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The subthemes of JES include: teaching and learning, policy and implementation, critical literacy, the development of pedagogies, instructional materials (IMs) and support materials, measurement and evaluation, K to 12 education, higher education, special education, professional education, educational technology, technical-vocational education, online education, distance education, alternative education, and indigenous peoples' (IP) education. Researchers, scholars, and educators are invited to submit research and theoretical papers for consideration.

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 - **Theoretical/Conceptual Framework** (1 page)
 - **Research Questions**
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 - Design
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 - Data Analysis
 - Ethical Considerations
 - **Reflexivity** (for qualitative research only)
 - **Results and Discussion**
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 - Abstract
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TABLE OF CONTENTS

- 1-18** Breaking the Political Vices: Transformative Glimmer in
Philippine Representation from the Public Educators' Publicness
Vistas
Victor Bactol, Jr. and Dennis C. Coronacion
- 19-33** The Lived Experiences of Out-Of-Field Senior High School
Teachers
Edzel N. Baras and Arlene V. Gillo
- 34-42** The Effects of Project RePo on Grade 7 Students' Reading Skills
and Proficiencies
Jeff Jerhon J. Rubi
- 43-56** Efficacy of ChatGPT in Academic Outputs of Fourth-Year BSIT
Students
**Marian Jake Bula, Alex Gabrielle Marri Sequito, and Kenneth
De Paz**
- 57-71** Integrating GeoGebra in Teaching Hyperbolic Geometry:
Experiences and Insights of Math Majors in the New Normal
**Raymond C. Negros, Roel Victor O. Morales, Cresselyn Joy
C. Villabeto, Dezerie B. Mendoza, Jemie N. Reyes, and
Michael Jun M. Ponciano**
- 72-84** Prevalence of Diabetes Among Out-Patients in a Private Hospital
Edgardo E. Daya
- 85-101** Sosyal Midya: Lundayan sa Pagpapahayag ng Kamalayang
Kultural ng mga Gen Z.
Daril Formanes

Breaking the Political Vices: Transformative Glimmer in Philippine Representation from the Public Educators' Publicness Vistas

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Abstract

This study went through the recent development on how representative process should be in a country where the democratization trajectory was never examined from the ordinary citizens' view within the seven-decade republicanism. Data were extracted from 334 basic educators out of 2,036 population. Slovin's formula was utilized to determine the sample size. Moreover, the quantitative data were analyzed by employing descriptive analysis of 4-point scale researcher-made questionnaires, bearing an internal consistency of 0.905 and 0.910 Chronbach's Alpha reliability. Indicators emphasized the supposed roles of representatives in a substantive democracy. The results showed that the respondents' sophistication degree on their concept of democratic representation was very high with an overall mean of 3.35 (SD=.66), and a high degree sophistication in their consciousness of democratic representation with a mean of 3.01 (SD=.74). Data showed that the respondents' idea of representative system transcends procedural representation where representatives make decisions beyond the cavil of the represented. It is concluded that notwithstanding their political passivity, the respondents' bulk of responses around the publicness scenario delineates a mechanism for a more democratic Philippines.

Keywords: *Citizens' Participation, Democratization, Governance, Liberal Democracy, Representative System.*

Introduction

For several decades, the lone trust mechanism in an electoral representative system had perennially disclosed habitual representatives' political vices in governance. The notion of putting trust on any politician adapted in many representative systems no longer holds water to yield doubtless outcomes in the service to the people. Politics is a clash of various interests

for which top political actors do not vacillate, resorting to a moral means to ascend or stay in power. Thus trusting politicians in countless instances had been observed to result in total disillusionment – a common occurrence in a less democratic electoral representation in many developing states like the Philippines. Absence of an apparent sign for a more democratic transformation behind

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electoral representation over a long period of time in a developing state merits direct attention. This would necessarily challenge the complacency of concerned individuals to investigate what plays behind people's mind on matters of representative-represented involvements. Representation is a contractual reality that entails continuous reciprocity of the parties bound by mutual trust. However, constant observation shows intensifying degree of skepticism towards the established electoral democracy (Bactol & Coronacion, 2020; Coffe & Michels, 2014; Coleman & Wright 2008).

Electoral representation in most developing countries continued to be in question. Its waning integrity had been constantly discursive in the past few decades in many decolonized states where eventual modifications thereof had been introduced (Aragones & Sanchez, 2009; Breuer, 2007). The Philippines on the other hand, like other developing countries, remained unperturbed by the transformative changes occurring in other states. While the opposing powers therein between strategic political leaders and the constituents moving for democratization pointed out by Fukuyama (2015) persist. This phenomenon was seemingly unnoticed by majority of the ordinary people in the country.

Many authors in politics underwent dialectic analyses governing political representations and its resulting failures. Yet, no bottom-up study conducted delving on the views of ordinary Filipinos utilizing a sample to discover current understanding on how representation should work as democratically contemplated. The studies of Miranda (2016) and Ronas (2016) went only through the

democratization process interpreting political phenomena in the subject. While the tri-media were particular on the programmatic platforms of the politicians, other studies concentrated on assessing the effectiveness of the public officials, such as their performance on the delivery of public goods.

Unlike usual concentrations, the present quantitative study traversed across the ordinary public educators' understanding on how representation should be. The qualitative study on the public educators' perceptions on representation by Bactol and Coronacion (2020) was instrumental to this end. In line with the country's democratic development, the study aimed to discover respondents' ruminations having been immersed in Philippine representation as ordinary Filipinos. Conceptualized indicators were intended to unravel the expected roles of both the representatives and the represented in governance. Public school teachers are dynamic repositories of knowledge not only on things within the realms of their teaching enthrallment. Despite electioneering prohibitions, they are uplifting citizens' participation in civic and political activities. As paragons of good citizenship, they are effective socializers for nation-building, state-building and governance. Hence, their inner views matter the most for political enlightenment and progressive outlooks necessary for a more people-oriented system of representation in the country.

Literature Review

The term democracy pertains to a variety of radical to moderate regimes (Schmidt, 2002). One of them is representative democracy – a regime whose

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RESEARCH ARTICLE

A Refereed Journal

genus shares the so-called Linconian democratic trademark reflecting a varied degree of democratic practices. These are manifested by barometers of democratic political performance of political productivity outcome such as measures of the political process and policy results . . . (Schmidt, 2002).

In this regime, elected public officials manage governmental affairs contemplating the ideals or the practical spirit of the social contract in a representative-represented system (Bactol & Coronacion, 2020). Such regime contemplates the best interest of the represented individuals; they being upon whom the sovereign power is vested (Nachura, 2015). This type of democracy by representation was traced on the second democratic transformation (Hug, 2009).

Democracy underwent waves of transformation in the process of its appreciation and has yet to transform further (Fukuyama, 2015). In the first half of the 20th century, the UN officials conceived democracy as a governmental system with its laws and institutions reflecting the people's will and power. Later, democratization was viewed as a gradual process that fosters a more participatory, less authoritarian society (Fukuyama, 2015). With the institutionalization of representation in democratic process, the expectations of the people from a state that acclimated representative democracy externalized how democracy through their representatives should work. This was further implied by the people's willingness and strong approval to sustain democracy and democratic institutions (Tormey, 2014). Democracy would persist as long as political institutions are democratic inasmuch as a majority can change the status quo . . . and the social

context cannot turn the principles of political freedom and equality into mere formalities (Munck, 2014).

Freedom [itself] is power dependent on preventing or prevailing over conditions of domineering entities (Hamilton, 2018). It happens by ensuring power, control, and self-control over certain dimensions, *e.g.*, “*the power to determine social and economic environment via meaningful control over one's economic and political representatives . . .*” (Hamilton, 2018, p. 9). Regardless as to who exercises the imposition, the nature of power remains a tension emanating, among others interests (Ronen, 2013). Same tension over groups of individuals along the lengthy struggle for true democracy where both rule of law and accountability are the alternating means for constraining the government to consider the broader public (Fukuyama, 2015).

People's freedom as power in normal situations is never a simplistic matter of definite individual control over a lot of domains. Everyone's freedom is determined to a remarkable extent by a collection of variables to execute with these groups' nature and power and their respective representatives (Hamilton, 2018). Any government could only stick to its mandate to protect the legitimate voice of the people in their struggle for better democracy (Fukuyama, 2015). True democracy, being the people's will, is the ultimate goal (Accetti et al., 2016).

Representative democracy in many countries earned heavy criticisms over failures to guaranty citizens' interests (Mackin, 2005). The lower class in the countries of both North and South was barely

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and ineffectively participating in representative democracy (Fukuyama, 2015).

With the traditional elitist struggle for power, ordinary citizens such as in the Philippines are limited to performing their participatory role during regular elections alone (Ronas, 2016). Thereafter, they are relegated as observers in the game of politics (Biegelbauer & Hansen, 2011) under the controlling politicians (Dunn, 2018).

The grassroots are not well-organized, more so poorly served by the politicians who are only interested in their votes while declaring themselves as representatives of the people's interests (Bactol & Coronacion, 2020). Existing legitimacy crisis vis-à-vis the institutions before the sight of the marginalized and the increasing number of middle class people have been documented thoroughly. More particularly, participatory research in twenty-three countries showed that the recent 'consultations with the poor' report, prepared for the World Development Report 2001, concludes a governance crisis where marginalized people were excluded (Pimbert & Wakeford, 2001).

The problems encountered in representative democracy can be traced to its conceptualization associated with representation in the performance (Urbinati, 2011). Schmidt (2002) noted differences in degree of performance rather than differences of democracy. As regards performance, representative democracy was exhausted for many grounds worth investigating. Most of these are within the shared representative-represented responsibility needing

continuous reconstruction in the process (Tormey, 2015). On this note, Hamilton (2018) emphasized reinvention, strengthening, and/or modification for improvement thereof. Same reason challenged political practitioners and scholars to move along with their analysis and findings (Coffe & Michels, 2014).

Existing researches discovered a dwindling degree of satisfaction with the representative democracy, institutions and processes associated fundamentally with the principle governing elected individuals as representatives (Coffe & Michels, 2014; Kaase & Newton, 1995; Mackin, 2005; Miranda, 2016). These resulted in the so-called declining trust in representatives (Fukuyama, 2015; Mackin, 2005). Thus, increasing levels of skepticism towards institutions of representative democracy became inspirational towards interest augmentation for alternative choices of decision-making among scholars and political practitioners (Coffe & Michels, 2014; Vigoda, 2002; Woodford & Preston, 2013).

Indubitably, representatives/institutions themselves can make wise decisions. This is not absolute though (Junaenah, 2015). At times, the government transgresses the individuals' rights (Fukuyama, 2015).

Moreover, it is miserly to centralize bargaining via common representatives (Hirst, 2013) and representative democracy is a source of inefficiency (Acemoglu et al., 2011; Crain, 2002). These may not necessarily reach the crisis point in democracy. Nonetheless, there were sufficient reasons calling for attention and

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situations considering actions to mend political trust and satisfaction beneficial to the constituents (Coffe & Michels, 2002).

Hamilton (2014) also stressed that power is integral to freedom. Specifically power [via political representation] and freedom can be acquired on the condition that the existing patterns of representation handle power relations to control domination in establishing priorities such as the interests and needs. In many representative democracies, this power is manipulated by the representatives (Urbinati, 2011). However, undeniably citizens too have the power. They can decide on policy proposals and politicians can assume the role of policy implementation (Fournier, 2011; Aragonés & Sanchez, 2009). Consistent to this, Hamilton (2014), proposed an institutional renovation for representative democracy reinvention relative to freedom as power through representation.

Under the democratization process, certain undertakings with typical underpinning adopted specific modifications enhancing representative democracy. These include negotiatory mechanisms giving voice to interdependent actors with further considerations of the minority in particular countries (Hart & Kleiboer, 1995). Some of these representative democratic transformatory enhancements are: 1) Deliberative and inclusionary processes (DIPs) where deliberation is an essential component for all decision-making in democratic societies. It adopted citizens' active participation, empowerment, and other mechanisms promoting governance (Pimbert & Wakeford, 2001); 2) Adoption of the typology for the assessment and evaluations

of the accountability strength of what is referred to as institutions of direct democracy (IDD). These are for categorization/classification of the constitutional provisions under the direct democracy in 18 Latin American presidential democracies (Breuer, 2007); 3) Switzerland's mixed direct-indirect democracy viewed to co-exist well (Lutz, 2006); 4) The Orcamento Participativo (OP) which allowed both rich and poor citizens' active participation in the local governance. It is best known and most successful local management experiment based on participatory democracy in Porto Alegre, Brazilian state capital of Rio Grande del Sul (Aragones & Sanchez, 2009).

Meanwhile, in the Philippines, its 1987 constitution provides insignificant mechanisms for active people's participation such as initiative and referendum. The not-self-executing initiative is for constitutional amendments only (Sec. 2, Art. XVII), while referendum is just for the adoption of the country's new name, a national anthem, or a national seal (Sec. 2, Art. XVI). Both can only be exercised for a very limited purpose. With the emergence of the publicness principle (Jarvis, 2011), the evolving people's participative consciousness can be observed prompting the entire sovereignty empowerment in the realm of national and local politics (Bactol & Coronacion, 2020).

Theoretical/Conceptual Framework

Representation in its publicness scenario is conceptualized to mean representation as public concern for a government. It is derived from Jarvis' (2011) meaning of publicness – ethic of sharing and public good . . ." (Jarvis, 2011). Thus, its

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RESEARCH ARTICLE

A Refereed Journal

applicability when people manifest representative’s mandates. They are being in reciprocal relations therewith under the social contract theory.

The social contract infers peoples’ participation: sharing concerns via publicness . . . (Bactol & Coronacion, 2020, p. 13). It is basically rooted on the government-constituents’ reciprocity (Locke, 1823). The contract is not an absolute guarantee for an ideal democracy; it is vulnerable to powerful entities. The constituents are not bereft of good ideas about representative democracy. Beyond the electoral process, anyone could partake in enhancing the existing representative system viewed through the publicness scenario expounded in Figure 1 hereunder.

Figure 1
The Paradigm of the Study

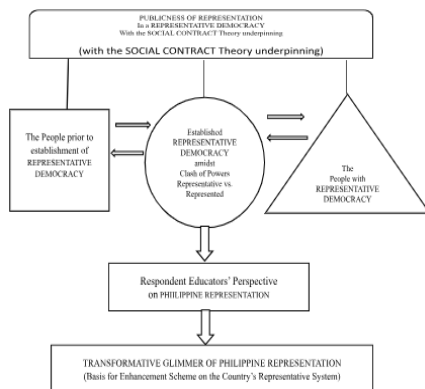


Figure 1 presents six variable shapes interconnected by lines/arrows. The top-most semi-rectangle contains the idea of publicness of representation with the social contract theory underpinning exemplified by the shapes having reciprocal relationships:

1. The square represents the public equal-sided structure before the establishment of representative democracy in which people have equal freedom/power to establish a government regardless of their status.
2. The circle portrays representative democracy’s capability for infinite innovations/ modifications.
3. The triangle represents the recent unitary government’s hierarchical public structure inclusive of all people.
4. The two pairs of opposing arrows suggest a two-way process relationship: a) between square and circle (people’s freedom to establish democratic government that returns the value of freedom) and b) between circle and triangle (mutual protection in a representative democracy).

The smaller rectangle underneath the circle represents the respondent educators’ perspective on democratic representation; under which, the bigger rectangle bears the basis for a representative system enhancement scheme.

Research Questions

This study aimed to disclose the public school teacher-respondents’ magnitude of democratic representative sophistication in a political subdivision. Specifically, it sought to answer the questions:

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1. What is their degree of sophistication on their concept of representation?
2. What is their degree of sophistication on consciousness of democratic representation?
3. What suitable enhancement scheme on the country's representative system can be designed based on the findings?

Methodology

Research Design

Survey design was employed in this study. Survey intends to provide a numeric description of trends, attitudes, or opinions of a population such as in representative democracy. Moreover, survey research is a popular research approach in political science. Survey questionnaires are administrable to large numbers of people whereby results can be appreciated by precise statistical measurements.

Usefulness and benefits for conducting surveys lies in the fact that it is efficient and further enhances understanding political issues. This study concerns democratic representation sustained by a large population. Through survey, the data were collected from a larger number of public educators, thereby generalizability came next to be a good point in conducting surveys beneficial to this disquisition. Anent to this, survey is regarded as “the only means available for developing a representative picture of the attitudes and characteristics of a large population” (Shutt, 2012, p. 231).

Sampling Procedure

Stratified Random method was used considering that the teachers come from different schools (strata). The total sample size of 334 from a population of 2036 was proportionately distributed to the 62 schools. To determine the respondents per school, simple random method was utilized. A set of random numbers was generated using a table. The units having those numbers were included in the sample. Subsequently, questionnaires were administered to the identified respondents.

Research Instruments

A researcher-made survey questionnaire was used to gather the intended data. It was tailored following the strict guidelines for writing survey questions and was constituted with the standard compliance of the requirements (Schutt, 2012). It concentrated on two major parts constituting respondents' democratic representation perspectives: first on their concept of representation and second on their consciousness on democratic representation.

The respondents' responses were expressed in degrees of agreement or disagreement following a 4-point Likert scale. This scale was adopted to determine the type of response the teacher-respondents were inclined to without leaving them undecided in between.

The questionnaires underwent a dry run to uncover peculiar defects thereof. It was conducted outside the research locale through a group of teachers having similar sample criteria of the study. The responses were subjected to Chronbach's Alpha measure. For

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RESEARCH ARTICLE

A Refereed Journal

purposes of higher reliability and improved workability, some statements with lower measure were excluded from the actual survey.

Data Collection Procedure

With prior arrangement made, the survey took place within one month following exemplified sampling steps. Administering of questionnaires to the respondents commenced with the set of respondent criteria being followed. The researcher personally conducted the data gathering process. It followed the office schedule while properly observing the timeliness of the research. The researcher personally retrieved the accomplished questionnaires immediately after the allowed time frame.

Data Analysis

The data were statistically analyzed using descriptive measures, such as frequency counts, Percentage, and weighted mean. The weighted means were interpreted based on the descriptions of the scales in the questionnaire. Analysis on the degree of sophistication on the publicness of democratic representation utilized the weighted mean which was based on the scale employed in the questionnaire. The same was interpreted following the matrix:

Table 1

Degree of Sophistication on the Concept of Representation

Scale	Weighted Mean Range	Description	Interpretation
4	3.50 – 4.00	Strongly Agree	Very high degree of sophistication
3	2.50 – 3.49	Agree	High degree of sophistication
2	1.50 – 2.49	Disagree	Low degree of sophistication
1	1.00 – 1.49	Strongly Agree	Very low degree of sophistication

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Table 2

Degree of Sophistication on Consciousness of Democratic Representation

Scale	Weighted Mean Range	Description	Interpretation
4	3.50 – 4.00	Strongly Agree	Very high degree of sophistication
3	2.50 – 3.49	Agree	High degree of sophistication
2	1.50 – 2.49	Disagree	Low degree of sophistication
1	1.00 – 1.49	Strongly Agree	Very low degree of sophistication

Ethical Considerations

This paper is mainly concerned with enhancing the Philippine representative system by going through the public-school teachers' sophistication in matters of the country's democratic representation. Its objective is not beyond the bounds of a true democracy where people's rights are well recognized. Notwithstanding, the current administration's political tolerance, anonymity, and confidentiality are assured among the respondents. Thus, adhering to the Data Privacy Act of the Philippines, maximized precautions involving ethical matters are observed. All information obtained should only be for studying purposes and producing further knowledge intended to improve the democratic landscape.

Results and Discussion

Sophistication on Respondents' Concept of Representation

RESEARCH ARTICLE

A Refereed Journal

Table 3
Respondents' Concepts of Representation

Indicators A	Mean	SD	Interpretatio
1) Political representation in a representative democracy means "elected public official representing the interests and will of the people."	3.59	0.56	SA
2) Political representation in a representative democracy means active decision making and participation of the elected public official only.	2.85	0.99	A
3) Political representation in a representative democracy entails active involvement thereto of the constituents or ordinary citizens not only during elections.	3.60	0.56	SA
4) Political representation is a process where elected public officials acts as trustee and the group of constituents is the trustor.	3.46	0.60	SA
5) In political representation elected public officials may be viewed as agents and the group of people is the principal.	3.40	0.61	SA
6) Representation is a term that consists only of promises made by electoral candidates.	2.52	0.98	A
7) Representation means doing exactly what has been promised by elected official during electoral campaign and the entirety of his/her term of office.	3.30	0.73	A
8) Representation means "elected public official doing good for the people during his/her term of office."	3.48	0.68	SA
9) Representation is a reality that only comes out before or during election.	2.85	0.84	A
10) Representation is a reality that takes place between elected public official and the people before and during the whole term of the said elected public official.	3.28	0.64	SA
11) Representation means responsiveness of the elected public officials to all the people they serve.	3.54	0.58	SA
12) Representation means good relations between elected public officials and the people regardless of the latter's status in life.	3.58	0.59	SA
13) Representation means commitment of the elected public officials to the welfare of everyone in the community and society.	3.63	0.58	SA
16) Representation means attentiveness of the elected public officials to their personal interests and that of the people.	2.58	0.93	A
17) Representation means attentiveness of the elected public officials to what they believe is good for the people.	3.33	0.72	A
18) There is good representation when elected public officials make themselves visibly and regularly available to the public.	3.58	0.57	SA
19) There is good representation when elected public officials do something actual to gain knowledge about the priorities of the people they are serving.	3.59	0.54	SA
20) There is good representation when elected public officials are available either through direct or indirect contact to the public.	3.53	0.59	SA
21) There is good representation if elected public officials could only inform the public about their plan of actions as well as the results of their previous actions and decisions.	3.16	0.77	A
22) There is good representation when there is a "two-way" relations between elected public officials and the people.	3.63	0.51	SA
23) There is good representation when constituents could speak in a formal and regular meeting with their elected public officials about the former's priorities.	3.51	0.55	SA
24) There is good representation if people can be part of the regular decision making of the government.	3.56	0.53	SA
25) Representation is a respectful and transparent "give and take" between elected public officials and the constituents.	3.60	0.53	SA
Overall Mean/Standard Deviation	3.35	0.66	SA
Indicators B	Mean	SD	Interpretatio
14) Representation means attentiveness of the elected public officials to their own interests only.	2.09	1.08	A
15) Representation means attentiveness of the elected public officials to the interests of the constituents who voted for them only during elections.	2.38	1.08	A
Overall Mean/Standard Deviation	2.24	1.08	A

Legend A:	Mean Range:	Interpretation:	Legend B:	Mean Range:	Interpretation:
3.26 – 4.00	3.26 – 4.00	Strongly Agree (SA)	3.26 – 4.00	3.26 – 4.00	Strongly Disagree (SD)
2.51 – 3.25	2.51 – 3.25	Agree (A)	2.51 – 3.25	2.51 – 3.25	Disagree (D)
1.76 – 2.50	1.76 – 2.50	Disagree (D)	1.76 – 2.50	1.76 – 2.50	Agree (A)
1.00 – 1.75	1.00 – 1.75	Strongly Disagree (SD)	1.00 – 1.75	1.00 – 1.75	Strongly Agree (SA)

In these findings, the respondents generally had a strong agreement on the different concepts of representation. These are manifested by the overall mean of 3.35 (SA) in Indicators A and overall mean of 2.24 (A) under Indicators B. Respondents had the strongest agreement, that is a) representation is a commitment of the elected public officials to the welfare of everyone in the community and society; b) there is good representation when there is a two-way relations between elected public official and the people; c) political representation in a representative democracy entails active involvement thereto of the constituents or ordinary citizens not only during elections;

All this entails active reciprocity with equal representative represented participatory set-up in a democratic process which was never observed in the entire

history of Philippine representation. Hence, the challenge encountered traced upon its conceptualization associated with representation performance (Urbinati, 2011). This is as Schmidt (2002) noted about differences in degree of performance rather than differences in kind of democracy. The problems are mostly within the shared representative-represented responsibility needing progressive reconstruction in the process (Tormey, 2015).

The four highest indicators also implied the respondents' higher sophistication of democratic representation understanding. The indicator "commitment to everyone's welfare" ultimately demands that representatives should set aside their advantageous interest over the represented.

In a representative system, public officials are elected to manage governmental affairs contemplating ideally the practical spirit of the social contract (Bactol & Coronacion, 2020). Such is a regime where the best interest of the represented is paramount, considering them being at the seat of sovereign power (Nachura, 2015).

This highest indicator is strongly highlighted by the other three indicators, *i.e.*, "two-way relations", "active constituents' post-electoral involvements" and "respectful, transparent representative-represented 'give and take'." These indicators asserted that representative democracy, to be indeed democratic, demands constituents' post-electoral participation. These indicators counter the country's constituent electoral participation alone (Ronas, 2016).

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Thereafter, they being relegated as spectators in the game of politics (Biegelbauer & Hansen, 2011) under the politicians' rule (Dunn, 2018).

Same responses further acknowledged a representation that mirrors democracy in the first half of the 20th century, *i.e.*, manifesting a system where laws and institutions reflect the people's will and power. However, the same are evocative of democratic development in its gradual process that fosters a more participatory, less authoritarian society (Fukuyama, 2015). With the institutionalization of democratic representation process in the country already happening, the respondents' expectations run identical with that of the people from other states that acclimated to representative democracy. Hence, the needful implication on how democracy through the respective representatives should work (Tormey, 2014). Further implication shows respondents' willingness and strong approval to help sustain democracy and democratic institutions (Tormey, 2014).

Moreover, the results were sustained by the political vices indicators, disagreed by the respondents in Table 1 (indicators B) which were inversely interpreted as having been negatively stated in opposition to the real democratic import. The respondents disagreed that: a) representation means attentiveness of the elected public officials to their own interests only (mean = 2.09); and b) representation means attentiveness of the elected public officials to the interests of the constituents who voted for them only during elections (mean = 2.38). Their disagreement on these concepts implies total awareness of practices that should be eliminated from the

public office evidenced by the 4 highest indicators.

This means participatory governance and eventual altering of previous barometer manifestations of democratic political performance of political productivity outcome, *i.e.*, measures of the political process and policy results . . . (Abels, 2007; Schmidt, 2002). Thus, it sets forth the type of democracy by representation traced on the second democratic transformation (Hug, 2009) showing transformative signals in the transformation process (Fukuyama, 2015).

These findings present conventional understanding on recent conceptual development of representation and how should it work. Aside from the recognition of its rectifiable defects, there is this assertion of power to claim responsibility originating from the respondents themselves. Nevertheless, with the very high sophistication of understanding on the given subject, it was revealed that teacher-respondents were repositories of political knowledge. This was indicated by their degree of sophistication magnified by the findings presented next.

Sophistication on the Respondents' Consciousness of Democratic Representation

Table 2 shows the findings on the sophistication degree of the respondents' consciousness of representation. It enumerates 20 specific concepts about representation under Indicators A and B. Each of which has a degree of agreement or disagreement manifested by the weighted

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means. To ensure the respondents' ultimate consciousness in answering the questionnaire, nine out of 20 indicators were negatively stated (Indicators B). Moreover, two out of these nine indicators were similarly stated. All these nine negatively stated indicators shown under Indicators B were interpreted inversely.

strongly agreed, states that “representation is not all about who is wealthy and powerful politicians; it is all about the welfare of the people who must be given the opportunity to express their concern freely, legally, regularly and without fear either directly or through any available means of communication.”

Table 4

Respondents' Consciousness of Representation

Indicators A	Mean	SD	Interpretation
1) Incumbent representative-elected-public officials are very close to their constituents and/or the people they serve.	2.94	0.75	A
3) Incumbent representative-elected-public officials give importance to their constituents and/or the people they serve.	3.23	0.69	A
5) Incumbent representative-elected-public officials reach out to the people they are serving.	3.17	0.70	A
7) Elections of representative public officials are true reflections of the will of the people.	2.99	0.76	A
9) Representative elected public officials in the past and the present are one with the people who elected them.	2.90	0.69	A
11) Representative elected public officials in the past and the present are freely chosen by the constituents.	3.02	0.70	A
13) People have no choice but to vote the lesser evil candidates occupying the office of an elected public official.	2.60	0.90	A
14) People have the freedom of choice to vote the lesser evil candidates occupying the office of elected public official.	3.09	0.70	A
15) People are far distant away from the elected public officials and so there is a need to assert to get involve in the representative process from the electoral process and at all levels thereof.	2.88	0.75	A
18) Elected public officials are wealthy and powerful while most constituents are poor and powerless thus the latter may remain passive.	2.71	0.97	A
19) Representation is not all about who is wealthy and powerful politicians, it is all about the welfare of the people who must be given the opportunity to express their concern freely, legally, regularly and without fear either directly or through any available means of communication.	3.61	0.57	SA
Overall Mean/Standard Deviation	3.01	0.74	A
Indicators B			
2) Incumbent representative-elected-public officials are not close to their constituents and/or the people they serve.	2.48	0.82	A
4) Incumbent representative-elected-public officials do not give importance to their constituents and/or the people they serve.	2.23	0.84	A
6) Incumbent representative-elected-public officials do not reach out to the people they are serving.	2.22	0.86	A
8) Elections of representative public officials do not show the free expressions and approval of the people.	2.40	0.83	A
10) Representative elected public officials in the past and the present are not one with the people who elected them.	2.48	0.82	A
12) Representative elected public officials in the past and the present are not freely chosen by the constituents.	2.39	0.84	A
16) People are not far distant away from the elected public officials and so it is useless to assert involvement since they seem to be always involved.	2.43	0.81	A
17) Elected public officials are the sole responsible for governance, people have to have no say and involvement thereto.	2.35	0.93	A
18) Elected public officials are the sole responsible for governance and people have indeed to have no say and involvement therein.	2.29	0.89	A
Overall Mean/Standard Deviation	2.37	0.85	A

Legend A:
 Mean Range 3.26 – 4.00
 Interpretation Strongly Agree (SA)
 2.51 – 3.25 Agree (A)
 1.76 – 2.50 Disagree (D)
 1.00 – 1.75 Strongly Disagree (SD)

Legend B:
 Mean Range 3.26 – 4.00
 Interpretation Strongly Disagree (SD)
 2.51 – 3.25 Disagree (D)
 1.76 – 2.50 Agree (A)
 1.00 – 1.75 Strongly Agree (SA)

The results present the respondents' agreement on all indicators except for the 20th which had been strongly agreed at 3.6 mean. These were substantiated by the overall mean of 3.01 in Indicators A and 2.37 under Indicators B. With the 11 affirmative indicators (Indicators A), notably there are nine concepts (Indicators B) in which the respondents agreed as inversely interpreted. Significantly, indicator 20, which was

Other indicators significantly agreed by the respondents were 14 and 11 (Indicators A) having the weighted means of 3.09 and 3.02 respectively. On the one hand, indicator 14 states that “People have the freedom to vote for lesser evil candidates occupying the office of elected public official.” On the other hand, indicator 11 states that “Representatives elected public officials in the past and the present are freely chosen by the constituents.” Moreover, indicators under Indicators B which were significantly agreed were 6, 4 and 18; each of which obtained weighted means of 2.22, 2.23 and 2.29 respectively. Indicator six declares that “Incumbent representative-elected-public officials do not reach out to the people they are serving.” Meanwhile, indicator four says that “Incumbent representative-elected-public officials do not give importance to their constituents and/or the people they serve.” And indicator 18 states that “Elected public officials are the sole responsible for governance and people have indeed to have no say and involvement therein.”

The overall result manifested the respondents' high degree of sophistication of consciousness on democratic representation.

All indicators presented ideas in which agreement thereto made by the respondents are in themselves cognizant of a

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more democratic representation. Moreover, the way indicators were crafted combining both negative and affirmative statements tested the respondents' political consciousness while answering the questionnaire. Hence, the result indicated the respondents' conscious understanding about how democratic representation should effectively operate at a certain level in a democratic state. It recognizes the fact that democracy pertains to a variety of radical to moderate regimes (Schmidt, 2002). This includes Philippine representative democracy where Linconian trademarks can be reflected and anticipated in varied degrees of democratic practices. This is manifested by the essential nature of statements embodied by the indicators especially those significantly agreed as shown by the highest means thereof.

Ultimately, the overall result demonstrated the respondents' deeper comprehension of a supposed existing democratic representation in the country. This is significantly substantiated by the indicators having the highest means. First, indicator 20 gets the strong agreement and more conscious recognition that representation is not all about who are wealthy and powerful politicians. Rather, it is all about the welfare of the people who must be given the opportunity to express their concern freely, legally, regularly and without fear either directly or through any available means of communication. It is a factual declaration that Philippine representation was and is still controlled by the rich and domineering politicians before and after their elections to the public office. It is further their understanding that representation should serve the people's welfare which can be enhanced via post-electoral participation. It is

thus suggestive of an active people's participatory governance. The same indicator with a very high degree of consciousness sophistication perceived the social contract inferring peoples' participation: sharing concerns via Jarvis' (2011) publicness and partaking actively in decision and policy making (Bactol & Coronacion, 2020, p. 13). Such a contract basically rooted on the government-constituents' reciprocity (Locke, 1823) which should be post-electorally sustained.

Second point out indicators 14 and 11 with highly sophisticated respective means while having similar import. Indicator 14 stressed on people's freedom of choice on voting the lesser evil candidates and indicator 11 highlights having elected public officials freely by the constituents. Both indicators are particular with the electoral representation wherein respondents consciously acknowledged free electoral participation. These two indicators factually highlighted that electoral participation is the only participation they have had freely. Hence, the only and limited power of the people integral to their [participative] freedom (Hamilton, 2018) revolving around the limited electoral participation constantly controlled by political officials.

Freedom [itself] is power dependent on preventing or prevailing over conditions by domineering entities (Hamilton, 2018) such as by Philippine representatives. It transpires by ensuring power and control over certain dimensions. Significantly, "the power to determine social and economic environment via meaningful control over one's economic and political entities . . ." (Hamilton, 2018, p. 9). Regardless as to who

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exercises the imposition, the nature of power remains a tension emanating from interests (Ronen, 2013) among others. Same tension in opposing groups of individuals struggling for true democracy where both rule of law and accountability are the alternating means for constraining the government to consider the broader public (Fukuyama, 2015).

People's freedom as power is in normal situations never a simplistic matter of definite individual control over a lot of domains. Everyone's freedom is determined to a remarkable extent by a collection of variables to execute with these groups' nature and power and their respective representatives (Hamilton 2018). Any government could only cling to its mandate to protect the legitimate voice of the people in their struggle for better democracy (Fukuyama, 2015). True democracy being the ultimate objective of the people's will (Accetti et al., 2016).

Third are the interconnected indicators 6, 4 and 18. Indicator six is concerned with representative-elected-public officials not reaching out to the people; indicator four highlights representative-elected-public officials not giving importance to constituents, and indicator 18 points out holding elected public officials as sole responsible for governance. These indicators are expressive of the public officials' denial of their sacrosanct mandated duty to their constituents on a certain circumstantial level as representatives. Thus, the relevance with respondents' strong agreement on indicator 20 highly demands for active post-electoral participation to promote people's interests through better governance.

Meanwhile, the indicators with lowest means did not significantly negate the overall findings on the respondents' sophistication of consciousness on the Philippine representative system. Notably, indicators 13, 2, and 10 manifested a certain degree of agreement from the respondents: a) that people have no choice but to vote the lesser evil candidates; b) that incumbent public officials are not close to the people they serve; and c) that elected public officials in the past/present are not one with the people who elected them. All these imply that they are however the least concern among the indicators. Such are usual observations overtime which constituents can hardly change since the representative system was adopted. As educators, the respondents could only believe that these negative practices, inherent to human nature of the representatives, are within tolerance from people that have yet to be empowered; hence, resounding back to respondents' highest agreement on indicator 20: an indispensable means to curb usual, negative practices inclusive of indicators 13, 2 and 10 and other similar indicators.

Essentially, the consciousness of representation sophistication is expressive of developmental transformative representation from the respondents' power integral with their democratic freedom (Hamilton, 2018). Specifically, power via political representation and freedom acquired conditionally that the existing patterns of representation handle power relations to control domination in establishing priorities such as the interests and needs. In many representative democracies, this power is (2011) such as the present Philippine situation. However, notwithstanding its regime nature, democracy would persist as

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long as political institutions are democratic. Inasmuch as a majority can change the status quo . . . the social context cannot turn the principles of political freedom and equality into mere formalities (Munck, 2014).

Data reflect how respondent-educators portray the power to decide on policy proposals while politicians can assume the role of policy implementation (Fournier, 2011; Aragonés & Sanchez, 2009).

Indubitably, representatives or institutions themselves can make wise decisions, but this is not absolute though (Junaenah, 2015). At times the government violates individuals' rights (Fukuyama, 2015). It is also less possible to centralize bargaining through common representatives (Hirst, 2013). Furthermore, representative democracy is a fount of inefficiency (Acemoglu et al., 2011; Crain, 2002). These may not necessarily reach the crisis point in democracy. However, these were sufficient reasons calling for attention as well as resulting situations considering actions promoting political trust and satisfaction beneficial to the constituents (Coffe & Michels, 2014).

Existing studies discovered diminishing satisfaction with the representative democracy institutions and processes associated fundamentally with the principle governing elected individuals as representatives to people (Coffe & Michels, 2014; Kaase & Newton, 1995; Mackin, 2005; Miranda, 2016). Consistently, Hamilton (2014) designed institutional refurbishing for reinventing representative democracy harmonious with his narrative on "freedom as

power through representation." Later, Hamilton (2017) emphasized reinvention, strengthening, and/or modification for improvement thereof. Same reasons challenged political practitioners and scholars to pursue their analysis and findings (Coffe & Michels, 2014).

All these resulted in the so-called questionable trust in representatives (Fukuyama, 2015; Mackin, 2005). Increasing levels of skepticism towards institutions of representative democracy became inspirational to expansion of interest for alternative ways and means of decision-making among scholars and political practitioners (Coffe & Michels 2014; Vigoda, 2002; Woodford & Preston, 2013). By all means, that was an awakening from the persistent disadvantages of a more restricted electoral representation (Pettit, 2015).

Such a situation coerced particular electoral representative states to enhance their representative systems. Certain undertakings with typical underpinning adopted modifications for a more democratic end. These include negotiatory mechanisms to give voice to interdependent actors with further considerations of the minority in particular countries (Hart & Kleiboer, 1995). Some of these enhancements of representative democracy were: 1) Deliberative and inclusionary processes (DIPs) (Pimbert & Wakeford, 2001); 2) Adoption of the typology or a scheme for the assessment and evaluations of the accountability strength referred to as institutions of direct democracy (IDD) (Breuer, 2007); 3) Switzerland's combined direct and indirect democracy where both are viewed to co-exist well (Lutz, 2006); 4) The

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Orcamento Participativo, referred to as OP allowing both rich and poor citizens' participation in local governance (Aragones & Sanchez, 2009).

Being on the same page of the democratization struggle, the Philippines can undergo tasks for addressing similar problems. However, its 1987 constitution provides insignificant mechanisms for active people's participation. The not-self-executing initiative is for constitutional amendments only (Sec. 2, Art. XVII), while referendum is just for the adoption of the country's new name, a national anthem, or a national seal (Sec. 2, Art. XVI). Both can only be exercised in a very limited fashion for a very limited purpose. With the emergence of the publicness principle (Jarvis, 2011), the evolving people's participative consciousness could prompt the sovereign people empowerment in national and local politics (Bactol & Coronacion, 2020). It came from an apparent demand that the governed, whose ends had always been restricted by a somehow authoritarian representative system, should be open for governance. Like the people in other states whose more democratic objectives were served, the

Therefore, these findings on representation accentuated by a high degree of consciousness on representation are expressive of Developmental Transformative Mechanisms indispensable to reinvent the country's procedural representative system. It will embody mechanisms that embrace transformation from the existent representative system by which peoples' democratic participation is confined by electoral stigma. It involves representee's role in representation from passiveness to

teacher-respondents are also aware. They are highly conscious of this phenomenon as revealed by the entire data in Table 2, consistently supportive of the findings in Table 1. Henceforth, the dawning changes in the political dynamics for a more friendly Philippine representative system.

Conclusion

The magnitude of democratic representative sophistication determined by aggregates of data disclosed more enlightened political participative respondents. First, it was deduced that the public school teachers as respondents had a very high sophisticated degree of understanding on democratic representation in its publicness scenario based on the first set of data. Second, this was magnified by the subsequent set of data whereby respondents' high degree of sophistication of consciousness on democratic representation was revealed. Significant agreement to the concepts embodied in the entire sets of data made by the respondents are in themselves highly cognizant of a more democratic representation. Such a circumstance of democratization is thus constitutive of a developmental transformative process activeness participation in act and potentiality for substantive democracy realization. This behoves reciprocal representative-represented political actions where the usual clash of interests succumb to a more enlightened majority.

Developmental transformative – a convention produced by a sample, representative of a wider population of mentors, merits meaningful consideration. It is an externalization of their naturally developed consciousness in line with the profession they have always been constantly

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immersed into. As teachers, their minds were habitually attuned to the continuous learning process they subjected their students and themselves to outdo countless failures and vices. They have always been used to dedicate themselves as a gateway for students' transformative ends. Normal causation of their teaching activity could

have absorbed their conscious being. Eventually, they found this practical applicability of an ordinary citizens' deeply conscious mind on the country's representative system that can be truly democratized, inspired by their transformative glimmer of representation in the country.

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The Lived Experiences of Out-Of-Field Senior High School Teachers

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Abstract

This study explored the lived experiences of senior high school teachers tasked with teaching subjects outside their areas of expertise. Employing a qualitative hermeneutic phenomenological approach, the research aimed to uncover the challenges these educators face and the strategies they use to cope. Participants included teachers from a National Vocational High School in Leyte and a National High School in Tacloban City. The analysis identified six key themes: the struggle to achieve content mastery, low self-esteem in teaching unfamiliar subjects, the stress of cramming and its associated hassles, the time-consuming demands of lesson preparation, the overall difficulty of teaching out-of-field subjects, and the reliance on preparation, resource sharing, and activity-based teaching methods. The study concluded that these teachers grapple with significant challenges, including inadequate knowledge, low confidence, and time constraints. Nevertheless, they navigated these difficulties through meticulous preparation, collaboration, and the use of engaging, activity-oriented teaching strategies.

Keywords: *Content mastery, Coping strategies, Phenomenological research, Out-of-field teaching, Teacher challenges*

Introduction

One of the significant features that helps in forming the learning and development of learners is the quality of teaching teachers deliver. Yet, to make sure that every classroom is furnished with skilled and competent teachers, this remains an issue in most schools around the world (Sen, 2010). One of the identified causes of these issues in the phenomenon is that non-education teachers or out-of-field teachers

are appointed to teach subjects in which they have little education, training, or background. This problem existed many years ago, however this has not been given emphasis in schools, specifically in education (Cobbold, 2010).

Teaching any subjects which are not one's major or minor educational training is considered as 'out-of-field' (Mc Cooney,

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2009). Being assigned to handle subjects or courses not associated with one's field of specialization is deemed as out-of-field teaching. An example is when a teacher, who is majoring in English with a minor in Filipino, is assigned to teach other subjects like Science and Music, Arts and Physical Education and Health (MAPEH) for which he/she has no appropriate qualifications. Additionally, an elementary teacher teaches in a secondary or high school class when his/her training is at the elementary level.

In the United States of America, schools had between 17-22 percent of their main classes taught by a teacher who was not a graduate of any education course or even by someone who possesses a subject-related degree or certification. For example, in English, it showed one-fifth of all public-school students enrolled in English classes in grades 7-12, or about 4, 310, 000 of 20, 700, 000 students were trained by teachers who did not have at least a minor in English, Literature, Communications, Speech and the like (Ingersoll & Curran, 2004). Undeniably, this affects the learning conditions of the students (United States Education Department, 2010).

In another context, majority of the teachers in Australia are handling courses/subjects which they are not qualified to teach. The report of the Australian Council for Educational Research showed that twenty-six percent of the teachers who have been teaching Years 7-10 were teaching beyond their capacity or skill (Bayani & Guhao, 2017).

Similarly, Bayani and Guhao (2017) mentioned that there was a high level of out-of-field teaching in Washington, wherein teachers were appointed to teach subjects that do not fit to their preparation or education, regardless of the reality that the majority of the teachers possessed only basic qualifications. Evidently, these issues relative to out-of-field teaching have become somewhat worse in the present years, despite the numerous modifications focusing on the development, especially teacher quality.

In the Philippines, most of the teachers were assigned to teach subjects that are not their field of expertise, most especially in the secondary schools and higher education institutions. Due to scarcity in the number of qualified teachers, the immediate remedy of the school heads or supervisors was to designate teachers to teach subjects/courses that are not aligned to their specializations. As observed in the Division Training for Filipino Teachers, Education Program Supervisor in Filipino of Compostela Valley conveyed her opinions on the demand for teachers who are competent to educate the students of the 21st century. She underscored that there are still some schools, specifically small schools, whose teachers are assigned to teach subjects farther than their expertise as a result of lack of qualified Filipino teachers (Bayani & Guhao, 2017).

This has become a great challenge most especially to those teachers asked to teach subjects which are beyond their field of specialization. It is never a stress-free and painless situation for them, since they need to exert their effort in studying lessons and preparing instructional materials and constructing activities.

The present research could be considered an attempt, in line with the similar studies done in the context of other countries and other out-of-field teaching contexts, to find out the out-of-field teachers' experience and how they cope with their experiences.

The purpose of this phenomenological research was to explore the prevailing lived experiences of out-of-field senior high school teachers. Further, it aimed to better understand their difficulties and triumphs as out-of-field teachers and to discover the coping mechanisms they employed in teaching senior high school students.

Literature Review

In the United States, consistent with the Elementary and Secondary School Act (2002) 'No Child Left Behind' (NCBL), the term out-of-field implies the teaching of an academic subject or a grade level wherein a teacher is neither 'highly qualified'. This means that a 'highly qualified' teacher is labeled as possessing a bachelor's degree; a regular state approved license or certificate and competency in each of the academic subjects he/she teaches. 'Competency' in a subject can be determined if the teacher holds an undergraduate or graduate major in the subject, can pass a test on the subject, possesses an advanced teaching certificate in the subject, or has passed other approved state evaluation for the subject (Department of Education Office of Postsecondary Education, 2005, p. 6).

Therefore, the meaning of out-of-field teaching used in this research suggests how the term is most commonly conceived in

the literature, such as teaching a subject or a field which is neither a teacher's major or minor tertiary (undergraduate) education requirement. Likewise, it means teaching at a level of schooling for which a teacher is not officially equipped (McConney & Price, 2009, p. 1).

In addition, issues on the impact of out-of-field teaching have led to compulsory requirements for schools to freely reveal to parents the number of students taught by incompetent and ill-equipped teachers under the NCLB legislation (Ingersoll, 2003). On the other hand, in some states in the USA, it is a prerequisite that out-of-field teachers are allowed to undergo a prescribed number of coursework hours per year toward the appropriate certification for their out-of-field assignment.

A report from the Staff in Australian Schools (SiAS) 2008, based on a comprehensive online survey among teachers and school leaders involved, investigated the degree of out-of-field teaching in Australia. This report showed that there is a considerable indication of out-of-field teaching in both primary and secondary sectors (DEEWR, 2008i, p. xiii).

SiAS noticed the occurrence of out-of-field teaching in the primary specialist fields of Languages Other Than English (LOTE) and Special Needs. It was also found out that in these areas only about half of the teachers had at least a one-year tertiary qualification in the field. Further, only 30-40% of LOTE and Special Needs teachers assessed had undertaken teaching methodology courses in these areas.

*Corresponding Author: Edzel N. Baras., Arlene V. Gillo
Visayas State University, San Jose National High School
Senior High School

RESEARCH ARTICLE

A Referred Journal

In the secondary sector, the assessment concentrated on Mathematics, Physics, Chemistry and Information Technology (IT), in which in these areas the teachers reportedly had deficiencies. It was discovered that the vast majority with a range from 87-95% of those teaching in the senior secondary (Years 11 and 12) Math, Physics, and Chemistry had at least a one-year tertiary qualification in the mentioned subject areas and that at least three-quarters had finished teaching methodology training in the area.

The occurrence of out-of-field teaching was, however, found to be much more significant for IT teachers with only 60%, having completed at least one year of tertiary education and only 46% having any methodology preparation in the field. The frequencies of out-of-field teaching were found to be much higher in the lower secondary years (7/8-10). A report showed that 75% of the teachers teaching Mathematics obtained a one-year tertiary qualification in the subject and just 50% obtained a three-year Mathematics prerequisite. Then, less than half of those teaching IT had a one-year qualification in the field and only 24% had a three-year qualification in IT.

In a survey conducted to teachers at the end of their first year of teaching in the Australian state of Victoria, it was revealed that 13-20% of primary teachers were not qualified to teach at the year level at which they were employed (Ingvarson, Beavis & Kleinhenz, 2004). About 15% of Studies of Society and Environment (SOSE) and Science teachers at the secondary level were described as unqualified to teach in these areas. Moreover, in all other key learning

areas, 25 to 30% of teachers were identified teaching in an area wherein they were not qualified. These figures are supported by findings in the USA.

Ingersoll's study on the national US Schools and Staffing Surveys (SaSS), for instance, represented to what he considered to be "the high levels of out-of-field teaching" which were noted as the "key root of inept instruction in American schools" (2003, p. 5). Obviously, these results show indication for the existence of the out-of-field teaching both in Australia and the USA. Ingersoll (2003), however, also raises the idea that there is room for some doubts and disbelief relative to the public information about the out-of-field teaching due to its politically sensitive nature. He stated disagreement that the data gathered from school officials who do not wish the extent of out-of-field teaching be publicized is open to question. Like Ingersoll (2003), Thomas (2000) also recommends that revealing the extent of out-of-field teaching can cause issues because principals and school heads are in doubt to disclose to the public this issue for the reason that data might bear influence on the reputation of their schools.

Ingersoll (2003) also mentions issues about the validity and reliability of empirical research regarding out-of-field teaching because of the lack of consent on how to measure it. To describe the incidence of out-of-field teaching, Ingersoll (2003) states that there is a demand in adding a number of classes to a teacher bearing no specific undergraduate subject degree which is out-of-field teaching (2001, 2003; Ingersoll & Curran, 2004). For instance, a qualified mathematics teacher who is an undergraduate

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RESEARCH ARTICLE

A Referred Journal

major in mathematics and is assigned to teach mostly mathematics but takes one health class per week should be considered teaching out-of-field. Bearing such cases into consideration evidently intensifies the reported incidences of out-of-field teaching.

Ingersoll (2003) also promotes the demand to change how schools are supervised when teachers are on the job. He stresses that states and districts must reconsider how school staffing decisions are formulated and by whom. Ingersoll (2003) also recommends that rural schools need to assign roving specialists and consider greater practice of distance education and technology as well as administrative assistance on top of extra professional development and mentoring support for out-of-field teachers. The US-based Centre for the Future of Teaching and Learning (2007) promotes the institutions of accurate databases to grant policy makers with a well-defined picture of the extent of out-of-field teaching. Definitely, this would aid in ensuring particular schools and students are not inappropriately exposed to out-of-field teaching. The necessity for more precise databases on the teacher workforce in Australia is likewise a main suggestion of the recent DEEWR (2008ii) report on Teacher Workforce Data and Planning Processes.

Moreover, Thomas (2000) suggests a need to grant study leave to out-of-field secondary teachers teaching mathematics, claiming that they must not be expected to possess proper qualifications in their own time and at their personal expense. Instead, she recommends Commonwealth funding for tertiary places and state funding for leave. The Science Teachers' Association of

Victoria submission to DEST (2003) expressed similar recommendations for out-of-field teachers the need for well-planned professional learning, short courses, and mentoring from qualified teachers.

It is as well suggested by the Western Australian Department of Education and Training, Education Workforce Initiatives Report (DET 2008i) to employ ICT, flexible learning, and 'expert teachers' to support out-of-field teachers, specifically in regional and remote areas where staffing profiles limit the number of subject specialists a school can hire.

Consequently, in the Philippines, the concern on out-of-field teaching becomes an important, yet long not distinguished issue among schools and in education in a broader aspect. A number of challenges have given more consideration in the current times than giving emphasis in ensuring that the country's elementary and secondary education are well-staffed with competent teachers. For the past years, most of the studies, commissions, as well as, national issues have complained about the competencies and quality of our teachers. The chief concern which unfavorably affect our quest for quality education could be basically accredited to the vast number of teacher education graduates who are specialist or major in such course and to the number of teachers being hired to teach the subject/s which are not their field of specialization (Bayani & Guhao, 2017).

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Theoretical Framework

This study about out-of-field teachers provides the theoretical framework for this paper. Teachers of the secondary levels and higher education institutions must possess formal education as well as teacher training in the subject that they teach. It is important that by the time teachers are hired by the school, it is best to ensure that teachers should have the qualifications to teach the subject/s. It is believed that a teacher with appropriate qualifications in teaching the subjects commonly results in the improvement of students' performance. Teachers have the ability to make the teaching and learning environment interactive and lively. They usually employ teaching approaches which students could easily grasp learning. On the contrary, a vast number of teachers are assigned to teach subjects that do not fit their educational standard which may result in a negative effect. When teachers do not have the formal education in the subjects assigned to him/her, the tendency is that teachers easily get bored in teaching. Teachers also fail to employ teaching pedagogies that are effective, thus decreasing the performance of the students.

Another result in which this study is anchored is that having and keeping quality teachers may be associated with enhancement in the performance of the students. She emphasized that actions of teachers in the preparation and certification are certainly the toughest correlates of student improvement in the subject being taught in school. The attribute of teachers and teaching is undeniably one of the major factors that helped in molding the learning and development of students.

Research Questions

Generally, this paper was undertaken to explore the prevailing lived experiences of out-of-field Senior High School Teachers.

Specifically, the study aimed to answer the following questions:

1. What are the difficulties and triumphs of out-of-field teachers in teaching senior high school students?
2. What coping mechanisms are employed by the out-of-field teachers in teaching senior high school students?

Methodology

This section presents the research design, research participants, data collection/instruments, data analysis, ethical considerations, and reflexivity.

In this section, the researchers would like to share information as to what, where and how they gathered the data needed in order to provide answers to the research questions which they intended to investigate.

Research Design

The research design used is phenomenology.

Research Participants

The participants of the study were the Senior High School (SHS) teachers in a National High School in Leyte. This is for accessibility reasons and willingness of the participants.

RESEARCH ARTICLE

A Referred Journal

Data Collection/Instruments

The researchers sought permission from the Department Head and from the Principal by sending a request letter for the data gathering to be conducted in the school premises. After seeking permission from the authorities, consent forms were sent to the participants and a schedule for the interview was set. On the set schedule, an interview was done with each participant. While the interview was going on, a recorder was used to assure that the data were gathered and could be reviewed for transcription. After the interview, the data recorded were transcribed, coded, and analyzed by the researchers.

The researchers used an interview guide which comprised of four preliminary questions and nine main questions.

These preliminary questions were:

1. What is your degree and specialization?
2. What subjects have you handled or are you handling that are not in line with your specialization?
3. How did you react when you were given such subjects?
4. What reasons were presented for giving you such subjects?

Whereas, the main questions were:

1. What are your experiences in teaching subject/subjects which are not in line with your specialization?
3. What are your positive and

negative experiences in teaching such subjects?

3. How do you consider such experiences? Is it an advantage or a disadvantage to teach subjects which are not in line with your specialization? Why?
4. How did you/do you manage your teaching-learning process in the subjects?
5. How do your students interact with you?
6. What difference did you make among your students in handling the subjects?
7. How were you evaluated by your head?
8. What was the results of your evaluation?
9. What lessons have you learned in handling the subjects?

Data Analysis

This study performed both inductive and deductive analysis. The researchers read the data quite a few times until the themes emerged. The themes were then analyzed in order to understand the senior high school teachers' lived experiences as out-of-field. Then, the researchers tried to compare and contrast the study's findings with relevant research findings so that they could create situations to establish the new formulated date into prevailing data (Baxter & Jack, 2008).

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The conclusion of the study was derived from the discussion of the findings.

Ethical Considerations

During the interaction with the participants of the study, the researchers ensured that they were guided and directed by Guillemin and Gillam's (2004) opinion that as researchers they must be ethically compelled to interact with the participants in a humane, just and not abusive manner, likewise being sensitive and tactful of their roles as researchers.

Moreover, the researchers also sought up-to-date consent from the participants to pay respect to their rights, privileges, wants, values, and aspirations. To avoid possible transgressions throughout the interview, the researchers oriented the participants with the purpose of the study.

The moment the participants signed the agreement, the researchers informed them of the devices which they used in recording the interview responses. Then, a copy of the transcribed responses and the results of the study was provided to each of the participant to verify the statements.

Reflexivity

Based on the researchers' personal experiences, they were assigned to teach subjects/courses which were not aligned to their field of specialization. They were both BSEd major in English, but they were assigned to teach subjects/courses not associated with English, like Science, MAPEH, and Filipino.

Those experiences taught them a lot of lessons but challenged their skills, abilities, and even their capacity in dealing matters related to teaching out-of-field subjects/courses. It was very difficult on their part as English teachers because they needed to exert extra effort in studying their lessons, preparing instructional materials as well as in constructing their activities which would assess learning of their students. Such similar experiences motivated them to come up with research on the lived experiences of out-of-field senior high school teachers.

Results and Discussion

This section presents the results and discussion of this paper on the lived-experiences of senior high school teachers in a National Vocational High School, and a National High School.

Difficulties and Triumphs of Out-of-Field Teachers in Teaching Senior High School Students

The following themes were derived from the data collected in terms of the difficulties and triumphs of out-of-field teachers in teaching senior high school students:

Difficulty due to lack of mastery. Teachers claimed that it was difficult to deliver the lessons because they did not have enough background information about the subject. Majority of the research findings showed the lack of content knowledge and pedagogical content knowledge as the main challenge confronted in the out-of-field teaching phenomenon (Hobbs, 2012; Kola & Sunday, 2015; Hirsch, 2006). Insufficient of adequate and appropriate content knowledge positively has an effect on the quality of

*Corresponding Author: Edzel N. Baras., Arlene V. Gillo
Visayas State University, San Jose National High School
Senior High School

RESEARCH ARTICLE

A Referred Journal

teaching (Kola & Sunday, 2015; Hirsch, 2006). Being confronted with the challenges of inadequate content and pedagogical knowledge, out-of-field teachers employed varied approaches and utilized numerous resources to develop themselves (Seshea, 2017). Du Plessis (2015) claims out-of-field teachers intensify their time in preparation and learn the content by heart. She likewise asserts that out-of-field teachers depend on text books while teaching, and they neither give time or chances for students to deliberate concepts in a comprehensive manner. One participant, who is a Bachelor of Social Sciences, major in Psychology who handled 21st Century Literature when asked about her experience in handling the subject, said:

“Honestly makuri, so kinurian ako kasi although I’ve had cognate subjects in college pero okay cognate man gud la waray ako foundation anay tigda la nga o sige you read this literature. Diri ako well-versed han mga literary pieces’ devices, yon so feeling ko kinukurian ako. I am just one page ahead of my students, so nag-cracramming ako actually. I think that’s the term nag-cracramming. {Honestly, it is difficult to handle because I only had cognate subjects. I am not that well-versed in the literary devices, so I felt a hard time in teaching. I was just a page ahead of my students so I experienced cramming. I think that’s the right term: cramming.}”

Another participant who is a Bachelor of Home Arts major in Baking and Cooking who handled Statistics and Physical Science, when asked about her positive and negative experiences, said:

Negative. Lack of knowledge lack of information baga’n kulang an akon background ha physical science; ha math mayda gad ako background, pero basic la. (Negative. Lack of knowledge and information. I felt that my knowledge was not enough. I just knew the basic information.)

The other participants interviewed felt the same way as the others. They considered their knowledge not enough to be shared with students.

Low self-esteem in teaching the subject. Teachers claimed that they were not confident in teaching the subject. They felt that they were not supposed to handle the subject. Experiencing deficiency of content knowledge and pedagogical content knowledge reduced their self-worth and confidence as the latter is correlated with possessing adequate knowledge (Du Plessis, 2015; Darby-Hobbs, 2002). According to Bandura (1993), a teacher who has low self-worth has the tendency to evade teaching a topic that he or she considers as difficult or challenging. Aina (2016) mentions that a teacher will escape teaching an assigned task if he or she is not oriented and well-versed about it. One participant said:

...para ha akon, especially the first year, pero feeling ko an kabataan an mas disadvantage kay kon unta hi ako is an expert or mayda mastery hito nga literature subject. I could have given more nga dapat unta para ha ira kuan man gud la siring pa man dida han first year I was just a page ahead of my students feeling ko nad-disadvantage an mga kabataan...{...for me especially the first year students were more disadvantaged because if only I was an expert or had mastery in the subject, I could have given more; they thought I was just a page ahead of them...}

*Corresponding Author: Edzel N. Baras., Arlene V. Gillo
Visayas State University, San Jose National High School
Senior High School

RESEARCH ARTICLE

A Referred Journal

Cramming/ Full of Hassle. Teacher-participants experienced cramming. They felt they were always running out of time in preparing for the assigned subject. They were always full of hassle. One participant revealed:

“Negative, nag-cramping man gud ako ano, padisan pa kay waray libro, tapos waray libro ngan waray textbook nga available for that subject particularly even up to now, 4 years na kita in implementation in fairness mayda gad man kita activity sheets pero ito hiya good for one quarter la tapos diri hiya comprehensive; mayda la niya didto mga presented nga literature to utilize pero an subject matter nga imo ig-discuss waray dida, so magsesearch ka gud, that another problem kay the school has no internet connection {It was negative. I experienced cramming. Besides there were no books available even up to now, specifically textbooks. There are activity sheets but only good for one quarter and it was not comprehensive. It presents only the literature to be utilized, but the subject matter to be discussed was not indicated there. You really need to research. One problem is that the school has no internet connection.}

Preparation was time consuming. Teacher-participants believed that it really required time to prepare for the lesson considering that the subject was not aligned

to their field of specialization. Aina (2016) asserts that a teacher who has low self-efficacy would usually resort to avoid teaching a certain topic which he or she finds difficult to understand and deliver to his or her students. Lingard, Hayes, Mills and Christie (2003) state that due to teachers’ lack of pedagogic content knowledge, they try to

omit the parts of the lesson which they find challenging. Deleting, evading or escaping some portions of the lesson was considered by some writers as coping mechanisms that out-of-field teachers employ. The out-of-field teacher who is assigned to teach a subject that is out of his or her field of specialization normally needs ample time to prepare and to organize his or her lessons, learning materials, and assessment activities to ensure students’ quality learning. They emphasized:

Siyahan nakurian ako. Makuri hiya, since diri ko hiya major nga subject. Na-take hiya hin time nga dako kay siyempre ako kinahanglan ko mag-study kay waray man gud ako igtututdo hit mga bata kun diri ako magbasa. Makuri danay; makuri hiya intindihon labi na an physical science kay diri man gud ako science major, kinahanglan magbasa ka tapos an mga bata makuri gihap para ha ira an subject physical science ngan stat makuri gihap nira. {At first it was difficult, since I was not a science major. It takes much time for me since I really need to study or else I will have nothing to teach to my students. It was very hard most especially the Physical Science and Statistics.}

Another participant pointed out:

...I was at a disadvantage because I have to give more time preparing for it, and as in spell prepare; define preparation in 21st century literature, madugo para ha akon {...I was at a disadvantage because I have to give more time preparing for it, and as in spell prepare; define preparation in 21st century literature. It was a bloody one ...}

Other themes formulated from the data:

One participant described the experience as a challenging one.

*Corresponding Author: Edzel N. Baras., Arlene V. Gillo
Visayas State University, San Jose National High School
Senior High School

RESEARCH ARTICLE

A Referred Journal

Challenging. Teacher looked at it as an avenue for new learning where she can also grow. Borko (2004) mentions that learning happens in many varied contexts or settings, and it could be both an individual and a social process. According to Yates (2007), learning does not limit only in formal contexts but it also happens informally, and it could also be by accident or by chance. As one participant shared:

very challenging pero para ha akon mas gusto ko hiya an akon personality. Diri ko gusto an commonality. I like being challenged. I like new things. I love exploring yon kasi ung personality ko. Having this subject, it gives me more reason to be excited everyday mag-enter ako ha classroom. Wow, it's a new day. What I'm gonna do? Ayoko kasi ng paulit-ulit pabalik-balik na topic. Ayoko ng ganon; mas nageenjoy ako. {It was very challenging for me because I like being challenged and that's my personality. I don't like commonality. I like new things. I love exploring. Having this subject gives me more reason to be excited everyday. I don't like routines.}

Coping Mechanisms Employed by the Out-of-Field Teachers in Teaching Senior High School Students

These are the themes formulated in terms of the coping mechanisms being employed by the out-of-field teachers (Preparation, Sharing, and Activity-based).

Preparation. Teachers claimed that since it was not their major, they had to study and prepare activities for the students in their assigned subject. They emphasized that they

should not enter the classroom without any preparation. Du Plessis (2015) claims that out-of-field teachers intensify their preparation time and gain knowledge by heart. This is true especially when lesson is quite difficult to be understood and a bit challenging to be taught. Consequently, out-of-field teachers have to exert more effort and time in reading and reviewing until they surely comprehend the challenging lesson. A participant shared:

Amo gud iton maghahatag ka gud hin time to prepare. You devote time preparing for the lesson kasi if you don't prepare masasayang iton usa ka period. Kun masulod ka ha classroom, mag-aano kami, so kinahanglan talaga mag-prepare. I prepare.

I devote more time preparing for 21st century than I do with my other subjects... {That's it; you really have to devote time preparing for the lesson because if you don't prepare, one period will be wasted. I prepare. I devote more time preparing for 21st century than I do with my other subjects...}

Sharing.

Teacher-participants assigned topics to the students for research tasks and they themselves research about the topics as well. Then, before the lesson proper, they do brainstorming activities. Roberts and Pruitt (2009) claims that group effort occurs when teachers share teaching approaches and methodologies when they settle on instructional concerns and when they create ideas that assist the learning of all school community members. This takes place through collaboration with students, colleagues, and administrative officials, through communications and sharing

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discussions, through observations and through shared learning task (Atwal, 2013).

One teacher-participant shared:
...nag-reresearch ako; nagpapa-research liwat ak ha ira tapos sharing nala kami hin ideas kon ano am nabasa. Gintatarampo ngstart na am discussion... {I did research. I assigned my students to do research, then we share our ideas from what we have read. The discussion starts...}

Activity-based. Teacher-participants gave activities to the students. They make the teaching-and-learning process more engaging through activities than pure lecture. They involved their students in delivering the lesson more than having them sit and listen as passive learners. As one participant narrated:

I do activity-based tapos reporting. My personality is incorporated in this subject, because I love ideas. I love hearing kakaiba na mga ideas from my students so diba understanding culture parang application lang siya ha aton kinabuhi so I am happy that I hear the opinion of my students. I discover more about them and about the topic na-cucurious na ako sa ibang topic na hindi ko pinapahalagan dati. I am challenged to learn more. { I do activity-based then reporting. My personality is incorporated in this subject because I love ideas. I love hearing different ideas from my students. It's just like understanding culture is an application in real life, so I am happy that I hear the opinion of my students. I discover more about them and about the topic. I am more curious now with the unfamiliar topics that I ignored before. I was challenged to learn.}

Summary of Findings

The following themes were formulated in the data collected in terms of the difficulties and triumphs of out-of-field teachers in teaching senior high school students:

Difficulty due to lack of mastery. Teachers claimed that it was difficult to deliver the lessons because they did not have enough background information about the subject. The other participants interviewed felt the same way with the others. They considered their knowledge as not enough to be shared to students.

Low self-esteem in teaching the subject. Teachers claimed that they were not confident in teaching the subject. They felt that they were not supposed to handle the subject.

Cramming/ Full of Hassle. Teacher-participants experienced cramming. They felt they were always running out of time in preparing for the subject. They were always full of hassle.

Preparation was time consuming. Teacher-participants believed that it really required time to prepare for the lesson considering that the subject was not aligned to their field of specialization.

Other themes formulated from the data were the following:

One participant described the experience as a challenging one.

*Corresponding Author: Edzel N. Baras., Arlene V. Gillo
Visayas State University, San Jose National High School
Senior High School

Challenging. The teacher looked at it as an avenue for new learning where she can also grow.

These are the themes derived in terms of the coping mechanisms being employed by the out-of-field teachers (Preparation, Sharing, and Activity-based).

Preparation. Teachers claimed that since it was not their major/field of specialization, they had to study and prepare activities for the students in their assigned subject. They emphasized that they should not enter the classroom without any preparation.

Sharing. Teacher-participants assigned topics to the students for research tasks and the teachers themselves researched about the topics as well. Then, before the lesson proper, they do a brainstorming

Activity-based. Teacher-participants gave activities to the students. They provided the students with activities more than giving pure lectures. They involved their students in delivering the lesson more than having them sit and listen as passive learners.

Conclusions

1. The teacher-participants experienced difficulty in handling out-of-field subjects, such as lack of knowledge, low self-esteem, cramming or full of hassle, and time-consuming preparation of lessons.
2. The teacher-participants managed to handle out-of-field subjects through preparing lessons and activities, sharing materials for research, and giving activity-based strategies.

Recommendations

1. The out-of-field teachers should not be assigned to teach subjects which are not in line with their specialization or major. If they are given such subjects, they should undergo a series of seminars or training that will equip them with necessary knowledge and skills necessary in handling such subjects.
2. The out-of-field teachers should be provided with instructional materials and internet connectivity for easier access of information for preparation, sharing, and activity-based strate

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The Effects of Project RePo on Grade 7 Students' Reading Skills and Proficiencies

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Abstract

This study was carried out to determine the effects of the school's reading intervention program named Project RePo designed to improve the reading proficiency levels and skills of Grade 7 students. The efficacy of the reading intervention program was examined since the result of tests on the three skills in reading was used to determine the significant difference in pre and post test result. The data on reading proficiencies and skills were determined using the pre and post testing materials adapted from standard set by the Philippine Informal Reading Inventory (PHIL-IRI). The study employed quasi experimental with one group pre- and post-test design. The data were statistically analyzed using percentage technique, measure of skewness, wilcoxon-signed test, t-test dependent, percent increase and kruskal wallis test. All hypothetical questions were interpreted at 5% level of significance. The result of the pretest using the Phil-IRI showed that the majority of the Grade 7 students belonged to the frustration level reading proficiency. Additionally, the significant increase revealed by the tests on the three skills implied improvement in the students' performance. Among the three skills, it is observed that improvement was most evident in reading comprehension while word reading improvement was the least evident. It is then concluded that Project RePo, an intervention given, was effective in enhancing students reading proficiencies and skills. Therefore, it is hereby recommended that schools may use the reading intervention program since it was proven the reading proficiencies of Grade 7 students has improved.

Keywords: *reading skills, reading proficiency level and Project RePo*

Introduction

Reading is a habit where students learn, gain knowledge and develop new skills (Olivar, 2014). In line with the implementation of the K to 12 Basic Education Program, to understand the significance of reading, the Department of Education (DepEd) implemented “Every

Child Reader Program” (ECARP), through DepEd Memorandum No.402. s. 2004 and Administrative Order No. 324. This program aims to teach public elementary pupils with planned training in reading and writing to make them independent young readers and writers. The ECARP was part of the ten-point education agenda of the former president Simeon Benigno Aquino III to ensure that the

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RESEARCH ARTICLE

A Referred Journal

country's public schools produce well-equipped graduates who could cope with the different challenges in life.

However, the recent trend on research in the field of reading revealed that many high schools report large numbers of students who are reading below their expected level. Studies show that at least one out of five students have significant difficulty in reading acquisition (Therrien, 2004). Over the recent years, the percentage of high school students performing below the basic level in reading rapidly increased. The Division of Camarines Sur admitted that poor academic achievement is clearly shown in the low ratings they receive in the National Achievement Test (NAT). This was the grim revelation of the inconsistent results in the standardized test administered by the Department of Education in small, medium and big elementary schools in Pili West District, Camarines Sur for the 2015-2016 with its dropping average of 59.42% for small schools, 67.80% for medium schools, and 56.38% for big schools.

With the unacceptable numbers of high school students who do not read proficiently, it is imperative for a school to provide the best reading intervention practices to improve both reading fluency and reading comprehension particularly on the 7th grade students because fluency and comprehension are important at this stage of development and early intervention can impact the progression of reading difficulties. Due to its high accountability on reading programs, DBSQMHS is increasingly providing instruction in reading to a large proportion of high school students performing below the basic level. Also,

remedial reading intervention programs are becoming more widespread in the school. Additionally, literature was reviewed systematically in an effort to find the best reading intervention programs to intervene with students who are at-risk of reading disabilities.

The purpose of the study was to determine the reading proficiency levels of Grade 7 students in oral reading based on the Phil-IRI reading scale categorized into three levels: frustration, instructional and independent. Also, this research work was carried out to implement the school's reading intervention program named Project RePo designed to improve the reading proficiency levels of Grade 7 students. Hence, the efficacy of the reading intervention program was examined since the result of tests on the three skills in reading were used to determine the significant difference in the pre and post test result after the implementation of the school's reading intervention program.

Proposed Innovation, Intervention, and Strategy

This study proposed a reading program named Project RePo (Reading is Power) designed to improve the reading proficiency level of the Grade 7 students of DBSQMHS performing below their basic reading level. Project RePo consisted of effective reading interventions as means of solving secondary students' reading problems. In an effort to cast a fairly wide net in my search for reading interventions designed for teaching and learning at high school levels, the researcher also did a hand search on research concerning intervention programs for high school students who find school literacy a challenge. These reading

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interventions focus on the most critical components of reading instruction necessary for students to become proficient readers. These critical components include decoding, word recognition, fluency and comprehension for improving reading proficiency level.

This project RePo which is a game-assisted reading intervention was validated, evaluated and finalized through focus group discussion (FGD) with the faculty of the locale, during the school-based Learning Action Cell (LAC) sessions of the school. Reading interventions included in the program have undergone thorough review and analysis by the experts in the field who were composed of one public school district Supervisor, one Teacher-in-Charge, one English coordinator of the school and the keynote speaker during the School-Based Learning Action Cell for Teachers: Focus Group Discussion on Schools Reading Intervention Program. They checked, critiqued and validated the reading interventions. After the validation, the comments, suggestions and recommendations of the validators were incorporated in the revision of the said reading interventions.

Literature Review

The review describes methods and outcomes of individual studies and programs, and places studies in well-justified categories to find patterns that may have broader applicability and may suggest where additional development and research may be most fruitful. A systematic review focused to investigate the effectiveness of interventions designed to support the reading skills of secondary school students.

Reading Interventions which targeted specific skills in reading

With regard to critical component training, one of the studies reviewed was evaluation of Computer Aided Instruction (CAI). In each finding, CAI generally had few effects on reading outcomes. Additionally, Khan and Gorard (2012) reported that previous studies have failed to demonstrate the effectiveness of computer-based instruction as a means of solving illiteracy in reading. On the other hand, Mercer et al. (2000) studied the effects of reading fluency intervention for fluent reading (e.g., repeated reading in phonics, sight phrases and oral reading) and found significant growth in reading level and reading rate. The other studies of fluency focused on improving oral reading fluency, often through word or phrase reading fluency and/or repeated reading. Results were mixed with inconsistent improvements in oral reading fluency compared to baseline (Freeland et al., 2000; Mercer et al., 2000). The data trend from the studies of fluency indicates that increased reading rate and accuracy did not always result in improved comprehension. For educational leaders, the message from these findings is that an intense focus on fluency instruction in reading skills or advanced decoding strategies must be provided to the secondary struggling readers—particularly for students whose word reading skills are exceedingly low. Penney (2002) and Scott and Shearer-Lingo (2002), conducted an experimental word-level study which examined the effects of advanced word reading strategies. Penney (2002) compared a structural analysis approach to typical reading instruction. The effects on word reading were moderate (effect size = 0.43 to 0.48). As indicated by the meta-analysis, word-level interventions are associated with small to moderate effects

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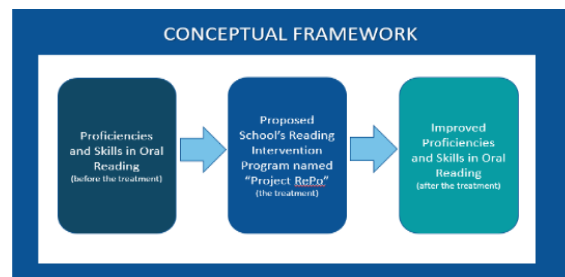
on comprehension. Although the average effect was not significantly different from zero, the small to moderate effect is an important finding, particularly for older students with very low decoding skills who require extensive instruction in word-level skills. It is valuable to know that there is a small to moderate effect for comprehension from word-level interventions.

Moreover, results from the meta-analysis indicated that students with reading difficulties can really improve their comprehension when provided with a targeted reading intervention in comprehension, multiple reading components, and word reading strategies. The synthesis also shows that struggling readers can improve in their reading comprehension when taught reading comprehension practices. This observation should be given a high regard because many struggling readers in older grades (6 through 12) are not provided effective instructions in reading comprehension. Further, the synthesis suggests that explicit instruction in comprehension benefited students with reading related problems.

Finally, students who lack word reading skills must improve these word-level skills while being taught with the process of comprehension so that access to increasingly difficult levels of the rudiments of reading can be achieved.

Conceptual Framework

Figure 1
Project RePo



As shown in the diagram, the researcher first determined the current oral reading proficiencies and skills that were acquired by the students using the Phil-IRI data gathering tools before the treatment was implemented.

After getting the reading profile of the students, the researcher then implemented the school's reading intervention program named Project RePo that would improve the said skills. These reading interventions focused on the most critical components of reading instruction necessary for students to become proficient readers. These reading interventions also gave the teachers additional information in improving the proficiencies of the students while reading.

All these efforts led to improved reading skills of the students after the implementation of Project RePo. The analysis and interpretation of the test results gave a clear picture of the reading proficiencies and skills of Grade 7 students.

Research Questions

This study aimed to determine the effect of the school's reading intervention program named Project RePo designed to enhance the reading proficiency level of Grade 7 students based on their reading profile.

Specifically, it sought to answer the following questions:

1. What is the reading proficiency level of Grade 7 students in oral reading based on the Phil-IRI assessment tool?
2. What is the effect of the implementation of Project RePo in the reading skills of Grade 7 students?
3. What specific skills in oral reading were improved after the implementation of Project RePo?

Methodology

Research Design

The study employed 3 months of quasi-experimental research design, covering the administration of pre and posttests and the 15 weeks of conducting 5 sessions of 350 minutes teaching learning process. The design was quasi-experimental with one group pre and posttest design. One single group of 30 students composed the samples of the study. Following this design, the experimental group was measured and observed before and after being exposed to treatment (Project RePo). The implementation of Project RePo that focused on the specific critical component skills such as decoding, word recognition, fluency and reading comprehension was embedded in the group reading lessons. These students were

taken out from their respective classes every afternoon to receive the treatment. The administration of reading interventions involved 1 week of conducting 5 sessions of 60 minutes reading instructions every day. Accordingly, before the implementation of the school's reading intervention program, the group was given the pre reading test. Then after the implementation of the reading interventions, the group was given the post reading test. The difference between posttest over pretest results was considered a positive cause of the improvement of the students' reading skills.

Research Locale

Over the recent years, the percentage of Grade 7 students performing below the basic level in reading increased rapidly. Hence, the study was conducted in this public school in Camarines Sur. Additionally, the school reports a large number of frustrated and nonreaders who demonstrate difficulties in reading. With the increasing numbers of high school students who do not read proficiently, it is imperative for the school to provide the best reading intervention program to improve the reading skills, particularly on the 7th grade students. The skills on decoding, word recognition, fluency and comprehension are important at this stage of development and early intervention can impact the progression of reading difficulties.

Thus, well-evaluated reading interventions that would enable these high school students with poor reading skills to meet the demands of academically challenging tasks are needed to ensure that they would succeed in their work-related reading tasks. In this context, suggesting the importance of ensuring the availability of

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RESEARCH ARTICLE

A Referred Journal

reading intervention program is essential for the students to get the proper instruction they need to find success in the rudiments of reading. This serves then as the basis of selecting the school as the locale of the study.

Sampling Technique

The respondents were selected from the three (3) sections of Grade 7 students. There were forty-nine students (24 males, 25 females) from Grade 7- Faith, forty-eight students (30 males, 18 females) from Grade 7- Humility, and fifty-two students (30 males, 22 females) from Grade 7- Prudence. The selection of the respondents was based on scores from Philippine Informal Reading Inventory (Phil-IRI) test result. Measures of reading comprehension were administered to the three (3) sections of Grade 7 students of the research locale in the first quarter of the school year. Those who qualified had the lowest comprehension skills based on the computed value of comprehension set by the Phil-IRI. Moreover, a simple random sampling technique was utilized to compose the samples of the study. This denoted that all the students who had frustration reading proficiency level based on the computed value of comprehension set by the (Phil-IRI) in the pretest had a legitimate chance of being selected as the respondents of the study. From the eighty (89) students who had frustration reading proficiency level in the pretest, thirty (30) students were randomly assigned using the application software Simplified Statistics for Beginners (SSB) version 1.0.

Data Collection

This research employed the use of Philippine Informal Reading Inventory (Phil-IRI) testing materials in data gathering.

Phil-IRI material was used in determining the level of reading proficiency of the students before and after the implementation of Project RePo. This instrument was used to gather data needed on the reading proficiency levels of the respondents in oral reading. Further, the pre and posttest tests derived from Phil-IRI were used to determine the significant difference of the students' performance in reading before and after the implementation of Project RePo. Moreover, the Phil-IRI testing materials were employed as well to determine the effect of the implementation of Project RePo in the reading skills of Grade 7 students which probed the significant difference in the reading proficiency levels of Grade 7 students before and after the implementation of reading intervention. Furthermore, the same instrument was used to identify the significant increase from the pre and posttest result on the three skills.

Data Analysis

This study performed both inductive and deductive analysis. The researchers read the data quite a few times until the themes emerged. The themes were then analyzed in order to understand the senior high school teachers' lived experiences as out-of-field. Then, the researchers tried to compare and contrast the study's findings with relevant research findings so that they could create situations to establish the new formulated date into prevailing data (Baxter & Jack, 2008). The conclusion of the study was derived from the discussion of the findings.

RESEARCH ARTICLE

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Results and Discussion

Table 1

Levels of Reading Proficiency of Section 1 to Section 3 Students in Oral Reading

Levels of Reading Proficiency in Oral Reading	Sections			Frequency	Percentage (%)
	1	2	3		
Frustration	29	29	31	89	77.39%
Instructional	4	6	10	20	17.39%
Independent	1	2	3	6	5.22%
Total	34	37	44	115	100%

Table 1 disclosed the pretest result of the administration Philippine Informal Reading Inventory (Phil-IRI) on the reading proficiency level of the respondents. It is revealed that 89 or 77.39% out of 115 Grade 7 students belonged to the frustration level in terms of their reading proficiency. Based on the inventory, about 20 or 17.39% of 115 students belonged to instructional level and it is shown that only 6 or 5.22% of 115 students were able to reach the independent level of reading proficiency. As a general interpretation, an alarming number of frustrated readers were revealed based on the Phil-IRI results.

Table 2

Difference Between the Pretest and Posttest Result of Student with Intervention of Project Repo among the three Skills in Reading

Raw Scores	Critical Components Skills in Reading							
	Word Reading		Fluency (words per minute or wpm)		Reading Comprehension (%)		Reading Proficiency Level	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1.	86	93	70	86	67	83	F	INS
2.	59	90	35	45	67	67	F	INS
3.	89	99	91	133	67	100	F	IND
4.	93	99	147	145	14	86	F	IND
5.	90	96	102	114	50	86	F	INS
6.	81	95	51	82	50	100	F	IND
7.	87	92	76	105	33	100	F	IND
8.	81	90	48	59	50	67	F	INS
9.	81	96	32	57	67	67	F	INS
10.	81	91	65	93	33	83	F	INS
11.	89	96	63	85	17	86	F	INS
12.	86	99	82	144	67	83	F	IND
13.	89	99	120	146	67	83	F	IND
14.	81	90	70	70	33	83	F	INS
15.	88	94	84	111	43	100	F	INS
16.	86	95	70	111	67	83	F	IND
17.	71	83	40	77	83	83	F	INS
18.	81	96	54	104	33	50	F	INS
19.	94	98	78	120	43	71	F	INS
20.	89	95	68	102	43	71	F	INS
21.	87	96	53	85	33	83	F	INS
22.	73	95	59	82	33	83	F	IND
23.	83	96	87	122	71	86	F	INS
24.	89	95	70	82	17	83	F	INS
25.	83	97	103	133	43	86	F	IND
26.	86	92	108	122	43	71	F	INS
27.	89	98	150	182	33	83	F	IND
28.	89	96	87	123	67	83	F	INS
29.	59	80	30	67	83	100	F	INS
30.	93	99	181	111	43	86	F	IND
Average/Mean	83.77	94.67	79.13	103.27	48.67	85.23		
SD	8.40	3.87	34.84	30.50	18.86	11.23		
t-computed	4.79		5.82		8.62			
t-tabular	1.64		1.69		1.69			
Interpretation	Significant		Significant		Significant			

Table 2 shows the findings based on the analysis and examination of the vitality and crucial role of Project Repo on improving students' reading proficiency level in oral reading. The result revealed that there is significant increase in the posttest scores of the students under word reading, (T(28) = 4.79). From the average pretest score of 83.77, students obtained a higher score with an average of 94.67 in their posttest. The T-test results indicate a significant increase from pretest to posttest scores of the students under fluency, (T(28) = 5.82). From an average pretest score of 79.13, the students obtained an average posttest score of 103.27. On the reading comprehension, a similar result was revealed by T-test dependent.

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There is a significant increase in the posttest scores of the students, ($T(28) = 8.62$). From the average pretest score of 48.67, students obtained a higher score of 85.23 in their posttest. The significant increase revealed by the tests on the three critical component skills in reading implies improvement in the students' reading performance.

Conclusions

Based on the results, the reading interventions were shown to be most effective in enhancing students' reading comprehension skills. Meanwhile, the result showed least improvement on the word reading skills (decoding and word recognition), however, it does not necessarily mean lesser effectiveness of the intervention in reading. It just calls for the teacher's means and ways when employing such a strategy to address problems of students performing below their expected reading level.

It can be concluded that Project RePo was effective in enhancing students' reading proficiency skills. It is then recommended that schools may use the reading program – Project RePo as it was proven that the reading proficiency level of Grade 7 students has improved after implementing the said reading intervention. Also, teachers may implement other reading interventions that may enable high school students with poor reading skills to demonstrate reading progress. Further, the reading interventions in the Project RePo must be implemented for at least one school year to have a more conclusive result.

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Efficacy of ChatGPT in Academic Outputs of Fourth-Year BSIT Students

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Abstract

With the recent introduction of the ChatGPT, a lot of remarks and conjectures were made on the possible facets of society that this AI revolution might benefit. The education field is one of the primary domains affected by ChatGPT, the impact to BSIT students remains yet to be fully understood. Investigating the impact of ChatGPT on the academic experiences of fourth year BSIT students becomes paramount to explore its influence on the students' academic outputs. The study used descriptive research design to obtain data through survey questionnaires to provide the researchers with more precise information needed in the study. Moreover, the researchers utilized a survey questionnaire using purposive sampling. The findings showed that ChatGPT is a useful AI tool for improving students' academic outputs, especially in programming-related activities such as debugging, code optimization, and understanding code snippets.

Keywords: *Academic Performance, AI Integration, ChatGPT, Generative AI, Information Technology, Students Outputs*

Introduction

In the 21st century, the educational landscape has been undergoing a rapid and significant transformation due to technological advancements, especially with the advent of Artificial Intelligence (AI) (Petersen, 2021). Recent advancements in machine learning have led to the development of more advanced, cutting-edge technologies for creating digital content (GenAI) (Hu, 2022). The integration of AI technologies has undeniably influenced various aspects of education, providing new avenues for enhanced learning and academic endeavors while redefining traditional learning environments.

Among the recognized AI-driven

breakthroughs, ChatGPT, developed by OpenAI on November 30, 2022, has garnered significant attention. ChatGPT is a generative AI chatbot that broke the record for the fastest-growing consumer application by achieving one million users in its first week, with an average of 55 million visitors per day (Brandl, 2023). A study by Rueda et al. (2023) states that the implementation of ChatGPT in the educational environment has a considerable positive impact on the teaching-learning process. However, the results also highlight the importance of users being trained to use the tool properly. The role of ChatGPT in the academic landscape is promising, but to

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utilize it effectively, users must be knowledgeable and equipped to maximize its functions. According to a study conducted by Ting Wang et al. (2023), ChatGPT shows massive potential to improve learning efficiency and provide educational support in various learning environments.

A study conducted by Darren Javier and Benjamin Moorhouse (2023) in the Philippines revealed that teachers can help learners develop the skills needed to use ChatGPT productively and critically, thereby increasing its advantages for language learners. This AI tool can be used in a wide range of subjects and provides benefits in terms of the skills and knowledge required by learners. It has shown varied performance across different subject domains and demonstrated potential benefits as an assistant for instructors and a virtual tutor for students (Chung Kwan Lo, 2023). Addressing complex AI tasks across different domains and modalities is a key step toward artificial general intelligence, particularly in learning environments. ChatGPT's advantages include, but are not limited to, encouraging individualized and interactive education, generating prompts for formative assessment activities, and providing ongoing feedback to inform teaching and learning (Baidoo-Anu & Ansah, 2023).

Literature Review

ChatGPT to Education

Recent studies exploring the opportunities created by ChatGPT in the educational landscape offer significant insights. For example, George et al. (2023) examined how educational systems can leverage AI-powered tutoring services to

provide individualized instruction tailored to each student's needs. This approach enables students to receive the specific assistance required to enhance their academic performance and achieve their personal goals. Additionally, Alshater (2022) highlights various ways ChatGPT can advance research. Utilizing ChatGPT in research can lead to improved efficiency, greater flexibility, enhanced objectivity, and increased speed in automating tasks that would otherwise be time-consuming for humans to perform (Bozkurt, 2022).

However, ChatGPT may reproduce biases present in its training data. The study recommends being cautious of this risk and taking steps to mitigate it. Rudolph et al. (2023) suggest that students can benefit from experiential learning since ChatGPT can generate a variety of problem-solving scenarios. According to TESOL International Association (2023), ChatGPT can generate topics for discussion and creative writing prompts, helping students write creatively. It can identify grammatical and structural issues in students' work, provide writing prompts, and offer editing suggestions (Ohio University, 2023). The best part is that the feedback is immediate, unlike teacher input, which naturally takes time (Hong, 2021). This implies that ChatGPT can serve as an efficient personal language tutor.

ChatGPT to Students

ChatGPT can be a valuable technological tool for students in various ways. The Alshater (2022) study demonstrated that using ChatGPT in a case study significantly improves scholarly research in finance and economics. By synthesizing information from diverse sources, it aids in constructing well-informed arguments and enriching the

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content quality of academic work (Yilmaz & Yilmaz, 2023). Research findings showed that using ChatGPT has both benefits and drawbacks as perceived by students learning basic programming. Students admire ChatGPT's capabilities, finding it fascinating, motivating, and helpful for their studies and tasks. They appreciate its human-like interface, which provides well-structured responses and clear explanations, and find it straightforward to use (Shoufan, 2023).

The impact of ChatGPT on written outputs is profound. Its ability to refine writing skills is evident through the provision of constructive feedback, helping students improve their composition abilities (Shidiq, 2023). Through iterative interactions, it enhances the coherence, structure, and eloquence of students' written expressions, thus elevating the quality of their outputs. However, while recognizing the virtues of ChatGPT, it is essential to acknowledge its limitations. The model's proficiency depends on the specificity and clarity of student queries (Lo, 2023). In scenarios requiring nuanced understanding or personalized guidance, human intervention remains indispensable.

The literature and studies clearly indicate that ChatGPT's efficiency in various areas has positive implications. By utilizing natural language processing (NLP) to enable users to communicate with machines conversationally, ChatGPT has the potential to be a valuable tool in any industry. It has been emphasized that ChatGPT is particularly beneficial in education, especially for tasks that can be automated. The use of ChatGPT in IT shows promise for enhancing students' academic outputs. However, when examining the literature, research findings

related to using ChatGPT for this purpose are still lacking. There is a gap in the existing literature regarding the efficacy of ChatGPT on BSIT students' academic outputs, which requires further exploration.

Theoretical Framework of the Study

The research investigates the efficacy of integrating ChatGPT within the framework of constructivist learning theory, which emphasizes the active role of students in constructing their understanding of the world. It examines four key attributes of educational systems: context, collaboration, conversation, and construction (Kim & Adlof, 2023), highlighting ChatGPT as a facilitator rather than a standalone solution for enhancing student learning within constructivist environments.

In implementing constructivist theory within the study, the research design prioritizes active student engagement as a central principle of effective learning. By aligning with the constructivist perspective, which emphasizes that learners construct knowledge through firsthand experiences, reflection, and social interaction ("Constructivism," 2023), the study underscores the importance of students being actively involved in their learning process. This active involvement is manifested through activities such as exploration, questioning, and reflection upon personal experiences, all of which are foundational principles of constructivist learning. This interaction fosters a dynamic learning environment conducive to knowledge construction. Moreover, the incorporation of ChatGPT promotes peer interaction, enabling students to collaborate and share experiences, collectively

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deepening their understanding of the material.

Research Questions

This study aims to reveal the efficacy of ChatGPT in the academic performance of fourth-year BSIT students at a state university in the Philippines. Specifically, the study seeks to answer the following questions:

1. What issues and limitations do students encounter when using ChatGPT?
2. For which specific academic tasks is ChatGPT most frequently used by students?
3. What is the frequency of ChatGPT usage for academic purposes?
4. What are the levels of reliability, adaptability, and comfort experienced by students when using ChatGPT?

Methodology

Research Design

The researchers use a quantitative descriptive design to evaluate the effectiveness of ChatGPT on BSIT students' academic outputs. This involves collecting numerical data in an area with limited prior research. Quantifiable data was gathered to statistically analyze a population sample and identify patterns, connections, and trends over time, using surveys, polls, and experiments (Cathy Heath, 2023). The data was collected, analyzed, and summarized to understand the range of outcomes for BSIT students using ChatGPT.

Sampling Procedure

The study was conducted with 110 fourth-year BSIT students in a state university during the 2023-2024 school year, representing 72% of the total 152 fourth-year BSIT students. Purposive sampling was used to select respondents based on the following criteria:

- Enrolled in the BSIT program
- Fourth-year students
- Basic familiarity with ChatGPT
- Have used ChatGPT for academic outputs

Purposive sampling is a technique wherein the researcher relies on specific criteria to choose respondents from the population to participate in the study (Andrade, 2020). This method allows the researcher to conveniently obtain a sample from a readily available source.

Data Gathering and Instruments

In this study, the researchers used the following instruments to gather all necessary data to address the specific problems of the study. A 10-item online survey was developed to evaluate ChatGPT's effectiveness on the academic outputs of fourth-year BSIT students at a State University. Administered via Google Forms for efficient data gathering and accessibility, the survey was distributed to respondents across sections of the fourth-year BSIT curriculum. Completed surveys were promptly collected after participants responded. To ensure a high response rate and data accuracy, the researchers retrieved the completed surveys immediately, and the results underwent statistical analysis.

Data Analysis

The data collected from the survey questionnaire was recorded in tables, analyzed, and interpreted based on the results of the statistical treatment.

RESEARCH ARTICLE

A Referred Journal

Descriptive statistics will be used to summarize the data, including basic measures such as mean, median, standard deviation, and frequency distributions. These measures will provide an overview of the survey responses and will be presented using tables and graphs for clear visualization.

Ethical Considerations

The participants of the study will be required to sign an informed consent form before participating in the study. The informed consent form will explain the purpose of the study, the procedures involved, and the risks and benefits of participation. The participants will also be assured of confidentiality and anonymity.

Results and Discussion

Ninety-three respondents, representing 36.19% of the total, reported using ChatGPT for programming purposes. As shown in the table below, this use case is the most prevalent compared to other academic tasks. Bozkurt (2023) study highlights ChatGPT's potential as a comprehensive debugging toolkit. The study emphasizes the advantages of integrating ChatGPT's capabilities with those of other debugging tools to enhance the identification and resolution of bugs more effectively.

Table 1. *Academic Tasks ChatGPT is typically used*

Tasks	Response	%
Study for exam	37	14.39
Programming activities	93	36.19
Essay	36	14
Code optimization	79	30.74
Others (Understanding code snippets, Code refactoring, and explaining of code)	10	3.89
Total	257	99.21

The survey results reveal that 36.19% of respondents, totaling ninety-three individuals, utilize ChatGPT specifically for programming tasks. This figure indicates that ChatGPT is the most frequently employed tool among the various academic tasks assessed in the survey. The prevalence of ChatGPT in programming suggests a significant interest in its capabilities and potential applications within this domain.

Bozkurt's (2023) study supports these findings by highlighting the value of ChatGPT as a robust debugging tool. According to the study, ChatGPT's advanced language processing abilities can significantly aid in identifying and fixing programming errors. The research suggests that while ChatGPT is effective on its own, its true potential is realized when combined with other debugging tools. This integrated approach allows for a more comprehensive debugging process, leveraging ChatGPT's strengths in natural language understanding alongside the specialized features of traditional debugging tools.

The benefits of such integration are multifaceted. ChatGPT can assist in understanding and interpreting error messages, suggesting code corrections, and providing explanations for complex programming concepts. When used in conjunction with other debugging tools, it can help streamline the debugging process, reduce development time, and enhance overall code quality. This synergy underscores the growing role of artificial intelligence in programming and highlights the importance of exploring collaborative uses of AI and traditional tools to optimize software development practices.

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RESEARCH ARTICLE

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A lower proportion of responders, 10 (3.89%), chose "other" outputs. Two respondents (0.97%) mentioned presentations; two respondents (0.97%) understood code snippets; two respondents (0.97%) refactored code; and two respondents (0.97%) explained code.

Table 2 Usage Frequency for academic purposes

Usage Frequency	Response	%
Very frequently	61	55.5
Frequently	27	24.5
Occasionally	13	11.8
Rarely	9	8.2
Total	110	100

Table 1.1 illustrates that 80% of students use ChatGPT frequently or very frequently for academic purposes. This substantial proportion indicates a strong reliance on ChatGPT as a supplementary tool for their learning activities. Such high usage suggests that students perceive ChatGPT as a valuable resource for academic support, whether for generating ideas, clarifying concepts, or assisting with research and writing tasks.

The findings are consistent with a survey conducted by Henry (2023), which reported that nearly one-third of college students had utilized ChatGPT in 2022. This earlier study highlights the growing adoption of ChatGPT among the academic community, reflecting a trend towards increased integration of AI tools in education. The contrast between the 80% of students who use ChatGPT frequently and the 8% who use it occasionally, seldom, or never underscores a clear divide in usage patterns.

The significant reliance by the majority suggests that ChatGPT is

becoming an integral part of students' academic routines, potentially serving as a "crutch" to support their learning process. This frequent use might enhance students' efficiency and provide valuable assistance; however, it also raises questions about the balance between AI assistance and independent learning.

The smaller group of students who use ChatGPT less often may either prefer traditional methods of study or may be less aware of the tool's capabilities. The disparity between frequent and infrequent users could reflect varying levels of comfort with technology, differing academic needs, or personal preferences in learning strategies.

Table 3. ChatGPT: on reliability in terms of accuracy and relevance for academic outputs

Reliability	Response	%
Highly reliable	69	62.7
Moderately reliable	28	25.5
Somewhat reliable	12	10.9
Not very reliable	1	0.9
Not reliable at all	0	0
Total	110	100

The data reveals that a significant majority of respondents, 69 individuals or 62.7%, perceive ChatGPT as extremely reliable for delivering accurate and relevant information. This high level of confidence underscores the tool's effectiveness in meeting users' informational needs within an educational context. According to Wu et al. (2023), ChatGPT has been shown to enhance transparency and reliability in educational settings, further reinforcing students' trust in its capabilities.

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In the context of academic use, ChatGPT appears to be valued for its ability to provide students with dependable support for their homework and other educational tasks. This positive perception is notable given the absence of strong negative feedback—none of the respondents rated ChatGPT as wholly unreliable, and only one individual (0.9%) considered it to be not very reliable. This minimal criticism indicates that concerns about ChatGPT's reliability are relatively rare and that, overall, students regard the tool as a valuable academic aid.

Despite the high level of trust in ChatGPT's reliability, it's important to acknowledge that some students may still harbor concerns or reservations. These worries could stem from previous experiences, awareness of potential limitations, or a general skepticism about AI tools. However, the overall positive feedback suggests that, for the majority, these concerns do not significantly diminish their view of ChatGPT as a useful resource.

The consistent confidence in ChatGPT's reliability highlights its growing role as a supportive tool in the educational sphere. It suggests that students are increasingly integrating AI into their learning processes, trusting it to assist with various academic needs. Nonetheless, it is crucial for educational institutions to continue monitoring and evaluating the effectiveness of such tools to ensure that they complement and enhance traditional learning methods rather than replace them. This balanced approach will help in addressing any potential issues while maximizing the benefits that AI tools like ChatGPT can offer in academic settings.

Table 4 *Adaptability level of ChatGPT in Academic Outputs*

Adaptability	Response	%
Very adaptable	73	66.4
Adaptable	25	22.7
Moderately adaptable	8	7.3
Slightly adaptable	4	3.6
Not adaptable at all	0	0
Total	110	100

A substantial majority of respondents view ChatGPT as highly adaptable, with 66.4% rating it as "Very adaptable." This high level of endorsement highlights the tool's perceived flexibility and effectiveness in accommodating various educational needs and contexts. Firat (2023) supports this view, noting that ChatGPT's adaptability is a key factor in enhancing learners' independence. The tool's ability to adjust to different queries and learning styles makes it a valuable resource for diverse academic tasks.

However, a smaller subset of respondents offers a more nuanced perspective. Specifically, 7.3% rated ChatGPT as "Moderately adaptable," and 3.6% as "Slightly adaptable." These individuals acknowledge ChatGPT's adaptability to some extent but also recognize potential limitations. This range of opinions suggests that while ChatGPT is generally seen as versatile, there may be specific scenarios or applications where its adaptability is less effective or where users experience challenges.

The absence of respondents selecting "Not adaptable at all" further emphasizes the overall positive sentiment towards ChatGPT's flexibility. This

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RESEARCH ARTICLE

A Referred Journal

unanimous agreement on its adaptability underscores the widespread acceptance of the tool's capability to handle a variety of academic tasks and provide relevant support across different subjects.

The strong overall approval of ChatGPT's adaptability indicates that users find it to be a robust tool that can meet a range of educational needs. However, the existence of more cautious opinions also points to the importance of continuous improvement and refinement of AI tools. Addressing any identified limitations and enhancing the adaptability of ChatGPT could further strengthen its role as a versatile educational aid.

Table 5 *Comfort Level with Using ChatGPT for Academic Outputs*

Comfort Level	Response	%
Very uncomfortable	3	2.7
Uncomfortable	1	0.9
Neutral	15	13.6
Comfortable	30	27.3
Very comfortable	61	55.5
Total	110	100

The survey data shows that 55% of respondents, totaling 61 individuals, express a high degree of ease with ChatGPT, selecting the response "Very comfortable." This significant proportion reflects a strong positive reception of the tool among users. The findings align with the research conducted by Ajlouni, Wahba, and Almahaireh (2023), which highlights a general high level of comfort with using ChatGPT as an academic tool. This comfort likely stems from the tool's user-friendly

interface, its effectiveness in addressing academic queries, and its ability to assist with a range of educational tasks.

The overwhelming majority of respondents feeling "Very comfortable" indicates that ChatGPT is well-received and integrates smoothly into users' academic routines. This high level of comfort suggests that the tool is perceived as accessible and supportive, contributing positively to the users' learning experiences.

In contrast, a small minority of respondents report discomfort with ChatGPT. Specifically, only 1 respondent (0.9%) feels "Uncomfortable," and 3 respondents (2.7%) are "Very uncomfortable" using the tool for academic tasks. This minor level of discomfort points to potential areas for improvement, such as addressing specific user concerns or enhancing the tool's functionality to better meet diverse needs. The presence of some discomfort, albeit minimal, highlights the importance of acknowledging and addressing individual user experiences. Even though the overall sentiment towards ChatGPT is largely positive, understanding the reasons behind the discomfort reported by a few users can provide valuable insights for further refinement and user support.

Table 6. *Quality of Academic Outputs with the Assistance of ChatGPT*

Quality of	Response	%
Excellent	58	52.7
Good	44	40
Average	8	7.3
Below Average	0	0
Poor	0	0
Total	110	100

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RESEARCH ARTICLE

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The survey reveals that 58 respondents, accounting for 52.7% of the total, rated the quality of outputs generated with ChatGPT as "Excellent." This indicates a strong overall satisfaction with the tool's ability to produce high-quality responses. Such a high rating suggests that users generally find ChatGPT to be highly effective and reliable in meeting their needs, whether for solving problems, generating content, or providing information.

The positive perception of ChatGPT's output quality aligns with the findings from Wardat et al. (2023), which indicate that the accuracy and effectiveness of ChatGPT's solutions are influenced by various factors, including the complexity of the queries, the quality of the input data, and the clarity of the instructions provided. This suggests that while ChatGPT performs exceptionally well in many cases, the quality of its responses can be affected by the specifics of the input and the nature of the task.

In contrast, a smaller group of 8 respondents (7.3%) rated the quality as "Average." This rating indicates that while these users found the tool to be satisfactory, they may have experienced limitations or inconsistencies in the output. The "Average" rating suggests that there is room for improvement, particularly in cases where the complexity of the task or the clarity of the instructions may affect the quality of the responses.

The absence of any ratings below "Average" highlights a generally favorable view of ChatGPT's output quality. This absence of negative feedback underscores that, despite some variations in perceived

quality, there are no significant concerns regarding the tool's performance overall.

The high proportion of "Excellent" ratings and the lack of lower ratings indicate that ChatGPT is well-regarded for its output quality, contributing positively to users' experiences. However, the feedback from those who rated the quality as "Average" provides valuable insight into areas where improvements could be made. Enhancing the tool's ability to handle complex queries and improving response accuracy could address these concerns and further bolster the overall positive perception of ChatGPT.

Table 7 Students Beliefs on Whether or Not ChatGPT Enhanced their Academic Performance

Academic	Response	%
Significantly	67	60.9
Moderately	33	30
Slightly enhanced	10	9.1
Not enhanced	0	0
Declined academic	0	0
Total	110	100

In table 3 60.9% (67 respondents) believed ChatGPT significantly enhanced their academic performance. 9.1% (10 respondents) who acknowledged a little enhancement while no participant mentioned that their academic performance had declined.

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RESEARCH ARTICLE

A Referred Journal

Table 8. *Limitations BSIT Students Encountered While Using ChatGPT for Academic Outputs*

Limitations Encountered	Response	%
Limited understanding of complex tasks	36	21.3
Difficulty in providing context-specific information	37	21.9
Generating outputs that require creativity and critical thinking	34	20
Technical issues or errors in generated	60	35
None	2	1.8
Total	169	100

The table indicates that 60 respondents, or 35% of the total, reported encountering limitations in generating outputs due to technical issues with ChatGPT. This significant proportion highlights that despite the advanced capabilities of AI tools, there are still inherent constraints that users face. These limitations often stem from the tool's handling of complex or subjective tasks, where human reasoning and interpretation are crucial.

Adeshola and Adepoju (2023) emphasize that AI tools, including ChatGPT, may struggle with tasks requiring nuanced, subjective perspectives. While AI can process vast amounts of data and provide accurate information based on patterns, it may not fully grasp the subtleties and intricacies of subjective judgment. This gap underscores the importance of human reasoning in areas where personal interpretation, empathy, and contextual understanding are essential. As a result, users may encounter limitations

when using ChatGPT for tasks that require a deep, subjective analysis or personalized insights.

The fact that 1.8% of respondents reported experiencing no limitations whatsoever is noteworthy. This small percentage suggests that, for some users, ChatGPT performs exceptionally well and meets their needs without technical issues. These users likely engage with tasks where the tool's strengths are fully leveraged, such as generating straightforward information or assisting with well-defined queries. Overall, the 35% of respondents who faced limitations highlight the need for ongoing improvements in AI technology. Addressing these technical issues could involve enhancing the tool's ability to handle complex or subjective tasks and refining its algorithms to reduce errors and limitations. This feedback is crucial for developers aiming to create more robust and versatile AI tools that better serve users across a wide range of applications.

Table 9. *Concerns or Issues BSIT Students Encountered While Using ChatGPT for Academic Purposes.*

Concerns or Issues Encountered	Response	%
Plagiarism	36	26.1
Potential biased prompt	60	43.5
Data security	5	3.6
Privacy Concern	5	3.6
None	32	23.2
Total	138	100

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The survey results reveal that a substantial majority of respondents, specifically 60 individuals or 43.3%, express concern that biased prompts could impact the content generated by ChatGPT and potentially undermine academic integrity. This concern reflects a growing awareness of how AI tools can be influenced by the nature of the input they receive. If prompts are biased or improperly framed, the AI's responses may reflect these biases, leading to skewed or unreliable content. Such issues are particularly pertinent in academic contexts, where accuracy, fairness, and objectivity are paramount. This concern underscores the need for careful prompt design and critical evaluation of AI-generated content to ensure it upholds academic standards.

In addition to concerns about bias, 5 respondents raised issues related to data security and privacy. These concerns are increasingly relevant as educational tools become more integrated with digital technologies. Users are rightfully cautious about how their data is handled and whether their interactions with AI tools are secure. Ensuring robust data protection measures and transparent privacy policies is crucial for maintaining user trust and safeguarding sensitive information.

On a more positive note, 32 respondents, representing 29.1% of the sample, reported having no ethical issues with using ChatGPT. This group likely views the tool as a valuable asset for academic work without major reservations about its ethical implications. Their lack of concern may reflect confidence in the tool's capabilities or satisfaction with how it is managed and used within their academic environment.

The survey highlights a range of ethical considerations associated with the use of ChatGPT. The predominant concern about biased prompts indicates a need for ongoing efforts to mitigate bias and ensure that AI tools contribute to fair and accurate academic practices. Addressing data security and privacy issues is also essential to foster a safe and trustworthy environment for users. While a significant portion of respondents do not perceive ethical issues, it is important for developers and educators to remain vigilant and address concerns raised by users to enhance the responsible use of AI tools in academic settings.

Conclusion

The results reveal that ChatGPT has positive effects when used in academic settings. It is widely utilized across various applications, including programming activities, code optimization, learning programming concepts, and essay writing. In diverse academic fields and assignments, the AI can effectively assist students, who are quickly adapting to this technology. Participants have expressed confidence in ChatGPT's ability to provide quality, reliable, and accurate information to support their tasks. ChatGPT is indeed an innovative tool with tremendous potential to enhance students' efficiency, facilitate knowledge acquisition, and aid in task completion.

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Integrating *GeoGebra* in Teaching Hyperbolic Geometry: Experiences and Insights of Math Majors in the New Normal

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Abstract

To maintain high educational standards, technological advancements are integrated into classroom discussions, with GeoGebra being a prominent tool in mathematical teaching. This study explores how GeoGebra is utilized to teach hyperbolic geometry in an online learning environment. The research involved eight third-year students and one teacher participating in semi-structured interviews with open-ended questions. Using a descriptive study approach and thematic analysis, the study identified challenges faced by students in proving theorems and properties in hyperbolic geometry, primarily due to unfamiliarity with GeoGebra's features and the availability of necessary devices and resources. To address these issues, the researchers proposed an intervention model that includes providing a computer lab with GeoGebra installed, ensuring stable internet access, and restructuring lesson plans to effectively integrate GeoGebra into teaching. The researchers also recommended implementing these interventions in related course instruction to assess their effectiveness and contribution to enhancing the learning experience.

Keywords: *interventions, lesson plan, mathematics education, online learning, technology*

Introduction

The integration of dynamic mathematics software, which combines mathematical concepts into an interactive and user-friendly interface, has significantly transformed the landscape of mathematics education. Technology-enhanced learning environments have had a profoundly positive impact on both teaching and learning in mathematics (Lischka, Sosnovsky, & Heinze, 2019). Research by Karsli (2018) and Muhtadi, Kartasasmita, and Prahmana (2017) supports the notion that technology positively

influences achievement and attitudes in mathematics. Among the various software tools used in teaching mathematics, GeoGebra stands out as a widely utilized option. This online software is dynamic, incorporating geometry, algebra, spreadsheets, graphing, statistics, and calculus. It is available as a free software package that can be used both online and offline, providing tools for creating mathematical constructions, exploring mathematical ideas, and solving problems.

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Many studies have examined and described GeoGebra as an effective tool for teaching geometry-related courses. These studies assert that GeoGebra is both effective and advantageous (Pamungkas, Rahmawati, & Dinara, 2020; Jelatu & Andara, 2018; Tamam & Dasari, 2021) in improving mathematics teaching and learning. This implies that the use of GeoGebra in all math-related classes, especially in geometry, offers significant benefits for both teachers and students in achieving required competencies.

Furthermore, the application helps students visualize problems, aiding them in determining which theorems or formulas need to be applied, as well as in proving particular theorems, such as those in hyperbolic space. This paper describes the integration of GeoGebra in teaching hyperbolic geometry in an online context. Additionally, it addresses the challenges of integrating this mobile application into teaching hyperbolic geometry based on students' experiences. The findings significantly contribute to formulating possible interventions through an intervention model for teachers and academia, enhancing technology-integrated discussions, specifically with GeoGebra.

Literature Review

GeoGebra as Instructional Material in Mathematics and Related Disciplines Technology paves the way for providing a conducive and effective environment for teaching and learning algorithms. It has produced both advanced and traditional techniques that aid teachers in improving their pedagogical approaches. Supporting this, Ain et al. (2019) described how technological tools increase interaction between teachers and students in the teaching

and learning process. In mathematics, various software and applications have been developed to ease students' difficulties in learning the subject.

GeoGebra is one of the applications that function on mobile phones, laptops, and other devices, aiding in the learning of geometry-related subjects and courses. Developed in 2002 by Markus Hohenwarter, GeoGebra was designed to provide visual representations of geometrical objects. It includes several methods, such as the bisection method, the secant method, the false-position method, and the Newton-Raphson method. GeoGebra is also used in calculus courses and beyond. According to Olivares and Valero (2019), GeoGebra was used to facilitate the visualization of a non-homogenous second-order linear differential equation in engineering differential equations courses. This was supported by Asare and Atteh (2022), who showed that students who used GeoGebra in their learning process enhanced their understanding of transformation (rigid motion) concepts. GeoGebra is a highly effective tool for visualizing geometric concepts, particularly for below-average learners (Mthethwa et al., 2020). It aids in understanding rational inequalities (Jupri, 2021), linear equations and slopes (Birgin & Yazici, 2021), and exponential and logarithmic functions (Birgin & Acar, 2020). Mudaly and Fletcher (2019) found that integrating GeoGebra in teaching linear algebra helped students recognize properties of straight-line graphs. Pamungkas (2019) noted its utility in drawing diagrams for geometry problems. Hussen et al. (2021) observed that GeoGebra simplifies linear programming for industrial engineering students, and Hobri et al. (2019) highlighted its effectiveness in supporting

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linear programming through web-based e-comics.

GeoGebra is a versatile tool not only for modeling and visualizing mathematical concepts but also for constructing proofs. Oli and George (2020) reported that GeoGebra improves performance in trigonometry for students with dyscalculia. Studies agree on its significance in proving theorems. Beyond geometry, GeoGebra is also effective in learning calculus. According to Sari et al. (2018), it aids in exploring derivatives through dynamic visualization, providing insights and solutions to problems. Wassie and Zergaw (2018) found that GeoGebra helps students distinguish tangent lines and points on curves dynamically, creating an effective learning environment. Nielsen and Solov'yov (2019) highlighted its utility in problem-solving, offering various perspectives. Kholid et al. (2020) noted that teachers can use GeoGebra to create sketches, facilitating problem-solving with precise and accurate visual illustrations. Physics, a branch of science that deals with math-related concepts such as speed, kinetic problems, and quantum physics, can benefit greatly from GeoGebra. Studies have used GeoGebra to address various issues, including dynamic image formation of vector motion components (Flephantov & Ovsienko, 2019), chemical kinetics and friction (Solvang & Haglund, 2018), and engineering problems involving mathematics and physics (Spyros & Nikolaos, 2013). The app's visual representation aids in the interpretation of graphs, leading to a better understanding of trigonometric functions and graphs (Mosese & Ogonnaya, 2021). GeoGebra has proven useful in these areas of physics.

GeoGebra as a Tool to Promote Student's Achievement and Interest
 GeoGebra is a valuable tool for teaching and learning not only in various branches of mathematics but also in related disciplines such as statistics, physics, and chemistry. It is essential for effective teaching and learning, enhancing mathematical competency relevant to students' performance and real-life contexts.

GeoGebra helps students use algebraic and geometrical functions simultaneously with interactive dynamics, enhancing their cognitive abilities (Zetriuslita, 2020).

Moreover, students become more motivated to study concepts such as rational inequalities (Jupri, 2021), linear equations and slopes (Birgin & Yazici, 2021), and exponential and logarithmic functions (Birgin & Acar, 2020). When students are motivated, their academic results are likely to improve. Additionally, the project-based learning model aided by GeoGebra helps students become more self-reliant in their studies, enhances their problem-solving skills, and maximizes the opportunities provided by technology (Septian & Prabawanto, 2020).

Dahal et al. (2022) note that in the era of Industrial Revolution 4.0, students use many ICT tools for interaction, such as flipped classrooms, mobile apps, and clicker devices. GeoGebra, a pedagogical tool for teaching mathematics (Putra et al., 2021), is valuable for quickly, accurately, and efficiently visualizing abstract geometrical concepts (Tamam & Dasari, 2021). It helps

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relate mathematics to students' everyday experiences by creating graphs, images, and animations. Compared to traditional methods, using dynamic geometry software like GeoGebra improves spatial visualization and problem-solving skills (Baranova & Katrenicova, 2018). In the current context of virtual classrooms, students prefer learning with software, which enhances their technological proficiency and broadens their knowledge.

Integrating GeoGebra is beneficial in both student-centered and teacher-centered approaches. Asare and Atteh (2022) found that GeoGebra enhances students' motivation to learn transformations, making lessons more interesting and encouraging active participation. The software was effective in helping students correctly answer examples, and they expressed a desire for its use in teaching other mathematics topics. Exploring GeoGebra allows teachers to improve their pedagogical knowledge and skills, providing an opportunity for a more engaging and interactive classroom atmosphere (Ziatdinov & Valles, 2022).

Challenges in using GeoGebra Technology is a vital factor in the modern world, especially in mathematics education. Many software applications, such as GeoGebra, ease the teaching and learning process. According to Wassie and Zergaw (2019), GeoGebra is a suitable teaching resource that improves student engagement and achievement in upper secondary and tertiary mathematics. It is particularly useful for visualizing topics in geometry, such as hyperbolic geometry. Despite its success and importance, GeoGebra is not without challenges and problems that individuals may

encounter while integrating it.

Mokotjo and Mokhele (2021) identify that challenges related to the introduction of ICT in teaching and learning have been recognized since as early as 1999. These challenges are classified into two categories: first-order and second-order barriers. First-order barriers involve issues with access to and support for using technology, while second-order barriers pertain to teachers' beliefs about how ICT should be used in teaching and learning, including pedagogical beliefs and classroom technology practices.

Moreover, research findings reveal that GeoGebra enables students to make mathematical generalizations and makes the teaching process more engaging and enjoyable (Celen, 2020). However, students with limited computer literacy or those who dislike collaborative environments often struggle with GeoGebra applications. Even among computer-literate students who enjoy collaborative work, these challenges can hinder the effective and efficient use of GeoGebra.

GeoGebra is an effective tool in teaching and learning concepts in Mathematics and beyond related disciplines such as statistics and physics. Moreover, the application can be utilized in improving students' interest in learning mathematics and improving their motivation in learning. It has been proven that the said program is an effective instructional tool in teaching Mathematics due to the many conducted studies and published articles. However, no product of technology is perfect which means it still has disadvantages that come as

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challenges in the perception of its end users. These challenges were part of the experiences and insights of students in learning hyperbolic geometry. Through experiences, students may be able to provide information that is useful in developing teachers' integration of GeoGebra in teaching hyperbolic geometry in an online set-up. On that note, this paper would like to argue the integration of GeoGebra in teaching hyperbolic geometry in a distance learning set-up. Moreover, this paper filled the gap about the challenges in the integration of this certain mobile application in the context of teaching hyperbolic geometry based on the experiences of students in dealing with the aforementioned topic during the distance delivery mode of teaching and learning.

Moreover, it added some information that comes from the side of students and teachers.

Hence, the findings provided vital information in formulating possible interventions to the teachers in contributing to the enhancement of technology-integrated discussions.

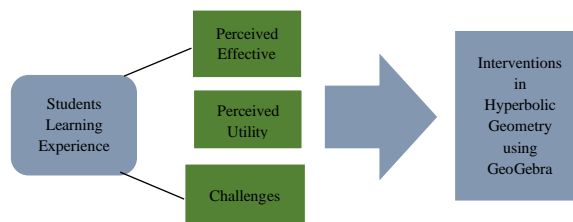
Theoretical/Conceptual

Framework

Figure 1 shows the conceptual framework of the study. It is anchored on the reality that experiences of key individuals concerning a certain object convey the utility and effectiveness of such an object. In this study, the experience of these students in the use of GeoGebra in learning hyperbolic geometry is a lens to assess the utility and effectiveness of GeoGebra. In addition, as the

nature of one's experience is multiply faceted it may convey challenges, or mechanisms to better the utility and effectiveness of GeoGebra in teaching and learning specifically on the concept of hyperbolic geometry.?

Figure 1. Conceptual Framework of the Study



The findings will be the basis of the researchers in providing intervention to aid the teachers in employing the *GeoGebra* application in teaching hyperbolic geometry.

Methodology

The study used a descriptive research design, which focuses on describing phenomena, events, or significant occurrences as they happen. According to Creswell (1994), this method is used to gather information about the current state of affairs. Creswell (2012, p. 274) further explains that the objective of the descriptive technique is to provide a comprehensive and systematic description of the research target (cited in Rusianty, 2015). Thus, a descriptive research approach is suitable for achieving the study's objectives.

The collected data were analyzed using thematic analysis, a qualitative method

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involving the identification of patterns and themes from raw information. Coding and categorizing were applied to these themes, leading to the development of an intervention model. To ensure data reliability and validity, bracketing and triangulation were used, comparing data from students, teachers, and previous studies. Performance levels were described according to the university's manual. The study focused on integrating GeoGebra in teaching hyperbolic geometry in an online context. A descriptive research approach was suitable for this purpose. Initially, three participants were included, but this number increased to eight students and one teacher by the end of data collection. A semi-structured interview guide with open-ended questions was used, and its validity and reliability were confirmed through revisions by experts. The interviewer, trained and experienced in conducting interviews, followed strict ethical considerations in data collection.

The participants of the studies are eight (8) Mathematics Majors enrolled in the 1st Semester of A. Y. 2021 – 2022 taking the course Modern Geometry. Among the eight (8) participants, four (4) of them are male and the remaining four (4) are female. The table below shows the number of respondents in terms of sex.

Table 1. Demographic profile of the participants in terms of sex

Category	Number of Participants
Male	4
Female	4
TOTAL	8

In terms of gadgets used in accessing *GeoGebra*, commonly used gadget were mobile phones and laptops. This is seen from the responses of the chosen participants in which five of them were solely using mobile phones, (preferably androids), one is using laptop only, and one is choosing both. The table below shows the summary of participants using such gadgets.

Table 2. Gadgets availability of the participants

Gadgets	Number of Participants using it
Mobile Phones	7
Laptop	2

Moreover, students' self-assessment of their performance yielded a mean of 5.75. This indicates an average performance level according to the measurement criteria by Aithal, Dillon, and Kumar (2019) in a competency-based education system. This suggests that students are performing at an average level in Modern Geometry.

According to their course professor, the class performance is approximately 6, which is above average using the same criteria. Based on the data from both students and the professor, the researchers conclude that the students' performance level is average and fairly good. The students are proficient in applying the concepts and skills acquired in Modern Geometry, including the use of *GeoGebra* to prove theorems and properties in hyperbolic geometry.

The study utilized a semi-structured interview guide, which included guide questions. This allowed the researchers to add follow-up questions during the

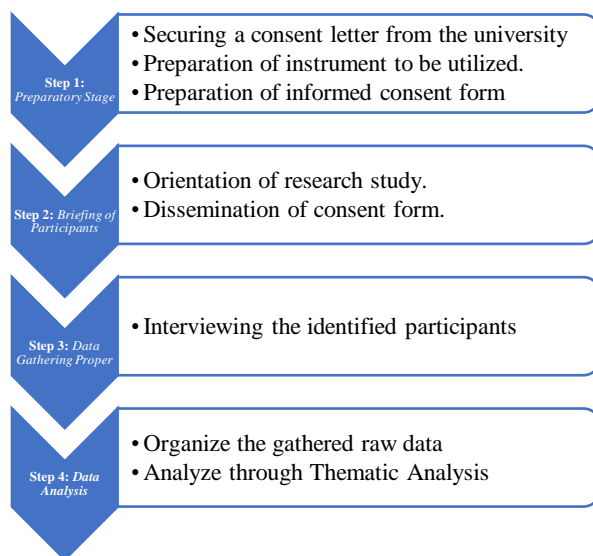
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interviews to extract necessary information from the participants. The interview guide collected the following information: (1) name (optional), (2) sex, (3) gadget used, (4) self-rating, and (5) guide questions. Additionally, the researchers ensured that the research instrument would provide the necessary information for the study. The instrument was evaluated for credibility, transferability, dependability, and confirmability (Trochim, 2006). A teacher in the field of Mathematics, a research instructor, and a research adviser were tasked with checking and evaluating these criteria.

To analyze the raw data from the interview, the collected data were tabulated to produce themes for each objective of the proposed study. The data regarding the grade and self-rating will be scored to determine the performance level in class. In addition, the same questions for the students (participants) has been asked to the subject teacher in order to provide triangulation (see data analysis). Figure 2 below shows the data collection procedure.

Figure 2. Data Gathering Procedure



The collected data were analyzed by extracting raw information from the instrument through thematic analysis. Thematic analysis, as defined, is a qualitative analysis method that involves reading through raw information and identifying patterns in meaning-making from data. Coding and categorizing were employed that emerged themes. From these themes, synthesizing was utilized resulting in the creation of an intervention model. The triangulation approach is applied to make sure that the data is reliable and valid. Triangulation happens during the comparison of data gathered from student-participant, teacher, and studies conducted before the study. Further, the level of performance will be described in accordance with the university’s manual.

Results and Discussion

On Improvement to Academic Performance

Theme: *GeoGebra as a tool to improve academic achievement and interest*

Despite the difficulty in familiarizing themselves with the features and utility of GeoGebra, students find the application useful as it helps them visualize problems, making them easier to prove and solve. The application provides a clear perspective on the problems, enabling students to comprehensively discuss the properties and theorems needed for proofs. This finding underscores the purpose and advantages of the application. Below are some excerpts from participants supporting this theme:

“It gives me a better illustration and helps me with my proof.” – MM3 (Interview Transcript)“... it makes my journey easy in answering problems and my output is

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presentable also.” – MM7 (Interview Transcript) “Benefits through virtual representation of abstract concepts.” – MM6 (Interview Transcript)

Additionally, teachers have noted students' feelings towards the utility of the application. According to the course teacher, limited resources may cause frustration or sadness among students, as features vary across different gadgets. Nevertheless, students often feel happy or inspired, as the features help them in proving theorems and properties in hyperbolic geometry.

“Some students were happy/inspired that they made constructions using the application, others might be frustrated or sad for not maximizing the learnings on how to use the application due to limited resources.” – TM (Interview Transcript) On Utility and Experiences

Theme 1: Difficulty and Familiarity of using GeoGebra

The study reveals that in an online setup, where most students only use mobile applications and lack experience with GeoGebra, it is challenging for them to use the application effectively and efficiently. All participants unanimously agreed that the difficulty in using GeoGebra and its unfamiliar features impacted their experience. The following are some excerpts from the students:

“... it was hard as there are features in it that I am not familiar with... Mastering the

features and learning how to use GeoGebra really helped me a lot.” – MM1 (Interview Transcript)

“... I find it hard also to this software because I'm not used to it.” – MM2 (Interview Transcript)

“Lack of knowledge in utilizing the said platform.” – MM6 (Interview Transcript)

The course teacher supported these findings, stating that the use of GeoGebra makes the students' learning journey more interesting. However, the limited features of some gadgets (e.g., mobile phones) and the availability of other gadgets, which depend on the students' resources, affect the utility of the application.

“They find it interesting... However, it was challenging for them to use the application because of the limited use of computers or even unavailability of these.” – TM (Interview Transcript)

Theme 2: Challenges encountered in using GeoGebra

Most Math majors agreed that their familiarity with the features and the availability of resources affect their learning experience. Many of them find the software difficult to understand, as the features on mobile phones differ from those utilized on computers.

“... being not familiar with the features of the software or the software itself.” – MM1 (Interview Transcript)“...

lack of knowledge on how to use it.” – MM2 (Interview Transcript)

“... using my mobile phone and the features are limited.” – MM3 (Interview Transcript) On Intervention towards Effectiveness and Efficiency

Theme: Ways to effectively and efficiently integrate GeoGebra in Teaching Hyperbolic Geometry

To address challenges, courses of action are implemented. Students view the effective use of watching video tutorials as well as reaching hand to their classmates towards using GeoGebra. Moreover, familiarizing oneself with the features of the application will be easier for him/her to be used to it. Constant applying and using as well as exploring the application. Below are some excerpts of the responses of the participants regarding their steps on addressing the challenges they encountered along the way.

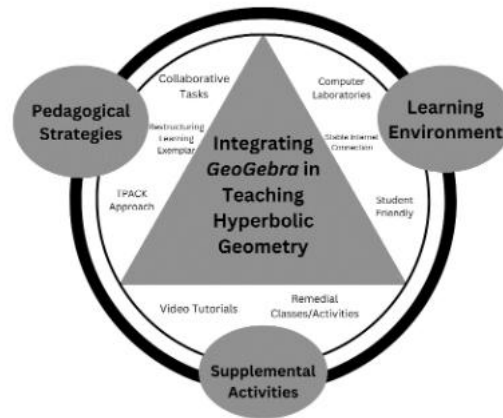
“...I go to YouTube and watch video tutorials.” – MM1 (Interview Transcript)

“I explored GeoGebra and took some tutorials as well...” –MM4 (Interview Transcript)

“...familiarize yourself with the extensive tutorials...” –MM5 (Interview Transcript)

Proposed Intervention Model:

Figure 1. Integrating GeoGebra in Teaching Hyperbolic Geometry Intervention Diagram



The results predominantly show that GeoGebra is an important tool in promoting students' achievement and interest, supporting the studies of Granberg & Olsson (2015), Akanmu (2016), and Liu et al. (2011). This indicates that GeoGebra serves its primary purpose of providing visual representation of geometrical objects. It also corroborates the findings of Garber and Picking (2010), Ljajko et al. (2010), and Budai (2011), who noted that the application's visual representations enhance students' understanding of concepts. Additionally, Gittinger (2012) highlights that GeoGebra's dynamic tools offer clearer, tangible, and understandable graphs and representations. The findings suggest that if a student can visualize a problem, they are more likely to find solutions, prove or disprove hypotheses, and understand certain properties or theorems of Modern Geometry.

In terms of experience, most Math majors find the application's features challenging to use. According to McMahon (2015), knowing something is insufficient; one must be able to turn that knowledge and

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skills into practical solutions and applications. Today's generation is exposed to advanced technologies, making media and information literacy crucial. McMahon also noted that “the ability to regurgitate information is irrelevant unless you can do something with it.” This highlights the idea that knowledge is meaningless without effective and efficient application. Analogously, no matter how useful, effective, and efficient GeoGebra's features are, they are not fully appreciated if someone does not know how to use them, which defeats the application's purpose.

Moreover, resources also affect the perception and utility of the application, as gadgets may offer different interfaces to end-users. Despite this, most math majors seek help from their peers and teachers to become accustomed to the application, aided by video tutorials. According to Lai, Zhu, and Williams (2016), learning through video tutorials can bring several benefits to students, such as enriching their learning experiences and, in turn, improving their academic performance. This suggests that visual teaching and tutoring are effective ways to help students understand concepts they may struggle with during lessons. Thus, an intervention model has been developed to ensure the effectiveness of integrating GeoGebra into class discussions in Modern Geometry, specifically in Hyperbolic Geometry.

Figure 1 illustrates the formulated interventions of the present study, identifying three key learning factors for effectively utilizing GeoGebra: the learning environment, pedagogical strategies, and supplemental activities. The university can

enhance the learning environment by providing computer labs with GeoGebra installed and supported by a stable internet connection, creating a student-friendly and academically conducive setting. Pedagogical strategies can be improved by crafting lesson plans that effectively integrate GeoGebra into teaching modern geometry, particularly for proving theorems and properties in hyperbolic geometry. This includes incorporating collaborative tasks and continually developing Technological, Pedagogical, and Content Knowledge (TPACK). Additionally, supplemental activities such as video tutorials and remedial classes/activities can help students overcome challenges in using and familiarizing themselves with GeoGebra's features.

Conclusions

The purpose of this study is to develop interventions based on math majors' experiences with integrating GeoGebra into hyperbolic geometry instruction. Using a descriptive design, the researchers interviewed eight participants about their experiences with GeoGebra while proving theorems and properties in hyperbolic geometry. Students find GeoGebra beneficial if they are familiar with it and have full access to its features. However, many students performed only adequately in Modern Geometry due to difficulties with the application and its limited features, primarily because most students used mobile phones, which offer fewer capabilities than computers or tablets. The limited features and two-dimensional view on mobile phones can hinder understanding, especially in non-Euclidean geometries like hyperbolic geometry. This suggests the need for equal access to the application to avoid misconceptions and improve academic

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performance. Despite these challenges, GeoGebra successfully provided students with presentable outputs and increased their interest.

In addition to the previously mentioned obstacles, the use of GeoGebra as a learning and teaching supplement was also noted. Students reported that the application's limited functionality and effectiveness initially hindered their ability to fully master it. However, once they became proficient with its features, they found GeoGebra beneficial, as it presents outputs in a clear and understandable manner. This aids in the students' comprehension of problems and helps them acquire the required course competencies. Consequently, this finding suggests that GeoGebra is an excellent tool for enhancing academic achievement and interest, provided that students are familiar with the application and have the necessary resources. GeoGebra is particularly effective in online or distance learning environments.

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Prevalence of Diabetes Among Out Patients in a Private Hospital

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Abstract

A study on estimating the prevalence rate of Diabetes in an outpatient service of a hospital is one strategy to provide an estimated magnitude of this disease among those who visit the Hospital and measure their blood glucose levels either through Fasting Blood Sugar (FBS) or Glycosylated Hemoglobin (HbA1C). The study primarily aims to estimate the prevalence of diabetes in an outpatient laboratory in a private hospital. A quantitative cross-sectional study was employed to answer the objective. Data from 300 patients' samples were collected from the Laboratory Record which serves as the research instrument. The findings showed that (1) the prevalence of diabetes in the sampled cases is relatively high, (2) the FBS and HbA1C results were not affected or not associated with age and sex, and (3) the result of the estimate of high prevalence can already caution the hospital to do more preventive measures. It is recommended that the development of a comprehensive educational program for diabetes prevention, lifestyle modification and regular monitoring of blood glucose levels 3-4x a year is imperative. A future study possibly a prospective cohort study can be done including other factors that will affect the FBS and HbA1C results or in a general sense the prevalence of diabetes.

Keywords: *FBS, HbA1C, lifestyle, outpatient, prevalence*

Introduction

According to the International Diabetes Federation, the worldwide magnitude of diabetes in 2021 was estimated at 537 million adults (ages 20-79), with projections reaching 643 million by 2030 and 783 million by 2045 (IDF Diabetes Atlas, 2021). In the Philippines, the age-adjusted comparative prevalence in 2021 was 7.1% among the 20-79-year-old population, accounting for 4,309.9 cases per 1,000 individuals and a death toll of 66,461.2. This report concludes that diabetes is among the top ten causes of morbidity and mortality in the country (IDF Diabetes Atlas, 2021). Recent data from the Department of Health Eastern Visayas

through the Field Health Services Information System (DOH-EV FHSIS, 2022) showed that from 2020 to 2022, diabetes mellitus ranked 8th-9th in morbidity and 5th in mortality over these three years. Morbidity rates were 46.01, 39.35, and 38.59 per 100,000 population, affecting 2,182, 2,851, and 1,875 individuals, respectively. Deaths in the same period were recorded at 358 individuals (8 per 100,000 population), 868 individuals (18.07 per 100,000 population), and 708 individuals (14.55 per 100,000 population). This data illustrates the significant burden of diabetes in the region.



RESEARCH ARTICLE

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The Province of Leyte reported morbidity and mortality rates for diabetes from the Field Health Service Information System in 2021-2022. There were 1,259 cases with a morbidity rate of 76 per 100,000 population, and 857 cases with a morbidity rate of 50.92 per 100,000 population. The deaths from diabetes were 271 and 266 in 2020-2021, with mortality rates of 16.36 and 15.80 per 100,000 population, respectively (Leyte FHSIS, 2022). Among the top ten morbidities in the province, diabetes was ranked 15th and 12th in 2020-2021, and 5th and 6th for mortality's top ten causes. In 2022, it was ranked 15th for morbidity and 6th for mortality. This situation is alarming.

Having been familiar with diabetes and losing a loving mother due to complications of diabetes and portrayed in the health data as one of the major health problems, as a retired Provincial Health Officer 1 for Leyte and as a current Medical Director of Mother of Mercy Hospital, I choose this research or study to answer my curiosity to look at the magnitude of this problem in a hospital outpatient setting. This study on the Prevalence of Diabetes in a Private Hospital was envisioned by the researcher to provide valuable insights into the estimates of the prevalence of diabetes in a specified period of three months so that the data will be used to demonstrate the significance of diabetes as a health concern in the hospitals whether private or public to detect early diabetes through a proactive screening for early effective management and thus prevent complications and if severe leading to death.

This study aims to estimate the prevalence of diabetes in a private hospital outpatient setting using laboratory results for Fasting Blood Sugar (FBS) and

Glycosylated Hemoglobin (HbA1C). It seeks to answer the following specific questions: What is the distribution of the sample's cases according to age and sex? What are the FBS and HbA1C results of the sample cases, and what are the mean levels of these indicators? Additionally, the study will estimate the prevalence of diabetes mellitus among outpatient laboratory data in the hospital from March to May 2023, categorizing the data into three groups: those with both FBS and HbA1C results, those with only FBS results, and those with only HbA1C results.

This research significantly contributes to the health care delivery system in the region, as it is the first study conducted in an outpatient setting, whereas previous studies have focused on admitted cases.

Literature Review

Diabetes mellitus is a disease of carbohydrate metabolism characterized by the body's impaired ability to produce or respond to insulin, thereby maintaining proper levels of sugar in the blood. According to Tiwari (2015), diabetes can be classified into five types: Insulin-Dependent Diabetes Mellitus (IDDM), which accounts for only 5-10% of the population; Idiopathic Diabetes or Type I Diabetes without etiologies; Non-Insulin Dependent Diabetes Mellitus (NIDDM) or Adult-Onset Diabetes, affecting 90-95% of individuals; Gestational Diabetes, acquired during pregnancy; and Catamenial Hyperglycemia.

To accurately diagnose diabetes, two primary blood tests are used: Fasting Blood Sugar (FBS) or Fasting Plasma

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Sugar, and Glycosylated Hemoglobin (HbA1C). These tests are considered confirmatory according to the American Diabetes Association (2022) and the World Health Organization (2022). The FBS test measures blood sugar levels after an 8 to 12-hour fast, as recommended by medical professionals at Cleveland Clinic (2023).

Several studies have examined the prevalence of diabetes in outpatient hospital settings. For instance, Habtewold et al. (2016) assessed the prevalence and associated factors of diabetes mellitus in Ethiopia, while Khatri et al. (2022) focused on the adult outpatient prevalence of diabetes in a tertiary care center. In Bulgaria, Krastev et al. (2023) used extensive clinical data from outpatient records to study diabetes prevalence. Lin et al. (2020) highlighted that diabetes is a significant global, regional, and national issue, affecting 195 countries.

The World Health Organization Global Action Plan (WHO, 2013) underscores that diabetes is a leading cause of death and reduced life expectancy, impacting socioeconomic status in 195 countries and territories over the past 28 years. In their institutional-based cross-sectional study, Abdissa and Hirpa (2020) assessed poor sugar control and its associated factors among diabetes patients in public hospitals in Ethiopia.

Further research by Tali et al. (2023) and Alshayban and Joseph (2020) explored the predicting factors of health-related quality of life among adults with Type 2 Diabetes, which may also affect HbA1C and FBS results. A study in a tertiary Philippine hospital by Banal et al. (2017) used a retrospective, analytical

cross-sectional design to investigate the prevalence of diabetes mellitus and pre-diabetes in patients with hepatocellular carcinoma. Additionally, a cross-sectional study in Uganda utilized a questionnaire-based interview to determine HbA1C as a marker of glycemic control among participants with HbA1C levels $\geq 7\%$ (Patrick et al., 2021).

The knowledge of diabetes among hospital patients was assessed in a cross-sectional study by Mufunda et al. (2018), who used the Diabetes Knowledge Test (DKT) to identify significant knowledge gaps related to insulin use, glucose control, and diet. This finding was supported by Phoosuwan et al. (2022), who found that 96.7% of participants had poor knowledge.

This study aims to determine the prevalence of diabetes using scale measurements for FBS and HbA1C. Consequently, the researcher sought the normal values and threshold levels for these tests to determine if a person is normal or diabetic. According to a study in Korea by Shin (2017), prevalent diabetes is defined as a fasting plasma glucose (FBS) level of ≥ 126 mg/dl or 7 mmol/l and Glycosylated Hemoglobin (HbA1C) $\geq 7\%$. Another study by Wu et al. (2013) set the threshold at 6.4% and 6.1%, which can also serve as diagnostic criteria for diabetes. The Mayo Clinic (2023) sets the parameter at 6.5% or higher in two separate readings to indicate diabetes, emphasizing that an HbA1C result of 5.7% is normal, 5.7-6.4% is prediabetic, and 6.5% indicates diabetes. To establish final criteria for diagnosing diabetes using FBS and HbA1C, this research will adopt the World Health Organization's latest criteria, which estimate FBS ≥ 7.0 mmol/L or ≥ 126 mg/dl and HbA1C 48 mmol/mol or $\geq 6.5\%$ (WHO, 2022).

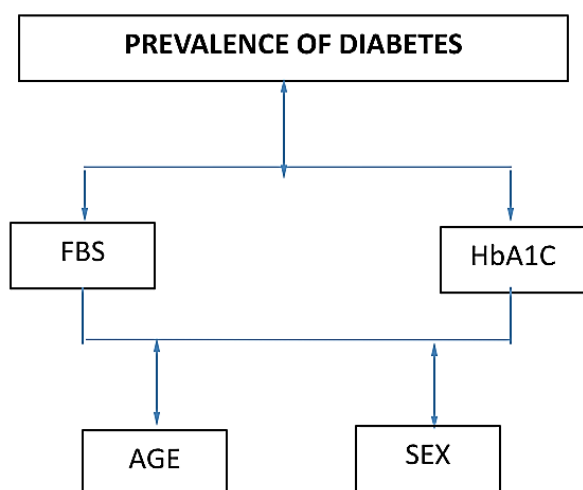
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Conceptual Framework

The conceptual framework for this study will depict the relationships between age, sex, Fasting Blood Sugar (FBS) results, and Glycosylated Hemoglobin (HbA1C) levels. It will illustrate how these variables interrelate and contribute to the overall prevalence of diabetes. The framework aims to explore potential interactions and relationships among the variables, with particular focus on how age and sex may influence the likelihood of having abnormal FBS and HbA1C results. Additionally, the framework will examine the association between FBS, HbA1C, and diabetes prevalence to understand how these laboratory results are indicative of diabetes and their role in diagnosing the condition. This approach will provide a comprehensive view of the factors contributing to diabetes prevalence and the diagnostic utility of FBS and HbA1C measurements.

Figure 1: Conceptual Framework



Research Questions

The problem this study will address is to estimate the prevalence of Diabetes in a private hospital outpatient using the

laboratory results for diabetes – Fasting Blood Sugar (FBS) and Glycosylated Hemoglobin (HbA1C). Specifically, it seeks to answer the following specific questions:

1. What is the distribution of the sample's cases according to age and sex?
2. What are the FBS and HbA1C results of the sample cases? What is the mean FBS and HbA1C level?
3. What is the estimated prevalence of Diabetes Mellitus among outpatient laboratory data in the hospital from March to May 2023?
 - 3.1. Group with FBS and HbA1C
 - 3.2. Group with FBS Only
 - 3.3. Group with HbA1C Only
4. Is there a significant difference in the Fasting Blood Sugar (FBS) and Glycosylated Hemoglobin (HbA1C) levels with the outpatient samples' age and sex?

Methodology

Research Design

This is a study conducted utilizing a Quantitative Cross-Sectional research design and as defined by Thomas (2020, 2023), the main objective is to estimate the prevalence of diabetes in the outpatient department of a hospital. Thomas (2023) mentioned that data is collected at a single point in time from a sample or population, and this particular study aims to describe the prevalence of diabetes between variables (FBS and HbA1C) and age and sex.

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Research Locale

The locale of the study is one private hospital of Mother of Mercy Hospital-Tacloban, Incorporated, a Level 2 Private Hospital in Tacloban City in Leyte Province of Eastern Visayas chosen by the researcher due to geographical proximity and availability of the hospital at a given time (Nikolopoulou,2023). The hospital is operated by Religious Sisters of Mercy with a Level 3 Laboratory, Pharmacy, and other Ancillary Operations. It has an 80-bed authorized capacity. The Laboratory caters to inpatient (admitted cases) and outpatient examinations. The hospital also serves outpatient and admitted patients from 6 provinces and 4 cities of Eastern Visayas, thus helping in the delivery of healthcare services region-wide.

Research Respondents

The Respondents of the study comprise 300 patients screened from March to May this year 2023 who had their Screening test for Diabetes - Fasting Blood Sugar (FBS) and Glycosylated Hemoglobin (HbA1C) at our Laboratory and their FBS and HbA1C results are the instrument used here. The study will focus on quantitative data obtained from laboratory records and will analyze FBS and HBA1C levels as indicators of diabetes mellitus. The sampling technique used here is the Convenience Sampling Technique (Nikolopoulou, 2022). The variables of interest are Fasting Blood Sugar (FBS) and Glycosylated hemoglobin (HbA1C) levels (scale data) as well as the demographic variables of age (scale) and sex (nominal/categorical data).

Research Instrument

The research instruments to be used in the study are the FBS and HBA1C results from March to May 2023 that were taken

from the Laboratory Outpatient Record.

Data Gathering Procedure

The FBS and HbA1C results that were taken from the OPD laboratory record for March to May 2023 were encoded in an Excel spreadsheet with 5 columns for names, age, sex, FBS result, and HbA1C result. Data was cleaned up first to produce 300 data sets in an Excel file save the original file with names and produce an Excel file where instead of names of 300 patients they were assigned 1-300 case numbers for confidentiality to protect the patient identity. After making the Excel spreadsheet, 3 groupings of the samples were made – group with FBS only, group with HbA1C only, and group with both FBS and HbA1C. The researcher also categorized the results into classified levels for both examinations. Levels of 4-6 were categorized as normal to include those below 4, 7-8 belong to mild diabetes, 9-10 were categorized as moderate diabetes, and 11 or higher were the severe diabetes category. The baselines of WHO (2022) of HbA1C of $\geq 6.5\%$ and FBS of 126mg/dl or 7.0% were used as thresholds or cut-offs for the diagnosis of diabetes.

Statistical Tool

The Excel data file was imported to JASP 0.17.21 (Jeffrey's Amazing Statistical Tool) 2018 in a CSV (MS-DOS) saved file for the descriptive and analytical statistics. Frequency Tables were used for age and sex descriptive statistics with measures of central tendency – mean, standard deviation (SD), and use of Percentage for Proportions. For the analytical statistics especially on association and significant differences of the studied variables, the Independent Sample T-test was used and for correlation, the statistical tool used was Linear regression with Pearson's r, Analysis of

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Variance (ANOVA) with, p values, and Coefficient of Correlation. The p values were used to test significance. Significant levels of p values of <0.05 or <0.001 were used to test the relationship of age and sex with FBS and HbA1C levels. With the results analyzed, the discussion of the results was carried on until a conclusion was made. Since this is in a limited period and the sampling used was convenience sampling (Nikolopolou,2023), the research also will discuss recommendations for the enhancement of the research as well as the laboratory diagnosis for diabetes.

Scope and Delimitation

This study is limited to a time frame of three months (March to May) this current calendar Year 2023 and data used here will be quantitative data obtained from our Outpatient (OP) laboratory records and does not include the Admitted patients (AP) laboratory records. The analysis will cover all Fasting Blood Sugar (FBS) and Glycosylated Hemoglobin (HbA1C) level results obtained in this specific time frame and these 2 Screening tests for Diabetes will be the variables to be studied.

The sample size is limited to available data for FBS and HbA1C obtained from the outpatient laboratory records (Details of Sampling discussion on the background and procedures will be discussed in the Methodology Section). Since the researcher used Convenience Sampling – a non-probability and non-random sampling method where all examinations for FBS and HbA1C are included in the sample the researcher can readily access the data in the hospital (Nikolopoulou, 2023). Since the data is taken from our hospital outpatients, the results may not fully represent or be conclusive or generalized results of the

entire population of patients with Diabetes particularly in our hospital. The levels of FBS and HbA1C are the variables studied here so the study will not undertake any factors that will influence any variables that will influence their relationship and diabetes prevalence.

Results and Discussions

The results of the study presented here are on account of the variables stated in the statement of the problem: 1. Age and Sex distribution, 2. Results of FBS and HbA1C and the mean level, 3. Estimating the prevalence of diabetes according to 3 groups (group with both FBS and HbA1C, Group with FBS Only, and Group with HbA1C only, and 4. The association of sex and age to FBS and HbA1C results.

Results

1. Age and Sex Distribution of the Screened Cases.

Table 1
Frequency Distribution of Screened Cases According to Age

	Mean	Std. Deviation	Minimum	Maximum
Age	57.600	15.213	20.000	93.000

Note. Not all values are available for Nominal Text variables

The mean age of the Sample cases ranges from 20 (youngest) to 93 (oldest) with a mean of 58 and a standard deviation of 15.213. The age of 58 years old is the average age and this represents that the sample age is spread out.

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Table 2
Frequency Distribution of Screened cases According to Sex

Sex	Frequency	Percent	Valid Percent	Cumulative Percent
Female	172	57.333	57.333	57.333
Male	128	42.667	42.667	100.000
Total	300	100.000		

Note. Age has more than 10 distinct values and is omitted.

1. The Sample cases are composed of 172 females with 57% and 128 males with 43%. The distribution shows there are more females compared to males among the total 300 screened cases.
2. FBS Result and HbA1C Result.

Table 3:
FBS and HBA1C Result of Sample Cases

Descriptive Statistics						
	Valid	Missing	Mean	Std. Deviation	Minimum	Maximum
FBS RESULT	300	0	4.784	3.421	0.000	16.730
HbA1C RESULT	300	0	3.925	3.640	0.000	15.750

The results of FBS showed that the highest FBS level is 16.73 mmol/l and the results of HbA1C showed that the highest HbA1C is 15.750. The mean for FBS is 4.784 and HbA1C is 3.925. Both results are 2-3x higher than the normal values.

3. Screening Tests Distribution and Prevalence of Diabetes.

Table 4
Prevalence of Diabetes in the Group with both FBS and HBA1C

Screened Group (A)	Number of Patients (B)	Patients with Diabetes (C)	Prevalence (C/B x100)
FBS and HbA1C	121	18	14.88%

The table shows that 121 patients out of 300 screened samples opted for both FBS and HbA1C examinations to screen for diabetes. Only 18 were categorized as diabetic and this represents a prevalence rate of 14.88%.

Table 5
Prevalence of Diabetes in the Group with FBS Only

Screened Group (A)	Number of Patients (B)	Patients with Diabetes ©	Prevalence (C/B x100)
FBS Only	120	25	20.83%

The table shows that 120 patients were screened for FBS only. Only 25 were categorized as diabetic and this represents a prevalence rate of 20.83%.

Table 6
Prevalence of Diabetes in the Group with HbA1C Only

Screened Group (A)	Number of Patients (B)	Patients with Diabetes ©	Prevalence (C/B x100)
HbA1C Only	54	18	33.33%

In summary, Tables 4,5 and 6 illustrate the prevalence of diabetes in each group: Prevalence using both FBS and HbA1C; 14.88% (18 out of 121 individuals). Prevalence using FBS only: 20.83% (25 out of 120 individuals) Prevalence using HbA1C only: 33.33% (18 out of 54 individuals)

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4. Association between Age and sex with FBS and HbA1C Results.
 4.1 Association between Sex and FBS and HbA1C Mean Values.

Table 7
FBS and HbA1C Mean Levels and Sex of the Sample Cases.

		Median	Mean	Std. Deviation	Variance
FBS RESULT	Female	5.015	4.799	3.545	12.570
FBS RESULT	Male	5.125	4.841	3.501	12.254
HbA1C RESULT	Female	5.040	4.111	4.705	22.139
HbA1C RESULT	Male	5.095	4.210	4.429	19.619

The mean FBS results in males and females are 4.841 and 5.015. The mean levels of HbA1C in males and females are 4.210 and 4.111, showing only a small difference.

Table 8
Association Between FBS and HbA1C Mean Levels and Sex of the Sample Cases.

Independent Samples T-Test			
	t	df	p
FBS RESULT	-0.101	298	0.920
HbA1C RESULT	-0.185	298	0.853

Note. Student's t-test.

This table shows that there is no significant difference in the FBS mean results and HbA1C results of the screened sample cases in terms of sex ($p > 0.05$). P values must be $< .05$ to interpret it as a significant difference. This means the results are true values whether for male or female sample cases.

Table 9
Association Between FBS Mean Levels and Sex of the Sample Cases.

Independent Samples T-Test			
	t	df	p
FBS RESULT	-0.101	298	0.920

Note. Student's t-test.

The table shows that FBS mean levels have no significant difference between males and females ($p > 0.05$).

Table 10
Association Between HbA1C Mean Levels and Sex of the Sample Cases.

Independent Samples T-Test			
	t	df	p
HbA1C RESULT	-0.185	298	0.853

Note. Student's t-test.

This table shows that HbA1C mean levels have no significant difference between males and females ($p > 0.05$).

Table 11
Association Between FBS Mean Levels and Sex of the Sample Cases.

ANOVA - FBS RESULT					
Cases	Sum of Squares	df	Mean Square	F	P
SEX	0.127	1	0.127	0.010	0.920
Residuals	3705.722	298	12.435		

Note. Type III Sum of Squares

Table 12
Association Between HbA1C Mean Levels and Sex of the Sample Cases.

ANOVA - HbA1C RESULT					
Cases	Sum of Squares	df	Mean Square	F	P
SEX	0.721	1	0.721	0.034	0.853
Residuals	6277.337	298	21.065		

Note. Type III Sum of Squares

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Tables 9, 10, 11, and 12 show that there is no significant difference between the mean levels of FBS ($p > 0.05$) and HbA1C (> 0.05) with the sex of the sample cases.

4.2. Association of Age of Sample Cases with both FBS and HbA1C.

Table 13
 Association between HbA1C and FBS with Age

Pearson's Partial Correlations				
Variable		HbA1C RESULT	FBS RESULT	
1. HbA1C RESULT	Pearson's r	---		
	p-value	---		
2. FBS RESULT	Pearson's r	-0.166	---	
	p-value	0.004	---	

Note. Conditioned on variables: AGE.

Table 14
 Association between FBS with Age of the Sample Cases.

LINEAR REGRESSION.

Model Summary - FBS RESULT				
Model	R	R ²	Adjusted R ²	RMSE
H ₀	0.000	0.000	0.000	3.521
H ₁	0.032	0.001	-0.006	3.531

ANOVA						
Model		Sum of Squares	df	Mean Square	F	p
H ₁	Regression	3.727	2	1.864	0.150	0.861
	Residual	3702.121	297	12.465		
	Total	3705.848	299			

Note. The intercept model is omitted, as no meaningful information can be shown.

Coefficients						
Model		Unstandardized	Standard Error	Standardized ^a	t	p
H ₀	(Intercept)	4.817	0.203		23.700	<.001
H ₁	(Intercept)	4.418	0.758		5.827	<.001
	AGE	0.007	0.013	0.031	0.537	0.591
	SEX (Male)	0.017	0.415		0.040	0.968

^a Standardized coefficients can only be computed for continuous predictors.

Table 14 shows there is no significant association between FBS and age.

Table 15
 Association between HbA1C with Age.

LINEAR REGRESSION

Model Summary - HbA1C RESULT				
Model	R	R ²	Adjusted R ²	RMSE
H ₀	0.000	0.000	0.000	4.582
H ₁	0.031	0.001	-0.006	4.595

ANOVA						
Model		Sum of Squares	df	Mean Squares	F	p
H ₁	Regression	6.187	2	3.093	0.146	0.864
	Residual	6271.871	297	21.117		
	Total	6278.058	299			

Note. The intercept model is omitted, as no meaningful information can be shown.

Coefficients						
Model		Unstandardized	Standard Error	Standardized ^a	t	p
H ₀	(Intercept)	4.153	0.265		15.700	<.001
H ₁	(Intercept)	4.581	0.987		4.641	<.001
	AGE	-0.008	0.017	-0.030	-0.509	0.611
	SEX (Male)	0.130	0.540		0.240	0.810

^a Standardized coefficients can only be computed for continuous predictors. Table 15 shows that HbA1C results are not associated with age.

Discussion

The results indicate that FBS and HbA1C levels are not significantly associated with age or sex, suggesting that these variables are evenly distributed across different age and sex groups. The estimated prevalence of diabetes, determined using laboratory data for outpatients between March and May 2023, revealed the following: a combined prevalence using both FBS and HbA1C of 14.88% (18 out of 121 individuals), a prevalence using FBS alone of 20.83% (25 out of 120).



RESEARCH ARTICLE

A Referred Journal

individuals), and a prevalence using HbA1C alone of 33.33% (18 out of 54 individuals).

To test the association between age, sex, and the mean levels of FBS and HbA1C, correlation tests were conducted. Pearson's correlation coefficient for HbA1C and age was 0 with a p-value of 0, while the coefficient for FBS and age was -0.166 with a p-value of 0.004. The p-value must be < 0.001 to indicate significance, suggesting no significant relationship between the mean levels of FBS and age. Further analysis using Linear Regression with ANOVA (Analysis of Variance) showed p-values for both ANOVA and the age and sex intercepts to be greater than 0.001. This indicates no significant differences in the mean levels of FBS and HbA1C across the age and sex groups in the sample.

The overall prevalence of diabetes in the outpatient population, as determined by both FBS and HbA1C tests, was 14.88%. When analyzed separately, the prevalence using FBS alone was 20.83%, and using HbA1C alone was 33.33%. These findings show a higher prevalence compared to the national average of 7.1% in the Philippines (IDF, 2021). This discrepancy may be attributed to the small sample size studied. The lack of significant associations between age, sex, and the levels of FBS and HbA1C suggests that these diagnostic markers for diabetes are consistently distributed across different demographic groups within the sample. This consistency underscores the utility of FBS and HbA1C as reliable indicators for diabetes screening, irrespective of age and sex.

Moreover, the higher prevalence rates observed in this study highlight the importance of routine diabetes screening and the potential need for targeted interventions in outpatient settings to manage and reduce the incidence of diabetes. Future research with larger sample sizes and diverse populations is recommended to validate these findings and provide a more comprehensive understanding of diabetes prevalence and its associated factors.

Conclusion and Recommendations

This study or research concludes with the following:

1. The prevalence of diabetes among outpatients is not affected by age or sex;
2. The result of the estimate of the prevalence of diabetes which is 14.88% showed that this study was able to approximate the prevalence of diabetes at Mother of Mercy Hospital for the period March to May 2023 despite the short duration of the research. This prevalence is high compared to the Philippines' prevalence of 7.1% (IDF Diabetes Atlas, 2021) and this will already caution us to take more preventive measures. However, this result may not be the real prevalence meaning it might be lower than 14.88% and approximately near the range of 7.1% - the prevalence of the country from the data of IDF (2021) if the sample size was big enough;
3. The study highlights the importance of regular diabetes screening and monitoring of FBS and HbA1C levels among the outpatients at MMH;

RESEARCH ARTICLE

A Referred Journal

4. The estimates of the diabetes prevalence can aid the Health Care Providers in our Hospital MMH or any other Hospital in Eastern Visayas in understanding the disease burden and tailoring interventions for better management and care of patients with diabetes and

5. One important insight this study was able to emphasize is its limitation on the sampling and especially the cross-sectional design and utilization of the laboratory records readily available for diagnosis especially in the short period time frame.

Finally, the following are recommended:

1. The hospital must implement regular diabetes screening programs for patients, especially those with a high risk of diabetes disease.
2. Develop a prevention program for patients and their families emphasizing on diabetes prevention, lifestyle modifications,

and the importance of religiously taking medications as prescribed by the attending physician.

Include in the health package HBA1c or FBS testing every 3-4 months to monitor sugar levels.

3. Encourage regular physical activity and emphasize to the patients that regular exercise can improve blood sugar levels and contribute to better diabetes management or treatment.

4. For the enhancement of the study, a future longitudinal prospective cohort study can be done using large sample size and utilization of random sampling and also the involvement of 3-5 private hospitals to represent a bigger population to be studied and the contribution of other factors associated with prevalence.

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RESEARCH ARTICLE

A Referred Journal

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Sosyal Midya: Lundayan sa Pagpapahayag ng Kamalayang Kultural ng mga Gen Z.

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Abstrak

Ang pananaliksik na ito ay isang kwantitatibong pananaliksik na ginamitan ng cross-sectional na disenyo. Ang populasyong kinuha ay mga mag-aaral ng Leyte Normal University mula una hanggang ika-apat na taon. Napili ang mga nasabing kalahok sapagkat ang mga mag-aaral na ito ay nabibilang sa Generation Z. Ang pananaliksik na ito ay ginamitan ng Random sampling sa pamamagitan ng Fish bowl technique upang makuha ang mga datos sa pamamagitan ng structured survey questionnaire. Slovin Formula ang ginamit ng mga mananaliksik upang matukoy ang bilang ng sampol ng mga naging respondente. Ang mga datos ay sinuri gamit ang weighted mean at Five-point Likert Scale para sa ikatlong layunin. Ang resulta ng pananaliksik na ito ay nagpapakita na ang sosyal midya ay maaaring maging instrumento para sa generation Z sa kanilang pananaw, ideya at hinuha patungkol sa kanilang mga kultural na pagpapahayag lalo na sa mga kulturang waray. Kaya, iminumungkahi ng pananaliksik na ito na ipagpatuloy ang pagsasaliksik ng mga pag-aaral tungkol sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural upang matuklasan ang positibo at negatibong epekto nito.

Mga Susing Salita: *Paggamit ng Sosyal Midya, Lundayan, Kamalayang Kultural, Gen Z*

Introduksiyon

Saligan ng Pag-aaral

Sa pang-araw-araw na pamumuhay, maraming naidudulot ang makabagong teknolohiya sa panahong ito. Ang sosyal midya ang naging produkto ng makabagong panahon. Hindi maikakailang hinaplos nito ang pang-araw-araw na pamumuhay ng mga tao. Ito ay lubos na nakaaapekto sa ating mga kultural na kasanayan sa parehong positibo at negatibong paraan.

Ayon kay Amurthalingam (2022), walumpu't apat na porsiyento (84%) ng kabuoang populasyon ng Pilipinas ay mayroong social media account na nangangahulugang ito ay mayroong 92.05

milyong mga gumagamit ng social media na kumakalat sa buong bansa.

Mas humaba ang oras na inilalaan ng kabataan sa kasalukuyang panahon sa paggamit ng social media tulad na lamang ng facebook, twitter, Instagram, at marami pang iba. Pati ang paglalaro ng mga online games na malayo sa naging buhay ng nakaraang mga henerasyon at mas pinipili na igugol ang kanilang oras sa paggamit ng internet kaysa paglilibang. Nag-iba na rin ang kinagawian na pagpunta sa silid-

RESEARCH ARTICLE

A Referred Journal

aklatan upang sumipi ng mga takdang-aralin, ngayon isang pindot lang ay maaari nang maakses ang iba't ibang sites na mapagkukunan ng takdang aralin. Nakalulungkot isipin dahil sa social media ay nag-iba ang kaugalian ng mga kabataan, nangingibabaw ang masama at negatibong epekto na dulot ng social media sa ating kabataan (Faedler, 2007).

Samantala, binigyang-diin naman nina Goddard at Greesin (2011) na ang sosyal midya ang pangunahing dahilan ng pagbaba ng kakayahang sosyal ng tao. Dahil sa labis na oras ng paggamit ng sosyal midya ay nawawalan na ng oras upang makisalamuha dahil na rin sa patuloy na paglago ng teknolohiya at sosyal midya. Ganito rin ang sinabi ni Nile (2000) na dahil sa sosyal midya nawawalan ng oras na lumabas at makisalamuha ang mga tao dahil sa mas pinipili na bigyang-pansin at oras ang pagtutok sa mga social media sites.

Sa kabilang dako, ang sosyal midya ay mayroon ding maraming positibong dulot. Ang social media ay nagpapataas ng mga koneksyon sa pagitan ng mga tao at lumikha ng isang kapaligiran kung saan maaari mong ibahagi ang iyong mga opinyon, mga larawan at pagbabahagi sa mga kultura sa iba't ibang larangan ng buhay na pang-akademiko, espirituwal na mga materyales at tungkol sa buhay sa pangkalahatan.

Ganoon pa man, binigyang-diin sa pag-aaral ni Rosen (2010) na pinalalakas ng sosyal midya ang aspekto ng kultura sa pagbibigay importansiya sa pakikipag-ugnayan. Pinapatunayan na ito dati pa sa mga naging sikat na paraan ng komunikasyon gaya ng pagtetest, pakikipagtalastasan sa mga online forums

at pagtatambay sa Friendster. Ngayon naman ay laman ang mga Pilipino lalo na ang kabataan sa Instagram, Twitter, Facebook, Youtube, at iba pang social media platforms, kung kaya't hindi nakapagtataka at di nakakagulat na napakataas ng porsyento ng mga onlayn sa social networks.

Ang mga sosyal midya katulad ng Facebook ay nagiging isang mabisang daan upang madaling makapagpahayag ang mga tao ng kanilang mga damdamin, opinyon, at persepsiyon sa iba't ibang bagay. Napapadali rin ang paraan ng pangangalap ng impormasyon ng mga kabataan satungkol sa kultura dulot ng sosyal midya (Abainza, 2014).

Kaugnay nito, ang mga kulturang Waray ay unti-unti nang nakikilala sa panahon ngayon dahil sa sosyal midya. Ang mga Waray-Waray ay madalas na ma-stereotype bilang matatapang na mandirigma, gaya ng popular na parirala, "Basta ang Waray, hindi uuroong sa labanan". Karamihan sa mga negatibong konotasyon ng stereotype na ito ay naglalarawan sa mga Waray bilang marahas at walang katuturan.

Ayon kay Daza (2022), ang Waray-Waray ay isa sa mga lalawigan na may mayamang kultura. Ang mga ito ay unti-unti nang sumisibol dahil sa pagbabahagi nito sa mga social media sites. Kagaya ng pag u-upload ng mga bidyo tulad ng Kuratsa na nangangahulugang panliligaw kung saan ang lalaki ay lumalapit at nanliligaw sa isang babae sa anyo ng isang sayaw, at ang mga galaw nito ay talagang ginagaya mula sa mga kilos ng isang tandang at isang inahin.

Kaya naman, batay sa mga pag-aaral na inilahad, ang pananaliksik ay nakatuon sa pagtuklas sa kalagayan ng kultura ng mga Waraynon sa panahon ng Gen Z, alinsunod sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural sa mga Gen Z. Bilang karagdagan, inirerekomenda ang muling pagsagawa ng pag-aaral hinggil sa paggamit ng sosyal midya sa pagpapahayag ng kamalayang kultural ng mga Gen Z. Makatutulong ang pananaliksik na ito na makapagbigay ng mga panibagong datos o literatura sa mga kaugnay na pag-aaral.

Layunin ng Pag-aaral

Ang pag-aaral na ito ay naglalayong matuklasan ang sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z.

Tinitiyak sa pag-aaral na masagot ang sumusunod:

1. *Demographic Profile* ng mga mag-aaral na nabibilang sa Gen Z ang madalas gumamit ng sosyal midya sa pagpapahayag ng kamalayang kultural partikular na sa kulturang Waray.
 - 1.1 Kasarian
 - 1.2 Edad
 - 1.3 Etnesidad
 - 1.4 Civil Status
2. Ano-ano ang mga sosyal midya karaniwang ginagamit ng mga Gen Z.
3. Ano-ano ang mga kultural na pagpapahayag ang nakikita sa paggamit ng sosyal midya ng mga Gen Z.

Saligang Teoretikal

Sa bahaging ito ay nakalahad ang mga teoryang ginamit sa pag-aaral na ito. Ang pananaliksik na ito ay nakaangkla sa teoryang Cultural Evolution Theory at Theory of Generations.

Naging batayan sa pag-aaral na ito ang teoryang Cultural Evolution Theory (Mesoudi, 2012), ang ideya na ang pagbabago sa kultura ng tao, ibig sabihin, mga pagbabago sa mga paniniwala, kaalaman, kaugalian, kasanayan, ugali, wika, at iba pa. Maaari itong ilarawan bilang isang Darwinian evolutionary process na katulad sa mga pangunahing aspekto sa biological/genetic evolution. Maiuugnay ang teoryang ito sa pananaliksik sapagkat ang cultural evolution theory ay isang teoryang tumatalakay sa pagbabago ng kultura sa paglipas ng panahon dahil sa iba't ibang aspekto.

Pinagbatayan rin sa pag-aaral na ito ang teoryang Critical Theory (Nikerson, 2022) na isang teoryang panlipunan na naglalayong punahin at baguhin ang lipunan sa kabuuan. Ang teoryang ito ay maiuugay rin sa pananaliksik sapagkat, sinusubukan ng critical theory na hanapin ang pinagbatayan na mga pagpapalagay sa buhay panlipunan na pumipigil sa mga tao mula sa ganap at tunay na pag-unawa kung paano gumagana ang mundo.

Isinaalang-alang rin ang Theory of Generations (Mannheim, 1952) upang ipaliwanag kung gaano kahalaga ang makasaysayan, kultural, at pampulitika na mga kaganapan noon na tinuruan ang mga kabataan ng mga hindi pagkakapantay-

RESEARCH ARTICLE

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pantay sa lipunan. Binibigyang-diin din sateoryang ito ang mga karanasan ng mga kabataan na posibleng makaapekto sa pagbabago sa lipunan habang pinananatili ang kultura at mga tradisyong kinagisnan.

Ang mga kaalamang ito ang nag-udyok at nagsilbing batayaan na mga mananaliksik na magsagawa ng pag-aaral tungkol sa Sosyal Midya: Lundayan sa Pagpapahayag ng Kamalayang Kultural ng mga Gen Z.

Balangkas Konseptuwal

Makikita sa pag-aaral ang proseso o daloy ng pananaliksik na ito. Ang pag-aaral na ito ay nakasalig sa mga sumusunod na teorya: Ang Cultural Evolution Theory (Mesoudi, 2012) na may ideya na ang pagbabago sa kultura ng tao, ibig sabihin, mga pagbabago sa mga paniniwala, kaalaman, kaugalian, kasanayan, ugali, wika, at iba pa. Samantalang, ang teoryang Critical Theory ni Charlotte Nickerson, ito ay isang teoryang panlipunan na naglalayong punahin at baguhin ang lipunan sa kabuoan (Nickerson, 2021). Ang teoryang ito ay maiuugay rin sa pananaliksik sapagkat, sinusubukan ng critical theory na hanapin ang pinagbabatayan na mga pagpapalagay sa buhay panlipunan na pumipigil sa mga tao mula sa ganap at tunay na pag-unawa kung paano gumagana ang mundo. Kaya naman ito ay napakahalagang teorya na magagamit sa pananaliksik. Binibigyang-diin naman sa Theory of Generations (Mannheim, 1952) ang mga karanasan ng mga kabataan na nagbibigay batayan sa mga posibleng pagbabago habang pinananatili ang mga tradisyon at kultura.

Isinagawa ng mga mananaliksik ang pangangalap ng datos gamit ang sarbey upang matugunan ang layunin ng pag-aaral hinggil sa (1) Demographic Profile ng mga mag-aaral na nabibilang sa Gen Z ang madalas gumamit ng sosyal midya sa pagpapahayag ng kamalayang kultural partikular na sa kulturang Waray. 3.1 Kasarian, 3.2 Edad, 3.3 Etnesidad, 3.4 Civil Status (2) Mga karaniwang sosyal midya na ginagamit ng Gen Z (3) Mga kultural na pagpapahayag na nakikita sa paggamit ng sosyal midya ng mga Gen Z.

Isinagawa ng mga mananaliksik ang pangangalap ng datos gamit ang Structured questionnaire upang matugunan ang layunin ng pag-aaral hinggil sa pananaliksik. Isinagawa ito sa pamamagitan ng talatanungang nasa anyong Google form na ipinamudmod sa mga respondente sa tulong ng Facebook at Messenger. Matapos makalap ang mga kinakailangang datos, ito ay itinala, sinuri, at binigyang-kahulugan gamit ang average, mean at weighted mean. Huling ginawa ng mga mananaliksik ang pagbibigay ng interpretasyon sa mga nakuhang datos mula sa isinagawang sarbey.

Ang balangkas konseptuwal na ito ay nagpapakita ng malinaw at matibay na batayan, tunguhin at estratehiya ng mga mananaliksik sa pagsagawa ng nasabing pag-aaral na nakasalig sa cross sectional survey design sa ilalim ng kwantitatibong pananaliksik.

Kahalagahan ng Pag-aaral

Ang pagtuklas ng pag-aaral na ito ay may mga datos na makaka benepisyo sa mga taong pukos ng pag-aaral na ito, kasali ang mga sumusunod:
Sa mga Mag-aaral. Ang pag-aaral na ito ay

RESEARCH ARTICLE

A Referred Journal

mahalaga sa mga mag-aaral lalo na't sila ay nabibilang sa Gen Z. Ang pag-aaral na ito ay magsisilbi ring instrumento upang mas mapalawak at mapatibay ang pundasyon ng kaalaman ng bawat isa ukol sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z.

Sa mga Guro. Ang pag-aaral na ito ay magiging makabuluhan sa mga guro sapagkat magsisilbi itong instrumento upang mapalawak ang kaalaman sa kung papaano magagabayan ang mga mag-aaral na nabibilang sa Gen Z sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural.

Sa mga Magulang. Ang pag-aaral na ito ay mahalaga sa mga magulang sapagkat maaari itong maging daan upang matulunga't magabayaan ang kanilang mga anak sa paggamit ng sosyal midya sa pagpapahayag ng kamalayang kultural nito.

Sa Sambayanang Pilipino. Ang pag-aaral na ito ay mahalaga sa sambayanang Pilipino sapagkat ito ay nagsisilbing instrumento upang mapukaw ang kaalaman ng bawat Pilipino tungkol sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga kabataan na nabibilang sa Gen Z. Ito rin ay nagsisilbing gabay upang mamulat ang bawat isa lalo na ang kabataan tungkol sa kalagayan ng Kulturang Pilipino sa modernong panahon.

Sa mga susunod na mananaliksik. Ang pag-aaral na ito ay mahalaga sa mga susunod na mananaliksik sapagkat maaari itong magsilbing gabay upang makakuha ng mahahalagang impormasyon tungkol sa

kanilang pag-aaral na may kaugnayan sa pananaliksik na ito.

Depinisyon ng mga Terminolohiya

Makikita sa bahaging ito ang mga mahahalagang terminong ginamit sa pag-aaral na ito. Binigyang-depinisyon ang mga termino sa paraang operasyunal.

Generation Z. Ang terminong ito ay tumutukoy sa mga kabataan na nabibilang sa modernong panahon na nakikinabang sa sosyal midya na ipinanganak na may internet sa loob ng ika-21 siglo.

Kamalayang kultural. Ang terminong ito ay tumutukoy bilang kamalayan at paggalang sa mga epekto at impluwensiya ng iba't-ibang kultura. Ang kamalayang kultural ay nag-iiwan ng positibong epekto sa mga tungkulin at responsibilidad ng bawat tao sa isang lipunan.

Kultural na Pagpapahayag. Ang terminong ito ay tumutukoy bilang paraan ng pagpapahayag ng isang mag-aaral na nabibilang sa Gen Z ng kaniyang kamalayang kultural partikular na sa mga kulturang Waray.

Kulturang Waray. Ang terminong ito ay tumutukoy sa mga kultura, kinagisanan at paniniwala ng mga tao sa Leyte at Samar. Karaniwang kilala ang mga ito sa tawag na kulturang Waray.

Lundayan. Nangangahulugang tuntungan at instrumento sa pagpapahayag ng isang tao hinggil sa kanyang kamalayan.

Sosyal Midya. Tumutukoy sa sistema ng pakikipag-ugnayan na ginagamit ng Generation Z upang mapanumbalik ang kamalayang kultural o tumutukoy sa

RESEARCH ARTICLE

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sistema ng pakikipag-ugnayan sa mga tao na kung saan sila ay lumilikha, nagbabahagi at nakikipagpalitan ng impormasyon at mga ideya sa isang virtual na komunidad.

Metodolohiya

Sa bahaging ito ay tatalakayin ang metodolohiyang ginamit sa isinagawang pag-aaral tulad ng disenyo, lokal, at respondente ng pananaliksik gayundin ang sampling teknik, instrumento ng pananaliksik, daloy ng pangangalap ng mga datos, at ang tritment ng mga datos.

Disenyo ng Pananaliksik

Ang mga mananaliksik ay gumamit ng disenyong Quantitative Cross- Sectional Survey. Layunin nitong matuklasan ang paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z. Ayon kay Mahmutovic (2021), ang Cross-Sectional Survey ay isang uri ng obserbasyonal na pananaliksik na nagsusuri ng datos sa isang partikular na punto at oras. Ang mga Cross-Sectional Survey na pag-aaral ay nagbibigay ng impormasyon ngunit hindi nakaiimpluwensya sa mga baryabol. Ang ganitong uri ng sarbey ay maaaring gamitin upang tuklasin ang mga katangian na umiiral sa mga respondente.

Naniniwala ang mga mananaliksik na ang ganitong uri ng metodolohiya ang angkop na gamitin sa pag-aaral na naglalayong matuklasan ang paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng Kamalayang kultural ng mga Gen Z, sapagkat mas mapadadali ang pagtuklas ng mga datos sa maraming tagatugon na may iba't ibang gulang at katangian ngunit na nabibilang sa parehong panahon

Lokal ng Pag-aaral

Ang pag-aaral na ito ay isinagawa sa isa mga Unibersidad sa Lungsod Tacloban na kinabibilangan ng mga mag-aaral na miyembro ng Generation Z.

Saklaw ng pag-aaral na ito na matuklasan ang paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z partikular sa mga kulturang Waray. Sa nasabing pamantasan din nag-aaral ang mga mananaliksik kaya naman naging madali ang pangangalap ng mga impormasyon at datos na ginamit sa pagpapatibay ng pananaliksik na ito.

Respondente ng Pag-aaral

Ang pag-aaral na ito ay kinasangkutan ng mga mag-aaral ng isang pampublikong Pamantasan sa Tacloban mula una hanggang ika-apat na taon. Napili ang mga nasabing respondente sapagkat ang mga mag-aaral na ito ay nabibilang sa Generation Z. Ayon kay McCrary (2021), karamihan sa mga mag-aaral sa kolehiyo ngayon ay miyembro ng Generation Z, a.k.a “Zoomer” bilang mga digital native na ipinanganak sa pagitan ng kalagitnaan ng 1990s at unang bahagi ng 2010s. Ang mga mag-aaral na nabibilang sa kolehiyo ngayon ay mga produkto ng tinatawag na Generation Z na may mataas na inaasahan sa teknikal na kaalaman. Kaya naman, ang mga mag-aaral ng napiling Pamantasan ang napili ng mga mananaliksik na maging respondente sa pag-aaral tungkol sa sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z sa mga kulturang Waray.

Sampling Teknik

Sa pag-aaral na ito, mayroong isang paraan ng pagtukoy sa mga respondente ang ginamit at isinagawa ng mga mananaliksik.

Ang mga mananaliksik ay gumamit ng Random sampling sa pamamagitan ng Fish bowl technique sa pagpili ng mga respondente na sumagot sa talatanungan. Sa pamamagitan ng probability sampling na random sampling, tiniyak na hindi bumaba o lumampas sa nasabing sampol ang binigyan ng sarbey ng mga mananaliksik. Ayon kay McCombes (2019), ang Random Sampling ay isang bahagi ng sampling technique kung saan ang bawat sample ay may pantay na posibilidad na mapili. Ang isang sample na pinili nang random ay sinadya upang maging isang walang pinapanigan na representasyon ng kabuoang populasyon. Sa kabilang dako, ang Fish bowl technique naman ay paraan ng pagpili ng respondente na may pantay na pagkakataong mapili at walang ibang pagsaalang-alang tulad ng personal na kagustuhan na makakaimpluwensiya sa pagpiling ito (Nikolopoulo, 2022).

Para sa layuning ito, Slovin Formula ang ginamit ng mga mananaliksik upang matukoy ang bilang ng sampol ng mga naging respondente. Ayon kay Glen (2021) ang Slovin formula ay ginagamit upang kalkulahin ang nararapat na bilang ng sampol mula sa isang populasyong sinusuri. Sa pananaliksik na ito, mula sa 7,126 na populasyon, 400 ang kabuuang bilang ng respondente ng pag-aaral na kinatawan ng mga Gen Z na nag-aaral sa Leyte Normal University.

Slovin Formula:

$$n = \frac{N}{1 + Ne^2}$$

n – sampol

N – populasyon

- - tinatayang datos ng kamalian (margin of error)

Ang napiling mga respondente na kinapanayam ay ibinatay sa binuong saligan o criteria na ibinatay naman sa socio-demographic profile na bahagi ng talatanungang ginamit sa sarbey. Ang mga datos na nakalap sa bahaging ito ay sinuri at inilahad sa pamamagitan ng Frequency count at weighted mean.

Instrumento ng Pananaliksik

Ang mga mananaliksik ay gumamit ng nakabalangkas na talatanungan o sarbey kwestyuner sa pamamagitan ng Google Form at nilapatan ng Five Point Likert Scale bilang patunay at mapagkukunan ng datos. Siniguro ng mga mananaliksik na napalitaw ang mga layunin ng pag-aaral na ito sa pamamagitan ng paggawa ng talatanungan.

Ang talatanungan o Structured Survey questionnaire ay nahahati sa dalawang bahagi: ang checklist at ang talatanungan ukol sa paksang pinag-aaralan. Closed-Ended Questions ang nakapaloob sa talatanungan na inihanda ng mga mananaliksik sa pangangalap ng datos sapagkat ito ang naaangkop gamitin sa pag-aaral. Ayon kay Bhandari (2022), ang mga Closed-Ended Questions ay nag-aalok sa mga sumasagot ng isang nakapirming hanay ng mga pagpipiliang mapagpipilian.

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Ang mga closed-ended na tanong ay pinakamainam para sa pagkolekta ng data sa mga baryabol na pangkategorya o quantitative.

Sa unang bahagi ng talatanungan ay ang checklist sa pagkuha ng Demographic Profile ng mga respondente at pagpili ng mga sosyal midya na karaniwang ginagamit ng mga Gen Z. Samantalang sa ikalawang bahagi ng talatanungan ay ipinakita naman ang antas ng pagsang-ayon ng mga mag-aaral sa paraan ng kultural na pagpapahayag sa paggamit ng sosyal midya ng mga Gen Z.

Ang checklist-type questions ay uri ng isang closed ended question. Inaasahan ng mga respondente na gagawa ang mga mananaliksik ng pagpipilian mula sa maraming mga opsyon na nakasaad, ang respondente ay maaaring pumili ng isa o higit pang mga opsyon depende sa tanong na itinatanong. (Bhandari, 2021)

Paraan ng Pangangalap ng Datos

Ang pag-aaral na ito ay nakatuon sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z. Matapos maaprubahan ang iminungkahing paksa, mga layunin, at instrumento ng pag-aaral, ang mga mananaliksik ay naghanda ng liham para sa paghingi ng pahintulot na may lagda para sa mga napiling respondente sa ginawang pag-aaral. Pagkatapos nito, ibinahagi ng mga mananaliksik ang talatanungan sa mga respondente.

Ang mga mananaliksik ay nagbigay ng talatanungan o survey questionnaire sa mga respondente upang makalikom ng mga datos na ginamit para makagawa ng hinuha

sa paglalarawan ng pag-aaral. Naglalaman ang talatanungan ng mga katanungan na makatutugon sa layunin ng pag-aaral na matuklasan ang sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng Gen Z.

Tiniyak ng mananaliksik na masagot ang sumusunod na katanungan (1) Ano-ano ang mga Sosyal Midya na karaniwang ginagamit ng mga Gen Z. (2) Ano-ano ang mga Kultural na Pagpapahayag ang nakikita sa paggamit ng Sosyal Midya ng mga Gen Z. (3) Demographic Profile ng mga mag-aaral na nabibilang sa Gen Z 3.1 Kasarian, 3.2 Edad, 3.3 Etnesidad 3.4 Civil Status.

Tritment ng Datos

Ang nakuhang datos mula sa mga respondente ay inanalisa at binigyan ng interpretasyon sa tulong ng *weighted mean* (Glen, 2021) bilang istatistikal tritment at ang *Five-point Likert Scale* ni Pimentil (2019) ang ginamit sa pagbibigay ng interpretasyon sa ikatlong layunin patungkol sa kung ano-ano ang mga kultural na pagpapahayag ang nakikita sa paggamit ng sosyal midya ng mga Gen Z.

Weighted Mean ang ginamit na istatistikal tritment ng mga mananaliksik sa mga datos para sa una at ikalawang layunin. Ang *weighted mean* ay isang uri ng *average* na ginagamit kapag ang bawat datos ay may iba't ibang bigat (*weight*) sa pangkalahatang *mean* kung saan ang ibang datos ay maaaring mas malaki ang maiambag na bigat kaysa sa iba (Glen, 2021). Ito ang napiling istatistikal tritment ng mga mananaliksik sapagkat gumamit ang mga ito ng talatanungang nilapatan ng *Close-Ended Questions* na nasa paraang

Checklist Type Questions.

Sa pamamagitan ng mga tritment na ito, natugunan ng mga mananaliksik ang mga layunin ng pag-aaral

Narito ang pormulang ginamit sa pagkuha ng *weighted mean*.

$$x = \frac{\sum wx}{\sum p}$$

Kung saan:

x - weighted mean

\sum - summation o kabuuan

v. - bilang ng tugon

w. - weight

p - bilang ng populasyon

Talahanayan 1

Likert Scale	Interval	Deskripsyon
1	1.00-1.79	Lubos na hindi sumasang ayon
2	1.50-1.69	Hindi sumasang-ayon
3	2.50-3.39	Walang katiyakan
4	3.40-4.19	Sumasang-ayon
5	4.20-5.00	Lubos na sumasang-ayon

Five- Point Likert Scale Pimentil, J. (2019, Abril). Some Biases in Likert Scaling Usage and its Correction. Researchgate. https://www.researchgate.net/publication/332533000_Some_Biases_in_Likert_Scaling_Usage_and_its_Correction

Etikal na Konsiderasyon

Ang etikal na konsiderasyon ay tumatalakay sa koleksyon ng mga prinsipyo at pagpapahalaga na nararapat isaalang-alang habang ginagawa ang isang papel pananaliksik. Ang mga pagsasaalang-alang sa etika ay nagtitiyak na walang sino man ang kumilos sa paraang nakasasama sa lipunan o isang indibidwal at pinipigilan nito ang mga mananaliksik na kumilos sa paraang nais na walang isinasaalang-alang na mga hangganan (Bhandari, 2021).

Tiniyak ng mga mananaliksik ang etikal sa pagsasagawa ng pangangalap ng datos at napanatiling kumpedinsyal ang mga datos na nakalap mula sa mga respondente. Tiniyak ng mga mananaliksik na ang lahat ng tugon ng mga respondente maging ang kanilang pagkakakilanlan ay mananatiling kumpedinsyal at igugugol lamang para sa layuning mabuo at mapagtagumpayan ang isinagawang pag-aaral.

Presentasyon at Interpretasyon ng mga Datos

Inilahad sa kabanatang ito ang mga resulta ng nakalap na datos kaugnay sa layunin ng pag-aaral at ang isinagawang pananaliksik, pagsusuri, at pagpapakahulugan na nagbigay kasagutan sa mga suliranin.

Demographic Profile ng mga Respondente

Ang unang layunin ng pananaliksik na ito ay ukol sa *Demographic Profile*; (1) *Kasarian* (2) *Edad* (3) *Etnesidad* (4) *Civil status* ng mga mag-aaral na nabibilang sa Gen Z ang madalas gumamit ng sosyal midya bilang lundayan sa pagpapahayag ng

kamalayang kultural partikular na sa kulturang Waray. Kaugnay rito, makikita sa bahaging ito ang resulta at talakayan ng mga datos bilang tugon sa unang layunin ng pananaliksik.

Talahanayan 2

Kasarian ng mga respondente

Kasarian ng mga respondente	Bilang	Bahagdan
Babae	280	70%
Lalaki	105	26.25%
Ikatlong Kasarian	15	3.75%
Kabuuan	400	100%

Makikita sa Talahanayan 2 ang mga tugon ng mga respondente sa *Demographic Profile* ng Layunin 1 patungkol sa kasarian ng respondente. Ang mga respondente ay binubuo ng mga kababaihan na may 280 o 70% na bilang. Samantala, 105 sa mga respondente ay mga lalaki at 15 o 3.75% ng mga lumahok ay nabibilang sa ikatlong kasarian. Nangangahulugan lamang ito, ang kasarian na bumubo sa malaking bahagdan ng mga respondente ay mga babae.

Talahanayan 3

Edad ng mga respondente

Edad	Bilang	Bahagdan
17 hanggang 22 taong gulang	302	75.50%
23 hanggang 27 taong gulang	77	19.25%
28 hanggang 33 taong gulang	21	5.25%
Kabuuan	400	100%

Sa Talahanayang ito naman makikita ang tugon sa edad ng mga respondente. Ang Talahanayan 3 ay nagpapakita na ang 75.50% ng mga respondente ay may mga edad na 17 hanggang 22 taong gulang. Sa kabilang

dako, mayroong 77 o 19.25% ng kabuoang respondente ang may edad na 23 hanggang 27 taong gulang at mayroong 21 o 5.25% na mga respondente na ang edad ay nasa 28 hanggang 33 taong gulang. Sa kabuoan, nangangahulugan lamang na ang karamihan ng mga respondente ay nasa edad na 17 hanggang 22 taong gulang.

Talahanayan 4

Etnesidad ng mga respondente

Etnesidad ng mga Respondente	Bilang	Bahagdan
Waray – Biliran	22	5.50%
Waray – Samarnon	105	26.25%
Waray – Lineyte	273	68.25%
Kabuuan	400	100%

Malaking bahagdan ng mga respondente ng pag-aaral ay nabibilang sa etnesidad na Waray-Lineyte kung saan 273 sa 400 na mga respondente o 68.25% na bilang ay nabibilang sa Waray-Lineyte. Samantala, ang 26.25% at 5.50% ng mga respondente ay nahahanay sa Waray-Samarnon at Waray-Biliran. Ibig sabihin, ang malaking bahagdan ng pag-aaral ay mula sa mga respondente na may etnesidad na Waray-Lineyte.

Talahanayan 5

Katayuang Sibil ng mga respondente

Katayuang Sibil ng mga respondente	Bilang	Bahagdan
In a relationship	70	17.50%
Single	319	79.75%
Separated	2	0.50%
Widow	3	0.75%
Married	6	1.50%
Kabuuan	400	100%

Makikita naman sa Talahanayang ito na kabuuan na 400 na respondente sa pag-aaral, malaking porsyento ng respondente ay single na may bilang na 319 o 79.75%. Karagdagan pa rito, 70 o 17.50% ng respondente ay *in-a-relationship*. Nasa bilang na anim naman ang respondente na may asawa o kasal na. Tatlo ay *widow* at dalawa naman ang hiwalay. Nangangahulugan lamang ito na ang mga gumagamit halos ng social media ay may katayuang sibil na *single* o wala pang kabiyak.

Sa kabuoan, lumabas sa pag-aaral, ang may pinakamalaking porsyento sa kasarian ng mga respondente ay nabibilang sa mga kababaihan. Samantala, ang edad na 17 hanggang 22 taong gulang ay may 75.50% na nangangahulugang ang mga respondente na sumagot sa talahanayan ay nabibilang sa Gen Z. Ayon kay McCrary (2021), karamihan sa mga mag-aaral sa kolehiyo ngayon ay miyembro ng *Generation Z*, a.k.a “*Zoomer*” bilang mga digital native na ipinanganak sa pagitan ng kalagitnaan ng 1990s at unang bahagi ng 2010s.

May malaking bahagdan ang mga respondente na may etnesidad na Waray-Lineyte. Nangangahulugan lamang na ang mga respondente na nagbigay tugon sa aming talatanungan ay naninirahan sa Leyte. Sa kabilang dako, may 79.75% naman ang may katayuang sibil na single sa mga respondente ng pag-aaral.

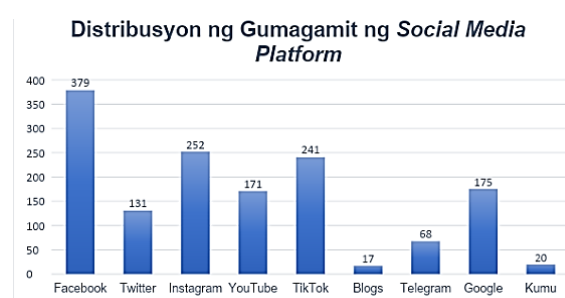
Sosyal Midya na Karaniwang ginagamit ng Gen Z.

Sa bahaging ito mabatid ang sosyal midya na karaniwang ginagamit ng mga Gen Z. Sa layunin na ito, gumamit ng pigura ang mananaliksik sa paglalahad ng

tugon ng mga respondente. Ang mga respondente ay pumili ng higit isa sa mga sosyal midya na kanilang karaniwang ginagamit kaya’t ginamitan ito ng pigura upang malinaw na mailahad ang distribusyon ng gumagamit ng sosyal midya.

Figyur 2

Sosyal midya na karaniwang ginagamit ng Gen Z



Ang Figyur 2 sa itaas ay nagpapakita ng distribusyon ng bilang ng respondente na gumagamit ng social media platforms. Mula sa mga opsyon na ibinigay ng mga mananaliksik, 379 sa 400 na respondente ang gumagamit ng *Facebook*. Sinundan ito ng *Instagram* na may 252 na gumagamit at *TikTok* na may 241 na respondente ang gumagamit. Ilan sa pagpipilian ay ang *Google* na may 175 na gumagamit, *YouTube* na may 171 na gumagamit, sumunod ay ang 131 na mga respondente na gumagamit ng *Twitter*, 68 naman na respondente ang gumagamit ng *Telegram*. Samantala, mayroong maliit lamang na bilang ang gumagamit ng *Blogs* (17 na respondente) at

Kumu (20 na respondente). Ibig sabihin nito, halos lahat ng mga respondente ay gumagamit ng *Facebook* bilang *social media platform*.

Mula rito, ang datos na ito ay kahalintulad sa resulta ng Pag-aaral ni Lgdaya (2017), karamihan sa mga gumagamit ng *social media platforms* partikular na ang *Facebook* ay ang popularidad ng mga kabataan. Ang karaniwang patok at tinatangkilik ng mga kabataan ay ang sosyal midya gaya ng *Facebook*, *Instagram* at *Tiktok* na kung saan ito ay isang *online mobile* na may serbisyong *photo-sharing*, *video-sharing* at *social networking* na nagbibigay-pahintulot sa mga gumagamit na kumuha ng mga larawan at bidyo, at ibahagi ang mga ito sa iba't ibang plataporma ng *social networking*. Binigyang diin din sa pag-aaral ni Vergara (2014) na halos lahat ng gumagamit ng sosyal midya ay nasa gulang 14-29 na sakop ang 18.14% ng buong populasyon. Nangangahulugan lamang na ang karamihang gumagamit ng *Facebook*, *Instagram* at *Tiktok* ay nabibilang sa Generation Z.

Kultural na Pagpapahayag sa paggamit ng Sosyal Midya ng Gen Z.

Sa bahaging ito mababatid ang antas ng pagsang-ayon ng mga respondente sa mga pahayag patungkol sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z. Makikita sa Talahanayan 6 ang pahayag tungkol sa karaniwang pinapaskil sa mga sosyal midya. Sa talahanayan 7 naman makikita ang mga kultural na pagpapahayag na nakikita sa paggamit ng sosyal midya ng mga Gen Z.

Talahanayan 6

Karaniwang Pinapaskil sa mga Sosyal Midya

Mga Pahayag	Mean (M)	SD	Interpretasyon
1. Ibinabahagi ko sa aking sosyal midya ang mga larawan ng mga makasaysayang lugar.	3.87	1.07	Sumasang-ayon
2. Ibinabahagi ko sa aking sosyal midya ang mga masagandang pasyalan ng isang lugar.	4.04	0.99	Sumasang-ayon
3. Ibinabahagi ko sa aking sosyal midya ang mga <i>social experiment</i> na ginagawa ng mga <i>vlogger</i> na tumatampok sa mga kultura at paniniwala.	3.43	1.24	Sumasang-ayon
4. Pagbabahagi ng mga larawan o video tungkol sa mga pagkaing Pilipino o mga tradisyonal na pagkain.	3.85	1.05	Sumasang-ayon
5. Pagpopost ng mga mimi vlog tungkol sa lugar na napuntahan.	3.41	1.28	Sumasang-ayon
6. Pag-upload ng mga video clips sa facebook reels na nagpapakita ng mga tradisyonal na sayaw.	3.26	1.37	Walang Katiyakan
7. Pagsha-share ng mga documentary videos.	3.64	1.17	Sumasang-ayon
8. Pagpopost ng mga nauusong kasuotan o OOTD.	3.57	1.21	Sumasang-ayon
9. Pagsha-share ng mga video na nagpapakita ng mga nauusong sayaw at kanta ng mga Pilipino.	3.69	1.13	Sumasang-ayon
10. Pagpopost ng mga magagandang lugar at tanawin ng bansa.	3.99	1.08	Sumasang-ayon
	WM	3.68	1.34 Sumasang-ayon

Makikita sa talahanayan sa itaas ay nagpapakita ng tugon ng mga respondente sa bawat pahayag ukol sa kalimitang pinapaskil ng mga Gen Z sa kanilang sosyal midya.

Makikita rito na ang unang pahayag ay may M na 3.87. Samantala, ang SD ng unang pahayag ay 1.07 kung saan ito ay may ibig sabihin na hindi ganoon kalayo ang tugon ng mga respondente sa balyu ng M. Ito ay mayroong interpretasyon na sumasang-ayon ang respondente na ang pagbabahagi ng mga larawan at mga makasaysayang lugar sa sosyal midya ay isang paraan ng pagpapahayag ng kamalayang kultural ng mga Gen Z.

Sa kabilang dako, ang ikalawang pahayag na pagbabahagi sa sosyal midya ng magandang pasyalan ng isang lugar ay naka kuha ng M na 4.04 at ikatlong pahayag na pagbabahagi ng mga *social experiment* na ginagawa ng mga *vlogger* na tumatampok sa mga kultura at paniniwala ay nakakuha ng mean na 3.43. Pareho lamang ang balyu na nangangahulugang sumasang-ayon ang mga respondente sa ikalawa at ikatlong pahayag. Masasabi rin na ang mga tugon ay

hindi nalalayo sa balyu ng M sapagkat ang SD ng ikalawa at ikatlong pahayag ay may balyu na 0.99 at 1.24 ayon sa pagkakasunod-sunod. Nangangahulugan na ang pagbabahagi ng mga magandang pasyalan at vlogs patungkol sa mga kultura at paniniwala ay karaniwang din pinapaskil ng mga Gen Z sa sosyal midya bilang pagpapahayag ng kanilang kamalayang kultural.

Sumasang-ayon pa rin ang mga respondente sa ikaapat na pahayag na pagbabahagi ng mga larawan at bidyo tungkol sa mga tradisyonal na pagkain na may mean na 3.85 at ikalimang pahayag na pagpopost ng mini vlog tungkol sa lugar na napuntahan na nakakuha ng mean na 3.41. Ang mga tugon ay hindi nagkakatayo-layo sa balyu ng M sapagkat ang SD ng ikaapat at ikalimang pahayag ay 1.05 at 1.28 ayon sa pagkakasunod sunod.

Ang ikaanim na pahayag na pag-upload ng mga video clips sa facebook reels na nagpapakita ng tradisyonal na sayaw ay nakakuha ng tugon na walang katiyakan mula sa mga respondente dahil sa mean na 3.26. Ngunit ang balyu ng SD ay 1.37 o mayroong di gaanong malaking agwat ang mga tugon sa balyu ng M. Nangangahulugan lamang na ang pagpopost ng mga video clips sa Facebook reels ng mga tradisyonal na sayaw ay hindi gaanong karaniwang pinapaskil ng Gen Z sa kanilang sosyal midya.

Dagdag pa rito, ang pagbabahagi (Share) ng mga Documentary Videos, pagpopost ng nauusong kasuotan o OOTD (Outfit of the Day), pagbabahagi ng nauusong sayaw at ng kanta ng mga Pilipino at ang pagpopost ng magagandang

tanawin ng bansa ay sinang-ayunan ng mga respondente sapagkat nakakuha ito ng mga balyu ng mean na 3.64, 3.57, 3.69, at 3.99 ayon sa pagkakasunod-sunod. Mayroon namang balyu na SD ang ikapito, ikawalo, ikasiyam, at ikasampung pahayag na 1.17, 1.21, 1.13, at 1.08 ayon sa pagkakasunod-sunod kung saan nangangahulugan lamang na hindi nagkakatayo-layo ang agwat ng mga tugon sa balyu ng M. Ito ay may interpretasyon na ang pagshashare ng documentary videos, OOTD, nauusong kanta at sayaw ay karaniwang pinapaskil ng mga Gen Z sa kanilang sosyal midya.

Sa kabuuan, ang karaniwang pinapaskil ng mga respondente sa sosyal midya ay nakakuha ng mean na 3.68 na nangangahulugang sumasang-ayon ang mga respondente na nabibilang sa Gen Z na ang sosyal midya ay nagsisilbing lundayan ng kanilang kultural na pagpapahayag, partikular na sa mga kulturang waray.

Dagdag pa rito, mahihinuha na hindi nagkakatayo layo ang agwat ng mga tugon sa balyu ng M sapagkat ang SD ng kabuuang tugon ay 1.34.

Talahanayan 7

Kultural na Pagpapahayag na nakikita sa paggamit ng sosyal midya ng mga Gen Z

Mga Pahayag	Mean	SD	Interpretasyon	
1. Pagbabahagi ng mga promotional video tungkol sa isang lugar.	3.73	1.12	Sumasang-ayon	
2. Panonood ng mga video sa pagluto ng mga pagkaing Pilipino o tradisyonal na pagkain.	4.15	1.01	Sumasang-ayon	
3. Paggawa ng mga mini vlogs tungkol sa mga pananamit o ootd.	3.15	1.30	Walang Katiyakan	
4. Pag-upload ng mga video ng mga sayaw gaya ng Carinosa, Kuratsa, at Tinikling.	3.19	1.37	Walang Katiyakan	
5. Pagbibigay puna sa mga ekspresyong lokal.	3.46	1.17	Sumasang-ayon	
6. Panonood ng mga video tungkol sa iba't ibang kultura at paniniwala.	3.93	1.06	Sumasang-ayon	
7. Pagpo-post ng mga vidyo sa facebook reels na nagpapakita ng pag-uugali ng mga Pilipino.	3.38	1.26	Walang Katiyakan	
8. Panonood sa YouTube ng mga kasaysayang mga lugar at tanawin.	4.01	1.00	Sumasang-ayon	
9. Sumasali sa patimpalak online Spoken poetry, Kanta, at sayaw na nagpapakita ng Pagka-Pilipino.	3.13	1.43	Walang Katiyakan	
10. Pagpapaskil ng mga Tula, siday, awit at iba pa sa sosyal midya.	3.40	1.40	Sumasang-ayon	
	WM	3.55	1.31	Sumasang-ayon

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Ang talahanayan ay nagpapakita ng tugon ng mga respondente sa mga pahayag na tumutukoy sa kultural na pagpapahayag ng Gen Z sa Sosyal Midya. Makikita rito na sa unang pahayag, ang pagbabahagi ng *promotional video* tungkol sa isang lugar ay nakakuha ng pagsang-ayon ng mga respondente na may *mean* na 3.73 at SD na 1.12 na nangangahulugang hindi nagkakalayo ang mga tugon sa balyu ng M. Gayundin ang mahihinuhang interpretasyon sa ikalawang pahayag na panood ng mga bidyo sa pagluto ng pagkaing Filipino o tradisyonal na pagkain na nakakuha ng *mean* na 4.15 at SD na 1.01.

Samantala, ang ikatlong pahayag na paggawa ng mga *mini vlogs* tungkol sa mga pananamit o OOTD (*Outfit of the Day*) at ikaapat na pahayag na pag-*upload* ng mga sayaw gaya ng Cariñosa, Kuratsa, at Tinikling ay nakakuha ng walang katiyakan na tugon mula sa mga respondente sapagkat ang balyu ng *mean* ay 3.15 at 3.19 ayon sa pagkakasunod-sunod. Dagdag pa rito, masasabi rin na ang mga tugon ay hindi ganoon kalayo sa balyu ng *mean* sapagkat ang SD ng ikatlo at ikaapat na pahayag ay 1.30 at 1.37 ayon sa pagkakasunod-sunod. Nangangahulugan lamang na ang paggawa ng *mini vlogs* tungkol sa OOTD at pag-*upload* ng mga kultural na sayaw ay hindi gaanong nakikita sa kultural na pagpapahayag ng Gen Z sa paggamit ng sosyal midya.

Ang ikalimang pahayag naman na pagbibigay puna sa mga ekspresyong lokal at ikaanim na pahayag na panood ng bidyo tungkol sa iba't ibang kultura at paniniwala ay nagkamit ng balyu *mean* na 3.46 at 3.93 ayon sa pagkakasunod-sunod. Samantala, ang SD ng ikalima at ikaanim na pahayag ay nakakuha ng balyu na 1.17 at 1.06 na may ibig-sabihing hindi

nagkakalayo ang tugon ng mga respondente sa balyu ng M kung saan nangangahulugan lamang ito na sumasang-ayon ang mga respondente na ang pagbibigay ng ekspresyong lokal at panood ng bidyo tungkol sa kultura at paniniwala ay karaniwang nakikita sa kultural na pagpapahayag sa sosyal midya.

Sa kabilang dako, mahihinuha rin na ang ikapitong pahayag na pag-*post* ng mga vidyo sa *facebook reels* na nagpapakita ng pag-uugali ng mga Pilipino at ikasiyam na pahayag pagsali sa mga patimpalak *online Spoken poetry*, kanta, at sayaw na nagpapakita ng pagka-Pilipino ay nakakuha rin ng walang katiyakan na tugon dahil ang *mean* nito ay 3.38 at 3.13 ayon sa pagkakasunod-sunod. Samantala, ang SD ng ikapito at ikasiyam na pahayag ay 1.26 at 1.43 base sa pagkakasunod-sunod na nangangahulugang hindi nalalayo ang mga tugon sa balyu ng M.

Ang ikawalo na pahayag ay ang panood sa *Youtube* ng mga makasaysayang lugar at tanawin at ikasampung pahayag na pagpapaskil ng mga tula, siday, awit, at iba pa sa sosyal midya ay nakakuha ng pagsang-ayon ng mga respondente sapagkat ang balyu ng *mean* ay 3.01 at 3.40 ayon sa pagkakasunod sunod. Ang SD naman ng ikawalo at ikasampung pahayag ay 1.00 at 1.40 na nangangahulugang hindi nalalayo ang mga tugon sa balyu ng M. Ito ay may interpretasyon na ang panood sa *Youtube* ng makasaysayang lugar at pagpapaskil ng mga tula, siday, awit at iba pa ay isang kultural na pagpapahayag ng mga Gen Z na makikita sa sosyal midya.

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A Referred Journal

Sa kabuoan ang *mean* ng mga pahayag ay 3.55 na nangangahulugang sumasang-ayon ang mga respondente na ipahayag ang kanilang kultural na aspekto gamit ang sosyal midya bilang kanilang lundayan. Mayroon namang SD na 1.31 ang nahinuha mula sa talahanayan na nangangahulugan na ang mga tugon ay hindi nalalayo sa balyu ng M.

Mga Natuklasan, Kongklusyon at Rekomendasyon

Tinalakay sa kabanatang ito ang kabuoan ng pag-aaral. Binigyang-tuon dito ang mga naging resulta sa isinagawang pag-aaral sa sosyal midya bilang lundayan sa pagpapahayag ng kamalayang kultural ng Gen Z.

Mga Natuklasan

Ang pananaliksik na ito ay gumamit ng disenyong quantitative Cross-Sectional Survey. Ang populasyon na kinuha ng mga mananaliksik ay mga mag-aaral ng isang unibersidad sa Lungsod Tacloban na nabibilang sa Gen Z. Gumamit ang mananaliksik ng Random sampling sa pamamagitan ng Fish bowl technique sa pagpili ng mga respondente na sasagot sa talatanungan. Sa kabuoan, ang respondente na nakuha ng mga mananaliksik ay 400 gamit ang Sloven Formula. Gumamit ng nakabalangkas na talatanungan o sarbey kwestyuner ang mananaliksik sa pamamagitan ng Google Form at nilapatan ng Five Point Likert Scale bilang patunay at mapagkukunan ng datos. Talatanungan o Structured Survey questionnaire ay ang ginamit ng mananaliksik na nahahati sa dalawang bahagi: ang checklist at ang talatanungan ukol sa paksang pinag-aaralan.

Close-Ended Questions ang nakapaloob sa pangangalap ng datos sapagkat ito ang naaangkop gamitin sa pag-aaral.

Sa pagsusuri ng datos ay natuklasan na ang mga respondente sa nasabing pag-aaral ay kinabibilangan ng mga kababaihan na may 70% at may edad na 17 hanggang 22 taong gulang. Samantala, lumabas din sa pag-aaral na ang mga respondente ay nabibilang sa etnesidad na Waray- Lineyte ay may 68.25% at may katayuan sibil na single na nakakuha ng kabuuang bahagdan na 79.75%. Natuklasan din sa pag-aaral na ang Facebook, Instagram at Tiktok ang mga sosyal midya na karaniwang ginagamit ng mga Gen Z. Facebook na nakakuha ng 379 na tugon, sinundan ito ng Instagram na may 252 na gumagamit at TikTok na may 241 na respondente ang gumagamit.

Natuklasan din sa pag-aaral na ang mga nabibilang sa Gen Z ay karaniwang gumagamit ng sosyal midya partikular na ang Facebook, Instagram at Tiktok bilang lundayan ng kanilang kultural na pagpapahayag.

Batay sa mga naging resulta ng pananaliksik, ang sosyal midya ay maaaring maging instrumento para sa generation Z sa kanilang pananaw, ideya at hinuha patungkol sa kanilang mga kultural na pagpapahayag lalo na sa mga kulturang waray. Mas mapatataas ang kaalaman ng mga kabataan kung patuloy itong pagyayamanin at tatangkilikin sa pamamagitan ng paggamit ng mga midyum kagaya ng sosyal midya sa pagpapalaganap ng mga ito.

Kongklusyon

Batay sa naging resulta ng pag-aaral, ang sumusunod ang nabuong konklusyon.

1. Ang mga respondente sa pag-aaral na ito ay binubuo ng mga kababaihan na may edad na 17

hanggang 22 taong gulang na may etnisidad na Waray-Lineyte at may katayuang sibil na single.

2. Lumabas sa pag-aaral na ang sosyal midya na ginagamit ng Gen Z ay ang Facebook na may pinakamalaking bahagdan na nakakuha ng 379 tugon sa 400 na respondente na sinundan ng *Instagram* at *Tiktok*.

3. Ang paggamit ng sosyal ay nagsisilbing lundayan sa pagpapahayag ng kamalayang kultural ng mga Gen Z, partikular na sa mga kulturang waray. Pagbabahagi ng mga larawan, bidyo, kasoutan, tanawin, at *documentary films* ang karaniwang pinapaskil at makikita sa pagpapahayag ng kamalayang kultural sa paggamit ng sosyal midya ng mga Gen Z.

Rekomendasyon

Batay sa naging resulta ng pag-aaral ang sumusunod ay na buong rekomendasyon.

1. Bumuo ng Demographic Profile upang makuha ang tamang bilang, uri at etnisidad ng bawat kalahok na sumasaklaw sa pag-aaral.
2. Magsaliksik ng mga pag-aaral kaugnay sa paggamit ng sosyal midya bilang lundayan sa pagpapahayag at pagpapa-unlad ng mga kamalayang kultural ng mga Pilipino.
3. Ang Filipino Yunit ay dapat maglunsad ng mga programa na
4. tumatalakay sa paggamit ng sosyal midya bilang instrumento sa pagpapataas ng kaalaman ng kabataan lalo na ang bagong henerasyon patungkol sa kultura ng Pilipinas.

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