaban et al. \(2020\)](#), who claimed that the English communication skills of OSYs had increased significantly over time, with the respondents decreasing their performance ratings of one of the poorest to one of the most satisfactory. In a more recent study, it was discovered that phonological awareness and rapid automatized naming showed sustained benefits in low socioeconomic preschoolers, after an intensive, early literacy intervention [Sümer et al. \(2024\)](#). The results of these studies support the findings of the current study and confirm the advantages of strategic, adaptive, and inclusive literacy improvement programs to out-of-school youth.

**Table 4****Table 4 Level of Acceptability of the Draw (Digital Reading and Writing) Approach in Enhancing the Literacy Skills of Out-of-School Youth (Osy)**

	Mean	Description
<b>A. Usefulness and Effectiveness</b>		
The DRAW approach enhances my reading comprehension.	4.6557	HA
It helps me write more clearly and correctly.	4.7869	HA
DRAW helps me understand lessons better than traditional methods.	4.8689	HA
	<b>4.7705</b>	<b>HA</b>
<b>B. Digital Accessibility and Ease of Use</b>		
I find it easy to use digital tools or platforms in DRAW.	3.4098	MA
I can participate in DRAW activities with little assistance.	3.8689	A
The instructions in the DRAW sessions are easy to follow.	4.5574	HA
	<b>3.9454</b>	<b>A</b>
<b>C. Motivation and Engagement</b>		
DRAW activities are interesting and keep me engaged.	4.7049	HA
I feel motivated to attend and complete DRAW sessions.	4.7705	HA
I prefer DRAW compared to paper-based literacy learning.	4.9016	HA
	<b>4.7923</b>	<b>HA</b>
<b>D. Overall Acceptability</b>		
I accept the DRAW approach as a helpful learning strategy.	4.6721	HA
I am willing to continue learning using the DRAW approach.	4.7049	HA

I would recommend the DRAW approach to other out-of-school youth.		4.8852	HA		
		<b>4.7541</b>	<b>HA</b>		
		<b>4.5656</b>	<b>HA</b>		
<i>1 - 1.5 (PA)</i>	<i>1.51 - 2.5 (LA)</i>	<i>2.51-3.50 (MA)</i>	<i>3.51-4.50 (A)</i>	<i>4.51 - 5.00 (HA)</i>	
<i>Poorly Accepted</i>	<i>Less Accepted</i>	<i>Moderately Accepted</i>	<i>Accepted</i>	<i>Highly Accepted</i>	

According to the obtained data, the degree of acceptability of the Digital Reading and Writing Approach (DRAW) to the improvement of literacy skills of the Out-of-School Youth (OSY) is rated as highly acceptable (with an overall weighted mean of 4.5656), which falls within the range of highly acceptable (4.5150). Out of the four indicators that were measured, Motivation and Engagement shown the highest mean score (4.7923), meaning that the activities undertaken in the DRAW were considered by OSYs to be stimulating, and fun to engage in, compared to the traditional, paper-based activities. Equally, the rating on Usefulness and Effectiveness was high (4.7705), which confirmed that the methodology played an important role in enhancing the reading comprehension, writing clarity and learning of lessons. Even though Digital Accessibility and Ease of Use had the lowest mean (3.9454), it remained in the Accepted range which means that the participants have mostly navigated the digital tools, nevertheless, some of them still needed the help probably because they have not been exposed to the digital tools before or because of digital literacy. Overall Acceptability was also rather high (4.7541), which means that there was a high intention of OSYs to remain using and referring to the DRAW approach.

The results have significant implications to educators and designers of literacy programs to marginalized learners. The great acceptability of the DRAW approach is an indicator that digitally mediated, interactive, and learner-based literacy strategies are well received by OSY populations, particularly in cases when material is interactive and easily accessible. Nonetheless, the minor difference in the digital accessibility points to the necessity to supplement such programs with digital skills education and device access support. The existing literature proves these findings: [UNESCO \(2023\)](#) states that the incorporation of digital learning into literacy apprenticeship programs contributes to a stronger motivation and self-efficacy of learners, especially when the platforms are built according to the circumstances of learners. In a similar manner, [Graham and Doolan \(2022\)](#) affirm that digital literacy interventions enhance writing fluency and engagement in disadvantaged learners in case of being supported with instructions and scaffolding. Therefore, the DRAW strategy can not only meet the basic literacy requirements but also enable OSYs to engage in the more digital world.

**Table 5**

	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
<b>Pre-Post</b>		<b>1398.107</b>	<b>1</b>	<b>1398.107</b>	<b>79.514 **</b>	<b>0</b>	<b>0.443</b>
Age		14.968	1	14.968	0.851	0.358	0.008
Gender		12.534	1	12.534	0.713	0.401	0.007
Language Used at Home	Ilocano	0.081	1	0.081	0.005	0.946	0.000
	<b>English</b>	<b>70.151</b>	<b>1</b>	<b>70.151</b>	<b>3.990*</b>	<b>0.048</b>	<b>0.038</b>
	Tagalog	0.081	1	0.081	0.005	0.946	0.000
Number of Years		54.994	1	54.994	3.128	0.080	0.030
Reasons for dropping	Financial Problem	3.239	1	3.239	0.184	0.669	0.002
	School Environment	0.605	1	0.605	0.034	0.853	0.000
	House keeping	0.000	0				0.000
	Employment	6.233	1	6.233	0.355	0.553	0.004
	Marriage	0.000	0				0.000
	Family Issues	11.545	1	11.545	0.657	0.420	0.007
	<b>Academic Difficulty</b>	<b>97.091</b>	<b>1</b>	<b>97.091</b>	<b>5.522*</b>	<b>0.021</b>	<b>0.052</b>
	Mental Illness	0.000	0				0.000

	Others1_A	3.566	1	3.566	0.203	0.653	0.002
	Educational Attainment of Parents	1.517	1	1.517	0.086	0.770	0.001
	Monthly Family Income	16.227	1	16.227	0.923	0.339	0.009
Technology Used at Home	Laptop	2.909	1	2.909	0.165	0.685	0.002
	television	35.549	1	35.549	2.022	0.158	0.020
	cellphone	12.082	1	12.082	0.687	0.409	0.007
	others1_B	12.769	1	12.769	0.726	0.396	0.007
Mother Occupation		18.035	1	18.035	1.026	0.314	0.010
Father Occupation		8.613	1	8.613	0.490	0.486	0.005

The ANCOVA findings show that the difference between the pretest and posttest literacy performance of the respondents is significant ( $p=0.000$  and  $F=79.514$ ) having a strong effect of the DRAW (Digital Reading and Writing) intervention. A value of 0.443 in the partial eta squared indicates a huge effect size, that is, the intervention explained a significant share of the variance in the literacy performance with or without the profiles of the respondents. In addition, English use at home became a substantial variable that determined the difference between pre-test and post-test literacy performances ( $F = 3.990$ ,  $p = 0.048$ ). This implies that the DRAW intervention was more effective on the OSYs who speak English at home than on their counterparts who use other languages like Ilocano or Tagalog as their main language. Even though the size of the effect (partial eta squared = 0.038) can be considered rather small, it shows that exposure to English in the home setting has a positive impact on the capabilities of learners to work with digital reading and writing materials, the vast majority of which are frequently presented in English.

Nevertheless, there was no significant interaction effect on most demographic variables, such as age ( $p = 0.358$ ), gender ( $p = 0.401$ ), language used at home (Ilocano and Tagalog,  $p = 0.946$ ), and income ( $p = 0.339$ ), meaning that the DRAW approach positively influenced the OSYs in all the profile groups.

The large literacy gains that were evident in the DRAW intervention are in line with the latest studies on the use of technology-enhanced learning with marginalized youth. [Rodriguez et al. \(2023\)](#) reported such improvements in digital literacy courses, which were delivered through mobile-based teaching, specifically, the implementation of multimedia components, such as those in DRAW (video-based lessons, interactive tests). They point out that scaffolded online learning has the potential to transcend classical obstacles to education and enable the DRAW to be effective among representatives of different population groups (age, gender, income). Nevertheless, the larger advantages of the English-speaking OSYs echo with the Global Education Monitoring Report published by [UNESCO \(2023\)](#) that puts an accent on the impact of the language of instruction on learning in the online setting. This indicates that although the materials of DRAW using the English medium were generally good, it might help to introduce the idea of multilingual material (especially Ilocano, which 75.4% of the participants speak) to increase the levels of equity, which was also effectively applied to address the same problem in the Philippines, through its DepEd ALS programs [Department of Education \(DepEd\) \(2022\)](#).

The success of the program in socioeconomic groups is in line with the findings of [World Bank \(2023\)](#) that mobile-friendly interventions can address education disparities associated with poverty. Nevertheless, the relatively low effect size of English exposure ( $\eta^2 = 0.038$ ) means that there is still room to enhance it with local modifications, as is suggested by recent research on mother tongue-based EdTech [García and Tupas \(2024\)](#). The consistent benefits for all demographic groups support OECD's (2023) conclusion that well-designed digital interventions can be universally effective, though scholars like [Smith et al. \(2024\)](#) caution that sustained impact requires ongoing community engagement—highlighting the importance of DRAW's proposed 3-Wheeled Classroom model for long-term implementation.

## 5. CONCLUSION AND RECOMENDATIONS

In the light of the above findings the following conclusions are drawn:

## 5.1. CONCLUSIONS

- The majority of the OSY respondents were aged 18–24 years old (59.0%), predominantly male (57.4%), and mostly spoke Ilocano (75.4%) at home. Most had been out of school for 0–2 years (60.6%), and the primary reason for dropping out was financial difficulty (68.9%). Many of their families earned below the poverty line, with 90.2% earning less than ₱9,100/month, and the most accessible learning tool was the cellphone (80.3%). These characteristics helped shape the design and delivery of a context-based, accessible literacy program.
- The level of literacy saw a dramatic elevation with mean scores going up to 18.90 (posttest) as compared to the pretest of 12.13. The majority of OSYs have shifted between the levels of performance of poor, fair, and good to very good and even outstanding, which proves the effectiveness of the DRAW Approach.
- DRAW Approach was very well accepted by the OSYs with the overall weighted mean value of 4.57. The highest score was given to motivation and engagement, digital accessibility was rated a little lower, but still acceptable, which means that OSYs will be able to use digital tools given the appropriate guidance and tools.
- There was a great disparity between those who were English speakers at home because they were more improved in their literacy probably because they are accustomed to the language being used in digital materials. Similarly, the academic-dropouts also showed impressive gains and this indicates the capability of the DRAW Approach in assisting learners who experienced past academic troubles. There were no significant differences with other variables like age, gender, income and occupation of parents, indicating that the intervention was inclusive and effective in different groups of learners.
- The proposed study suggested a 3-Wheeled Classroom, a mobile and community-based classroom model of implementing the DRAW program to OSYs, in the barangays. This will facilitate access, participation, and counter logistical and motivational challenges particularly among the individuals in far places or limited resources.

## 5.2. RECOMMENDATIONS

- Develop and implement targeted literacy interventions that consider the socioeconomic status, native language, and technology access of OSYs. Since most OSYs come from low-income households and use cellphones as their primary digital tool, programs should be mobile-friendly, cost-free, and delivered in the local language or with code-switching strategies. Continue and scale up the DRAW Approach as an effective intervention based on the significant improvement in literacy scores. Incorporate regular monitoring and assessment to track progress and provide remedial support when needed.
- Strengthen digital literacy to address the gap in digital accessibility, provide digital literacy orientations or tutorials before the sessions begin. And should be integrated into the program, enabling OSYs to better utilize digital tools.
- Maintain the use of interactive and engaging digital materials, and integrate reward systems or recognition strategies to sustain motivation for OSYs.
- Provide additional English language support for learners who speak Ilocano or Tagalog at home, as English speakers showed better literacy gains. Design differentiated learning materials to cater to the varying academic histories of OSYs, especially those who dropped out due to academic difficulties.
- Develop a 3-Wheeled Classroom as a mobile learning solution that delivers the DRAW program to reach more barangays, especially remote areas where access to formal schooling and technology is limited.
- Strengthen partnerships with schools, barangay officials, LGUs, ALS teachers, community volunteers, and local schools to ensure sustainability, monitoring of the program, and continuous support.
- Explore the long-term impact of the DRAW Approach on OSYs' academic and employment outcomes, and its adaptability to other marginalized learner groups such as young mothers, learners with disabilities, or out-of-school adults.

- To enhance accessibility and engagement, adapt DRAW materials into Ilocano and Filipino while retaining key English terms for digital literacy. Utilize existing DepEd MTB-MLE and ALS resources for culturally relevant translations. This approach ensures OSY better understand lessons while bridging language gaps in learning.

## CONFLICT OF INTERESTS

None.

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