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## **International Conference on Research and Innovations**

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**Conference Special Issue - 37**

**November - 2024**

*Jointly Organized by:*

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The Indian Institute of Management and Commerce(IIMC), Osmania University, India  
Eurasian Institute of Science and Technology, EU.

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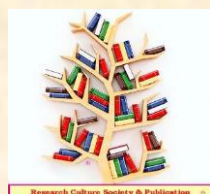
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# International Conference on Research and Innovations

Date: 8 – 9 November, 2024

*Bangkok, Thailand*

*Conference Special Issue / Proceedings Issue*

*Edited by:*

**Dr.Chirag M. Patel**

**Dr.(hc) Rania Lampou**

**Dr.Jessica C.**



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## International Conference on Research and Innovations

*Edited by: Dr.Chirag M. Patel, Dr.(hc) Rania Lampou, Dr.Jessica C.*

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## **About the organizing Institutions:**

**International Scientific Research Association** is a registered and an esteemed research association working on to provide scientific research services, educational studies and activities at international level, also coordinate with other research organizations for the educational research events. Scientific Research Association as honorary partner of the ‘Research Culture Society’ with MoU – collaboration.

**The Indian Institute of Management and Commerce(IIMC)** established five decades ago(year 1973) has to its credit some outstanding achievements in the field of Commerce Education in general and Honours course in particular at the Degree level. The college was admitted into grant-in-aid in the year 1980 and it was admitted into Sec.2 (f), 12-B of University Grants Commission in the year 1994 and affiliated to Osmania University. The college was ranked by various magazines like The Week, Outlook, India Today, Education World, Digital Learning and it has established itself as a premier institution in field of commerce education in the country.

**‘Research Culture Society’ (RCS)** is a Government Registered International Scientific Research organization. Registered with several United or Government bodies. It is also an independent, professional, non-profit international level organization. RCS-ISRO shall also initiate and setting up new educational and research programs with other international organizations. Society has successfully organized 135+ conferences, seminars, symposiums and other educational programmes at national and international level in association with different educational institutions.

**Chreso University (CU)**, a faith based University founded by Dr. Helmut Reutter and Mrs. Esther Reutter, under the umbrella vision for Chreso Ministries, was officially established in the year 2010 under the Universities Act No. 26 of 1992. And in 2016, the University was duly registered with the Zambia Higher Education Authority under the Higher Education Act No. 4 of 2013. at Zambia, Southern Africa.

**Eurasian Institute of Science and Technology (EU)** : Institute of Science & Technology is a self financed college, sponsored has been started in the year 2013 with a noble aim of imparting technical education. The institution enables them to be placed as the best professionals in industries and make them enter into high level programs with competence and confidence. Institute trains specialists in Physical Science, Life Science and Computer Science. Eurasian University is an institution of the central region of EU, for qualified personnel training in science, engineering, technology, management, law, education and research specializations.

**The International Languages Council** is working to promote Languages and Literatures at different national and international levels, and also coordinate with other institutions and organizations for the educational and community development. It also offer to provide literature, ELT, linguistics research services, educational studies and organizing activities.

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& Institut für Dienstleistung, Germany.

**Objective of the International Conference** is to bring together innovative academics, researchers and industrial experts in the field of Scientific, Multidisciplinary Innovation Studies in the Research field to a common platform. The main objective of the scientific conference is to exchange of ideas, discuss issues and views towards the advancement of theory and practices and to create space for presentation of current results of research and scientific work in the field of Sciences, Agriculture, Engineering and Technology, Business Management, Trade, Economy, Social Sciences, Literature, ELT and Education. Conferences such as this provide a valuable opportunity for researchers, academicians and students to share experiences.

### **About the Conference :**

ICRI-2024 is a good platform to bring together accomplished academicians, scientists, researchers, scholars and students to exchange and share their knowledge, experiences and research results on the aspects of advancements in Science, Agriculture, Engineering, Technology, Business Management, Commerce, Social Sciences, Literature, ELT and Education. This forum can & will spell a scholarly platform to network and discuss the practical challenges encountered and the solutions adopted in their respective domains worldwide. The Conference main Aim is to provide an interaction stage for researchers, students and practitioners from academia and industries to deal with state-of-the-art advancement in their respective fields. The outcome based aim is an ambience that will be instrumental in taking our participants and delegates to the next level of their expertise in their profession. Participants also will visit the city and country as it is a famous tourist attraction.

### **Tracks :**

- **Track 1 – General – Basic Sciences, Applied Science and Allied Science.**
- **Track 2 – Engineering and Technology.**
- **Track 3 – Business Management.**
- **Track 4 – Commerce / Trade – Economy.**
- **Track 5 – Social Sciences, Law, ELT and Literature.**
- **Track 6 – Education and Physical Education – Sports Science.**

### **About the Special Issue / Conference Book :**

Science, Engineering and Technology cross nearly every facet of modern life and, as problem solvers, engineers are perfectly capable of managing technical activities, mastering innovative ways of science and engineering field, when they spend time and efforts understanding and acting in the field. Scientific and technological innovation, as strategic support to improve social productivity and overall national strength, must be placed at the center for development of any country.

The framework includes engineering and technology as they relate to applications of science. Engineering is used to mean engagement in a systematic design practice to achieve solutions to particular human problems. Technology is used to include all types of human-made systems and processes.

The special issue / conference proceedings / edited book is a collection of peer-reviewed scientific papers submitted by active researchers in the International Conference on Science, Engineering & Technological Innovation. This book can be helpful to understand the various concepts of Science and Technological Innovation to the researchers and academia.

**Dr. Jessica C.**

**Founder President, International Scientific Research Association.**

**Email : scientificresearchassociation@gmail.com**

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## Message

Dear Colleagues !

I am grateful to co-organizing institutions, all the speakers, committee members and presenters of 'International Conference on Research and Innovations' (ICRI-2024). The overwhelming response to the contributors was acknowledged in a very positive manner and it shows that the new age is very much eager to work with technical literature. The rising researcher and scholar from various institutions and in-house participants motivate us to improve ourselves.

We are currently in the era of science and engineering revolution, spearheaded by recent developments in engineering, technology and sciences, providing sustainable solutions to various issues.

Here I am delighted that the series of conference on contemporary issues in computer technology has successfully completed its three folds and entered into the fourth one, it's all due to the valuable efforts of faculty members of computer science and engineering department.

I extend my best wishes for the editorial team of the special issue; at last I hope this technological literature interaction will be a source of inspiration to upcoming educationists, technocrats and stakeholders.

*Jessica*

ICRI - 2024 Conference Chair & Coordinator  
Founder, International Scientific Research Association





**Prof. Maria Eropenko**  
Dean, Eurasian Institute of Science and Technology  
Eurasian University  
Email : eist@eurasianuniversity.uk

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## **MESSAGE**

Dear Colleagues!!!

I am proud to be the part of Organizational Committee of “International Conference on Research and Innovations - 2024”, jointly organized by ‘Scientific Research Association’ and Eurasian Institute of Science and Technology, Eurasian University in collaboration with ‘Research Culture Society’ (8 – 9 November, 2024).

We have an exciting program at this conference that will allow participants to reflect upon and celebrate their accomplishments, renew friendships and extend networks, and jointly explore current and future research directions. I hope that all participants will have a productive and fun-filled time at this online conference.

I sincerely hope that this conference will deliberate and discuss all the different facets of this exciting topic and come up with recommendations that will lead to a better world.

I wish the conference great success.

A handwritten signature in black ink, appearing to read "M. Eropenko".

Maria Eropenko  
Dean, Eurasian Institute of Science and Technology,  
Eurasian University

**Dr.C. M. Patel**

**Director, RESEARCH CULTURE SOCIETY**

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## **Message**

Dear Professional Colleagues,

It is gratifying to note that ‘International Scientific Research Association’; The Indian Institute of Management and Commerce(IIMC), Osmania University, India; Eurasian Institute of Science and Technology (EU) in collaboration with ‘Research Culture Society’ (Government Registered Scientific Research organization) are organizing - ‘International Conference on Research and Innovations’ during 8 – 9 November, 2024.

The aim of the conference is to provide an interaction stage to researchers, practitioners from academia and industries. The main objective is to promote scientific and educational activities towards the advancement of common citizen’s life by improving the theory and practice of various disciplines of science and engineering. Provide the delegates to share their new research ideas and the application experiences face to face.

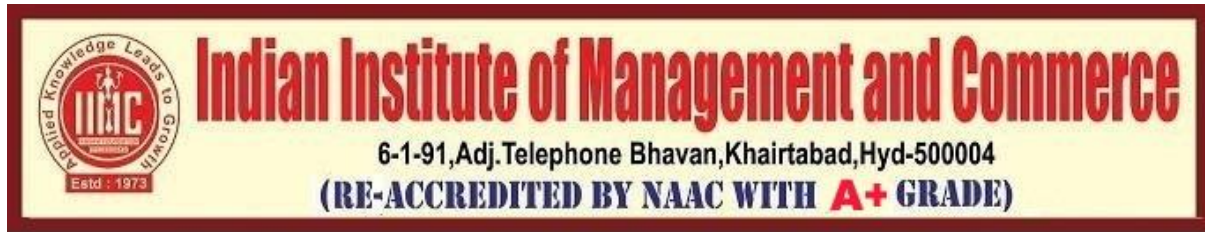
I believe, this International Conference will help in redefining the strong connection between students and academicians from different institutions. An additional goal of this international conference is to combine interests and scientific research related to General Science, Physical Science, Applied Sciences, Engineering and Technology Development to interact with members within and outside their own disciplines and to bring people closer for the benefit of the scientific community worldwide.

My best wishes to the committee members, speakers and participants of this scientific conference ICRI-2024.

A handwritten signature in blue ink, appearing to read 'Dr. C. M. Patel', is positioned above the printed name.

Dr.C. M. Patel

Director, Research Culture Society.



## Principal's Message

It gives me an immense pleasure to collaborate for the 'International Conference on Research and Innovations', to be held on 8<sup>th</sup> & 9<sup>th</sup> November, 2024. Research has become order of the day, to make contributions in the field of Science, Technology, Commerce & Industry. The innovation era has begun with the development of artificial intelligence, expanding its domain in both manufacturing as well as service sectors.

I congratulate the Research Culture Society (RCS) and the entire team associated in organizing this conference, to promote research and encouraging the innovations in various fields of Commerce, Industry, Business and Technology. 15 faculty members from our college are presenting papers in the conference. Indian Institute of Management and Commerce will have a long lasting relation with RCS, collaborating for many other events.

K.RAGHU VEER  
PRINCIPAL  
Indian Institute of Management and Commerce  
Affiliated to Osmania University,  
Khairatabad, Hyderabad-500004.  
TELANGANA

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**Dr. Maria Eropenko**, Dean, Eurasian Institute of Science and Technology, Eurasian University(EU).

**Dr. Jessica C.**, Founder President, Scientific Research Association.

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**Dr.(hc).Rania Lampou**, STEM instructor and an ICT teacher trainer, at the Greek Ministry of Education, Greece. & Head, STEM Department, Eurasian Institute of Educational Technology, E.U.

**Dr. Xihui Haviour Chen**, Associate Professor of Accounting and Finance, Keele Business School, Keele University, United Kingdom

**Rev. Dr. Helmut Reutter**, Chancellor, Chreso University, Zambia.

**Prof. Dr. Markus A. Launer**, Ostfalia Hochschule, Campus Suderburg, Germany & Independent Institute for non-profit Services, Germany.

### Guest Speaker :

**Dr. Sirikarn Thongmak**, Graduate Studies Faculty of Humanities, Srinakharinwirot University, Bangkok, Thailand. & Member, International Languages Council.

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## TABLE OF CONTENTS

| Sr.No              | Contents  | Page No. |
|--------------------|---|----------|
| 1                  | About the organizing Institutions<br>Objective of the International Conference  | 5        |
| 2                  | About the Conference & About the Special Issue / Book   | 6        |
| 3                  | Message from Founder President, International Scientific<br>Research Association  | 7        |
| 4                  | Message from Dean, Institute of Science and Technology, EU  | 8        |
| 5                  | Message from Director – RCS & Program Head - EU   | 9        |
| 6                  | Message from Principal - IIMC   | 10       |
| 7                  | Conference Committee Members  | 11-12    |
| 8                  | Table of Contents   | 13-14    |
|                    |   |          |
|                    |   |          |
| <b>Article.No.</b> | <b>Title and Author</b>   | -        |
| ICRI-2024-<br>A01  | Transformative mathematics learning vlogs: A participatory<br>action research in partaking mathematics knowledge in the<br>remote learning -- Dr. Sherwin P. Batilantes,                                    | 15-23    |
| ICRI-2024-<br>A02  | Enhancing students writing skills through home reading report:<br>Overcoming sentence structure challenges -- Arnold Z. Rogan   | 24-33    |
| ICRI-2024-<br>A03  | Gays Empowerment: A Phenomenological Study Exploring the<br>Intersectionality of Gays' Participation In-School Volleyball<br>Tournaments -- Mark Arvin Lachica Rebaldo                                      | 34-43    |
| ICRI-2024-<br>A04  | Triple SIMs: Its effects on the student's academic performance in<br>physics -- Gladys C. Aparicio  | 44-56    |
| ICRI-2024-<br>A05  | Playing Damath among grade 7 students of Malay National High<br>School: Its effect to the numeracy skills in the basic operations<br>on integers -- Churchill C. Gumboc                                     | 57-60    |
| ICRI-2024-<br>A06  | Integrating Comprehensive Assessment and Intervention<br>Strategies for Students with Special Needs: A Case Study<br>Analysis Aligned with NEP 2020" -- Dr.Shruti Kirti Rastogi,<br>Prof. Harishankar Singh | 61-71    |
| ICRI-2024-<br>A07  | Global Trends in Physical Activity Interventions for Managing<br>Polycystic Ovarian Disease: A Bibliometric Analysis --<br>Priyadarshini. S., Dr. R. Ramakrishnan   | 72-84    |
| ICRI-2024-<br>A08  | The Influence of Traditional Games on the Development of<br>Fundamental Movement Skills in Early Childhood: A<br>Bibliometric Analysis -- Balaji V.   | 85-92    |

|               |  |         |
|---------------|--|---------|
| ICRI-2024-A09 | The thorn among the roses: exploring men's lived experiences in female-dominated professions in Tagum city -- John Eli Calugcugan, Hannah Mae T. Bentulan, James O. Hulpa, and Neofenhae Jerilyn L. Madulara-Cortez, | 93-100  |
| ICRI-2024-A10 | An Examination of the Suitability and Profitability of the Integration of ICT into Teaching - Learning English -- Dr.P. Kousar Basha, Dr.Y.Suneetha  | 101-105 |
| ICRI-2024-A11 | Gamification in English Language teaching and learning -- Ms.N. Karuna Sree  | 106-109 |
| ICRI-2024-A12 | The Use of technology in Exploring English -- Tanvi Shinde   | 110-113 |
| ICRI-2024-A13 | Perceptions on DepEd's gender-responsive basic policy: A mixed-methods research to the stereotype mindset about transvestism -- Dr. Sherwin P. Batilantes, Jessie S. Flores, Mark Arvin L. Rebaldo                   | 114-124 |
|               |  |         |
|               | ***  |         |

# Transformative mathematics learning vlogs: A participatory action research in partaking mathematics knowledge in the remote learning

**Dr. Sherwin P. Batilantes**

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**Abstract:** *Vlog has been the most widely used platform in this COVID-19 pandemic, and it has been shown that Vlogs have a lot to offer, particularly in education. That was why the study's goal was to transform students' typical learning styles in mathematics through this context of Vlogging. In order to achieve these goals of transformative learning, the study employed Participatory Action Research (PAR) as a research design. The purposive sampling with the inclusion criteria was utilized in PAR, composed of six (6) primary and 16 secondary participants. The primary participants, also known as co-researchers, were involved in all phases, whereas the secondary participants were only included as data sources. The PAR study was divided into three (3) phases with iterative cycles in data collection, data analysis, and data interpretation, in which the views and perspectives of the co-researchers were equally treated. The study's results showed that three major themes emerged using the thematic analysis, and these were: (1) Fostering Probability Topics in Grade 8 Mathematics, (2) The Soul of Transformative Mathematics Learning Vlogs, and (3) Encouraging Stakeholders Support. These major themes emerged from significant responses from primary and secondary study participants during data gathering procedures. Thus, the Transformative Mathematics Learning Vlogs (TMLV) were developed, and their essences were beneficial to students who learned the least learned competencies under the Probability content in conformity with their best interests, desires, and the method they believed was best for them. This TMLV was used as a math project for public school students in distance learning. For sustainable development of the TMLV in transforming students' conventional math learning experiences, the involvement of the internal and external stakeholders was highly recommended. Consequently, TMLV was not limited to mathematics but could also be utilized in other disciplines, with or without social class restrictions imposed by pandemics.*

**Key Words:** *vlog, transformative mathematics learning vlogs, participatory action research, DepEd learning resources, remote learning*

## 1. INTRODUCTION:

The history of Vlogs has existed since Adam Kontras released his first video of his voyage to Los Angeles on his blog last January 2, 2000, allowing his friends and family to follow along with his quest. Vlogging has come a long way from Kontras' original 15-second video, which has undergone several significant development periods due to new technologies (Sanchez, 2022). In recent years, vlogs have grown in popularity, and it is obvious that during the COVID-19 pandemic, this was the most popular platform for communication, entertainment, and source of income across the globe. This claim was supported by Chakravarty et al. (2021), who said that Vlogs were common among millennials and that they engaged in this activity for both work and leisure. In the field of education, Vlogs have been used for pedagogies by teachers, and they were prevalent in the English discipline. For example, Kusumaningrum et al. (2020) utilized these Vlogs to improve engineering students' speaking skills so they could speak fluently in English. Likewise, literature revealed that Vlogs were used to increase students' listening, pronunciation, and conversation skills, according to qualitative research, while blogs enable users to read and produce content (Pervaiz et al., 2020).



Meanwhile, Vlogs in mathematics were very dubious, and the scarcity of literature about Vlogs in mathematics education was evident. Batilantes (2021), on the other hand, employed this Vlog in his mathematics instruction to target the least acquired and untaught learning competencies. The intervention was known as Project VLOGI (Video Lectures on Giving Instructions), and it was carried out using a quantitative research approach. Now, in order to gain a thorough understanding of Project VLOGI, the researcher decided to explore the benefits of Project VLOGI using a qualitative approach, and the researcher modified it into Transformative Mathematics Learning Vlogs (TMLV) to transform the most widely used learning modality in the country - the student learning module (SLM) in print. Therefore, the researcher decided that it was about time for this study to be conducted and published globally to produce an article related to Vlogs as instructions in the field of Mathematics. Hence, the Transformative Mathematics Learning Vlogs (TMLV) was utilized to produce an in-depth understanding of learning videos in the context of vlogging.

The study was grounded in the Transformative Learning Theory (TLT) by Jack Mezirow in 1975, which was concerned with meaningful, practical, and constructive learning. This learning method goes beyond obtaining information which teaches students how to intentionally provide meaning to their lives in constructive and critical ways. This TLT stressed how important life events influence people to view their experiences differently. The core principle of transformative learning was problem-solving to produce learning behavior from different perspectives (Mezirow, 1991). Similarly, this TLT was engaged in conversation that requires being critically introspective and participating in “critical dialectical discourse involving the assessment of assumptions and expectations supporting beliefs, values, and feelings” (Mezirow, 2003, p. 60). Thus, individual meaning perspectives are changed and corrected if they find the assumptions or expectations which are incorrect or overly restricted; in contrast with the traditional knowledge acquisition, perspective transformation requires the construction of a new meaning, viewpoint, and reflection (Mezirow & Taylor, 2009; Taylor, 2008).

Moreover, there was an intervention utilized in this PAR study, the name of the intervention was Transformative Mathematics Learning Vlogs (TMLV), and it was inspired by the conducted action research named Project VLOGI (Batilantes, 2021). However, this TMLV was conducted in a qualitative approach of investigation utilizing the iterative cycle of participatory action research (PAR) by Crane and O’Regan (2010) and Loewenson et al. (2014). This iterative cycle consisted of three (3) phases and five (5) elements in conducting PAR: observe, reflect, plan, act, and share were used and they were properly discussed/performed on the research procedures/data gathering methods section on pages 6 to 8 of this manuscript. Hence, this TMLV was a modified Project VLOGI (Batilantes 2021) research that used a qualitative methodology. Thus, video lessons were created using vlogging, with students serving as the primary actors, delivering video lectures on topics related to mathematics, especially the least learned and untaught learning competencies. These were joint efforts by the students and the teacher-researcher to plan, develop, produce, and record the videos.

## 2. LITERATURE REVIEW:

The use of vlogs for mathematics education revolutionizes standard teaching methods in distance contexts. The vlogs have moved from personal online diaries to versatile instruments of communication, entertainment, and education (Kusmawan, 2017). Their increasing prominence during the COVID-19 epidemic provides unparalleled opportunities to engage children in the virtual world. In mathematics education, vlogs provide an active medium for illustrating and explaining difficult concepts in a comprehensible manner (Walters et al., 2018). The audiovisual link accommodates different ways of learning and could enhance understanding and memory of mathematical concepts. Besides, according to Almutairi (2018) the interactive nature opts for an active engagement allowing students to engage with their knowledge more profoundly than when learned passively. This reincarnates the tenets of active learning that have proven to improve student performance in the disciplines of science, engineering, and mathematics (Rambarran, 2021).

The utilization of vlogs in mathematics teaching is further supported by the tenets of critical mathematical pedagogy (Santagata et al., 2021). This thought underscores the view of mathematics as a human creation that acts both to represent and to influence the cultural circumstances around it (Suh et al., 2021). The vlogs afford students opportunities to develop mathematical understanding through

applicability and real-life practice, thus fostering critical thinking and appreciation of the relevance of mathematics in life (Makonye, 2019). Such activities enhance conceptual comprehension by enabling learners to utilize mathematics for social critique and transformation. Furthermore, the participation elements of vlog creation and interactions align effectively with the goals of critical mathematics education, which promotes collaborative learning while urging students to critically examine and reflect on the mathematical content offered (Elijah, 2024).

Vlogs are based on transformative learning theory, as described by Mezirow (1991). The theory advances the proposition that learning involves the critical reflection, whereby a person is able to change their frames of reference. In mathematics education vlogs serve as a platform for students to engage critically with the mathematical concepts, reflect on their understanding, and recreate their understanding frame. Chen et al. (2018) said in their study that vlogs promote the interactive and participatory dimension of student engagement within the whole depth of the education process. Through vlogs, students move from passive information gatherers into active knowledge producers, thus experiencing transformative learning (Brekken et al., 2018).

The vlogs utilized in mathematics education through participatory action research (PAR) pave the way for cooperation in educational innovation. Participatory Action Research (PAR) refers to an iterative cycle of planning, action, observation, and reflection, involving both researchers and the participants in the content-generation process (Reason & Bradbury, 2008). In this sense, an incorporation of vlogs allows for continual feedback and modification, ensuring that the learning activities honor the needs of the learners. Through this cooperative technique, the learners are likely to develop a feel of ownership and agency in the whole educational process. Equally, through their production and critique of the vlogs, the students developed critical thinking skills for the understanding of concepts within the principles of transformative learning and critical mathematics pedagogy.

### 3. OBJECTIVES:

Using PAR as the research design, the co-researchers/co-participants wanted to utilize these transformative mathematics learning videos to address the identified least learned competencies in mathematics 8 in the context of video blogging or so-called vlogging. Specifically, the co-researchers sought to answer the following research questions.

1. What are the least learned and untaught competencies in mathematics eight that transformative mathematics learning vlogs may apply?
2. How does a transformative mathematics learning vlog change the learning behavior of eighth-grade learners?
3. What transformational plan of action is to be implemented to promote the long-term sustainability of these transformative mathematics learning vlogs?

### 4. METHODOLOGY:

This PAR study took a human-centered and collaborative approach, involving participants in various roles during distinctive phases of the study. Distinct roles were defined for and by primary and secondary participants. Primary participants, also called co-researchers, included a Mathematics teacher and five Grade 10 students and were all directly involved in each of the phases of the study. Research activities thus included focus group organization, various interviews, discussion moderation, and evaluation of data collected on how they influenced and triggered inclusivity during the study. The five Grade 10 students were chosen for their prowess in mathematics, excellent group dynamics, and proactive participation while coding and moderating discussions and interviews.

The involvement of secondary participants, which included other mathematics teachers, selected 25 eighth-grade students, and the school principal added several perspectives. They contributed richness to the themes that surfaced in the research, having different vantage points on the research findings. While their influence was, however, restricted to certain phases of the research, their opinions were crucial in responding to the research questions and granting extra depth and texture to the data.

Focus group discussions, participant observations, and interviews were introduced in several cycles. The whole cycles were divided into three phases until data saturation was reached. As shown

below are the figures for the data collection methods by Crane and O'Regan (2010) and Loewenson et al. (2014).

Fig. 1. PAR Study Phase 1

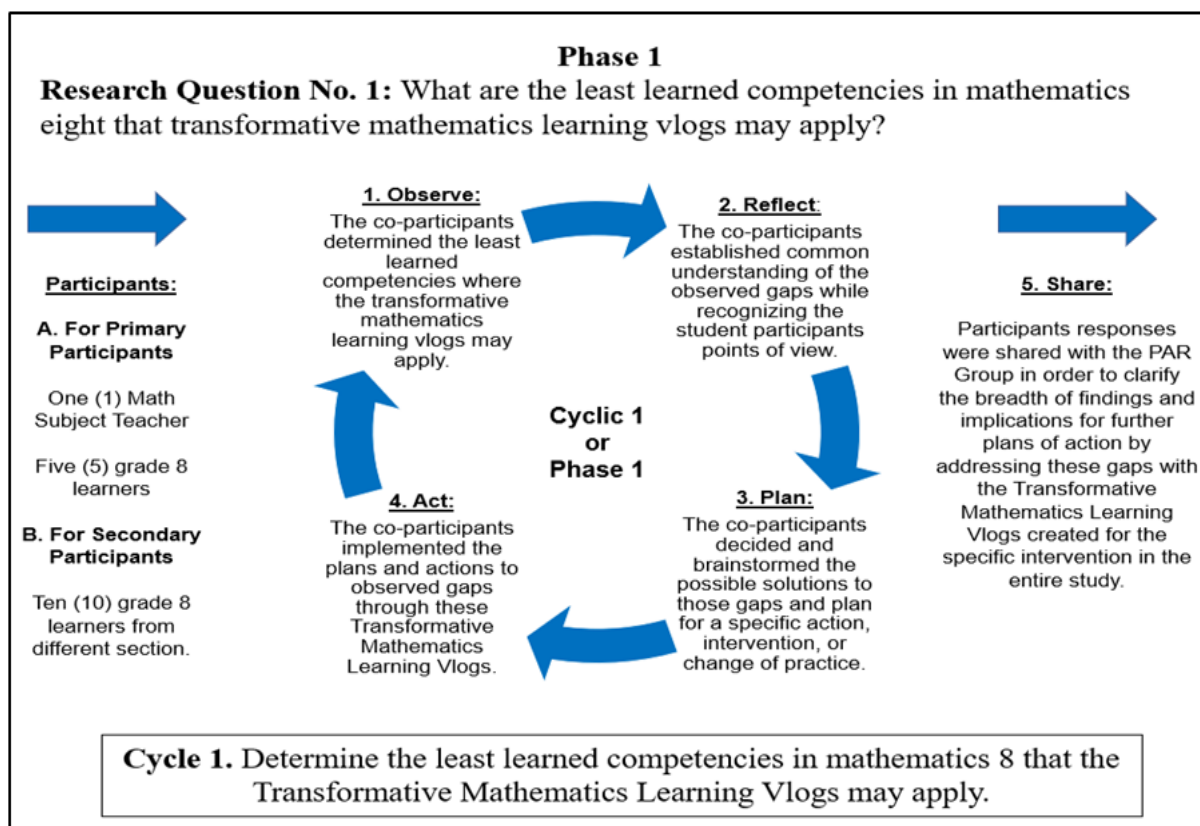


Fig. 2. PAR Study Phase 2

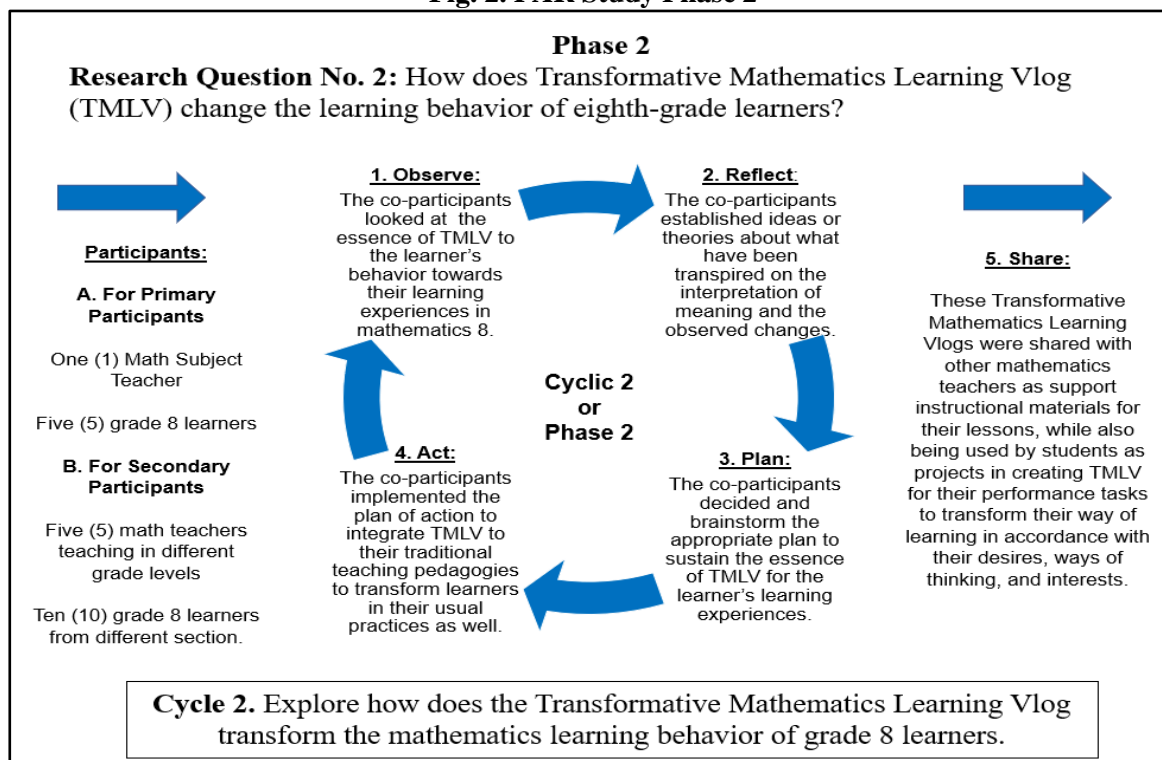
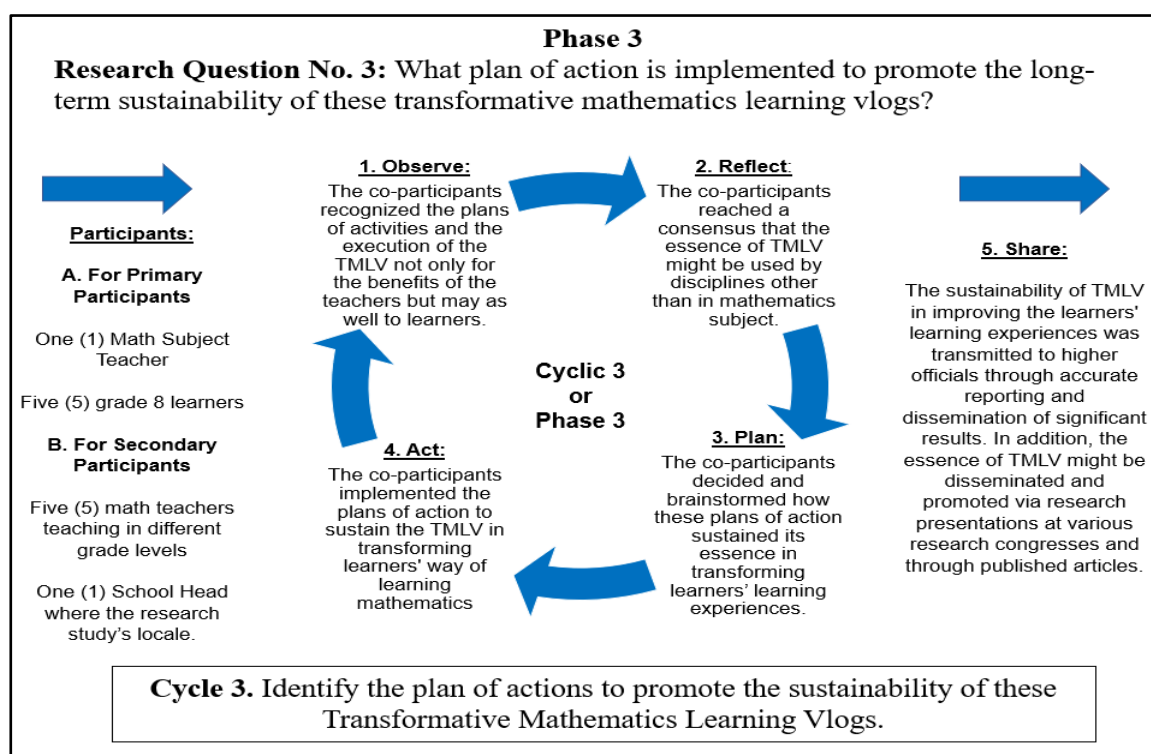


Fig. 3. PAR Study Phase 3



Unstructured guide surveys were used during the conduct focus group discussions and checklists observed activities of participants during transformative mathematics learning activities-featuring the creation and implementation of learning vlogs. Collective investigation of data was done through thematic analysis interwoven with the Collaborative Self-Reflexive Dialectical Practice methodology. This showed the co-researchers' interpretations to be free of biases reflecting the central themes of the study. In addition, the PAR study traversed several ethical considerations; however, due diligence was basically adhered to in the course of that study. Consent and assent forms, authenticated by the principal of Malay National High School, ensured that all participants understood the terms and conditions of the study, particularly the confidentiality of their identity and results. The process alone certainly guaranteed respect for human dignity and social welfare while maintaining study integrity and credence, in the hope for a future publication and circulation throughout the community.

## 5. RESULT & DISCUSSIONS:

Probability and statistics are important subjects to learn in elementary and secondary school. Probability and statistics are separate conceptual categories in high school standards, and Probability and statistics were put near the end of the curriculum guide in the Philippines and were neglected to be taught by some of these mathematics teachers (Batilantes, 2021). According to Cai et al. (2019), the literature finding revealed that most students struggled with probability and statistics. Many students' understandings of probability concepts were preconceived rather than established common probability interpretations. Table 1 shows the brief interpretation of significant statements from research participants and the minor and major themes that emerged during PAR data analysis.

**Table 1. The Mathematics Least Learned Competencies that TMLV Should Apply**

| Significant Statements  | Minor Themes                   | Major Themes  |
|---|--------------------------------|---|
| "As a subject teacher teaching in mathematics 8, I was unable to achieve the learning skills in the last section of the curriculum guide." [T1] | Untaught Learning Competencies | Fostering Probability Topics in Grade 8 Mathematics |



|   |  |  |
|---|--|--|
| <p><i>“Probability was not taught to us in grade 7. However, there were topic on Grade 7 module.” [S1]</i></p>              | <p>Inconsistency of Learning Competency</p>        |  |
| <p><i>“Probability was in the learning competencies before in grade 7. However, it was lifted now in grade 8.” [T3]</i></p> | <p>Bewildered Information</p>                      |  |
| <p><i>“I had a hard time studying problem solving that involves probability.” [S2]</i></p>                                  | <p>Probability Word Problem Solving Difficulty</p> |  |

**Legend:** [S1 & S2] – Student Participants; [T1 & T3] – Teacher Participants.

According to the responses of the study participants, the majority of the learning competencies that were not completely mastered by grade 8 learners were found near the end of the mathematics 8 curriculum guide. One of the teacher participants agreed with this claim because of his statement. *“Actually, in my more than ten years of service, I have not yet completed teaching all of the learning competencies in Mathematics to my students. These were due to unavoidable circumstances such as typhoons, fires, floods, and even the COVID-19 pandemic. Local holidays and various ancillary services at school and in the community also hindered the attainment of this objective”.* [T1]

Video usage increases cognitive functions such as thinking, reasoning, problem-solving, decision making, and creation. Videos move the learner beyond simple memory and correlation tasks. Use videos to interest viewers with more complicated concepts and to encourage deeper participation in the material. TMLV was more focused on the context of vlogging, where students got direct experience generating VLOGS while learning. They were learning since the content they were creating was relevant to their subject, mathematics. Thus, it was perceived that Vlogs were useful to students as a math project to help them improve their performance tasks in every grading period (Batilantes, 2021).

**Table 2. The Essence of TMLV in Transforming Student Traditional Learning**

| Significant Statements  | Minor Themes                                     | Major Themes   |
|---|--|--|
| <p><i>“Vlogs enable students to acquire knowledge at their own pace and in their own time.” [T2]</i></p>  | <p>Distance Learning</p>                         |  |
| <p><i>“Creating Vlogs was fun and enjoyable, but we are also learning.” [S4]</i></p>  | <p>Interactive Educational Vlogs</p>             |  |
| <p><i>“I think I improved not only my mathematical skills as well as the other aspects that I had like speaking and communicating through acting on camera.” [S7]</i></p> | <p>Multidisciplinary Engagement for Learning</p> | <p>The Soul of Transformative Mathematics Learning Vlogs</p> |
| <p><i>“It was evident that TMLV demonstrated knowledge and expertise, since students were engaged in developing such TMLV.” [T5]</i></p>                                  | <p>Learning by Doing</p>                         |  |

**Legend:** [S4 & S7] – Student Participants; [T2 & T5] – Teacher Participants.

The aforementioned statements and themes created in phase 2 of the research clearly had a positive impact not only on the students but also on the teachers. One student participant shared her statement, in which she claimed that she was really interested in the TMLV. *“TMLV was an avenue for me to show my hidden talents in acting. As I watched my self on screen discussing the topics about*

probability, I could say that I am also comparable to some vloggers that I could see online. I had so much fun with it and at the same time learning with the subjects and acquire more friends making such vlogs". [S5]

Learning for sustainability is a way of life and learning that empowers learners, educators, schools, and communities to work together to create a more fair, sustainable, and equitable society. A successful whole-school and community approach to learning for sustainability integrates global citizenship, sustainable development education, and outdoor learning to provide coherent, meaningful, and transforming learning experiences. The plans of action in this study to promote the sustainability of the TMLV are listed in table 3. This study's primary goal was to have an output to transform the learning experiences of students who can learn math in their best interest, desire, and the method they believed was best for them.

**Table 3. The Plans of Action to Promote Sustainability of the TMLV**

| Significant Statements   | Minor Themes   | Major Themes                     |
|--|--|----------------------------------|
| "I would prefer include this as one of the topics in our LAC session so that all teachers are aware of it and may consider using it for a student project." [P1]   | School-Based LAC Session                                       | Encouraging Stakeholders Support |
| "I believe it would be great if you could present this in our District INSET so that the scope of dissemination is not limited to the school level." [T3]  | District In-Service for Teachers (INSET) Training and Seminars |                                  |
| "If given the opportunity, I could present and discuss this to our Local Government Unit (LGU) for funding so that we could produce TMLV that were quality assured by some experts to be utilized here by Malaynon learners." [T1] | Local Government Unit Support                                  |                                  |
| "Yes, you may publish it in our Division LRMDS or other reputable national and international journals." [T4]   | Journal Article Publication                                    |                                  |

**Legend:** [P1] – School Principal; [T3, T1 & T4] – Teacher Participants.

Based on the aforementioned views and the FGD in this study, the majority of the participants desired that this study be shared with the public not only for research presentations, but also in the form of TMLV utilization and mobilization in the Malay District. "As I listened with the dialogues, I could affirmed that the benefits of TMLV may improve our learners and at the same time teachers in improving the mathematical skills in probability. I am referring here not just the concepts that they had acquired in using TMLV, but they will be apply to apply these concepts in actions or in real situations for them to understand them better. So, I would suggest that this TMLV be disseminated across the district, with Malaynon students and teachers serving as the pioneers in implementing this initiative. Kudos to this project". [P1]

## 6. SUMMARY :

The study's research design was participatory action research (PAR) as a qualitative inquiry. Transformative Mathematics Learning Vlogs (TMLV) was the name of the intervention, which was inspired by and adapted from Project VLOGI (Video Lessons on Giving Instruction). The produced films were created and anchored in the context of vlogging, with the primary goal of transforming the conventional method of teaching Mathematics into something more engaging and inspiring to what the millennial students desire. Using PAR, the study's research procedures were divided into three (3)

phases with the five (5) elements of PAR such as observe, reflect, plan, act and share. Next, using the unstructured guide questions during the interview and in the focus group discussions, the data has been gathered and recorded for the transcriptions and coding. Then, the thematic analysis, and data triangulation were used for data analysis in generating themes; minor themes and major themes. Finally, the study generated three (3) major themes: (1) Fostering Probability Topics in Grade 8 Mathematics, (2) The Soul of Transformative Mathematics Learning Vlogs, and (3) Encouraging Stakeholders Support. These major themes emerged from significant responses from primary and secondary study participants during data gathering procedures.

## 7. CONCLUSION:

The study offers the following conclusions to summarize the study's results and discussions concerning the TMLV in transforming students' in their typical learning in mathematics and its long-term use in education.

- It was evident that the least learned competencies in mathematics eight under the DepEd Curriculum Guide (2016) fell in the probability content. Similarly, due to the placement of this topic in the last quarter of the school year, some teachers could not teach this due to school ancillary services (Batilantes, 2021). Furthermore, no prerequisite topics in mathematics 7 were presented as being comparable to probability concepts.
- Transformative Mathematics Learning Vlogs (Vlogs) were deemed beneficial because they may transform learners' traditional learning styles in mathematics in conformity with their best interests, desires, and the method they believed was best for them. Furthermore, as compared to typical classroom learning experiences, students were able to learn mathematics without feeling anxious.
- The study believed that different stakeholders' support, such as students, parents, teachers, and school heads (internal stakeholders), as well as the public schools district supervisor (PSDS), division office, Local Government Unit (LGU), and so on (external stakeholders), should have a significant contribution to making this Transformative Mathematics Learning Vlogs available to the public, not just for Malaynon learners, but also for learners in other places.

## 8. RECOMMENDATIONS:

This research strongly encourages the use of this TMLV in Mathematics instructions and classroom. Other teachers teaching different subjects may use this initiative (TMLV) since students today are millennials who preferred studying with ICT integration over the old style of instruction. In addition, other researchers who want to broaden the scope of the study are strongly encouraged to maintain the context of Vlogs.

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# Enhancing Students' Writing Skills through Home Reading Report: Overcoming Sentence Structure Problem

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**Abstract:** *This action research aimed to address the challenges faced by Grade 11 Hydra learners at Boracay National High School in mastering sentence structure through the implementation of Home Reading Reports (HRRs). The study was conducted during the academic year 2023-2024, involving selected English language learners. The HRR intervention was structured around six primary components: title, characters/characterization, summary, reaction, moral teachings, and sentence structure analysis. This approach designed to enhance students' comprehension and writing skills by employing them with texts that are rich in narrative themes and messages.*

*The research showed that students faced difficulties in organizing ideas, understanding complex vocabulary, and utilizing correct grammar. Despite these challenges, the structured format of the HRR provided a guiding framework that facilitated clearer and more coherent written expressions. Key stages in the HRR process—planning, translating, and reviewing—were instrumental in helping students articulate their thoughts, transform conceptual ideas into written form, and refine their sentence structures.*

*The findings highlight the potential of HRRs in cultivating a passion for reading and addressing writing challenges. Participants' reflections highlighted the enrichment of their understanding and perspectives through diverse texts, emphasizing the importance of effective communication skills in both academic and real-world contexts. The study advocates for the continued use of HRRs as a holistic tool for literacy development, emphasizing its role in fostering academic integrity and combating the negative impacts of digital content consumption on students' writing abilities. Future research should explore further educational interventions to support holistic learner development.*

**Key Words:** *Teaching and Learning English, Sentence Structure, Home Reading Report, Reading and Writing*

## 1. INTRODUCTION:

Among the four macro skills, writing comes at the end. It is possible to say that a person commands the language only when it comes to such a skill as writing. The proponent of this research noted that constructing coherent sentences is among the writing mortals faced with the challenge. The motivation for the undertaking for this action research lies in the fact that sentence structure is an important component that determines students' level of understanding of writing.

The COVID-19 pandemic brought about drastic changes in the educational system as it altered the conventional methods deployed in teaching and learning. One of such changes was the notable rise in the difficulties students faced in executing sentences and paragraphs of a sound structure. This challenge, according to students, was most pronounced during the 2022-2023 academic year at Boracay National High School with grade 11 students. In terms of content, they have problems with expressing their ideas in a sequence that makes sense and is cohesive in paragraph form. After being asked to write a three-paragraph essay about their experiences of the COVID-19 pandemic, most students experienced difficulties with the construction and arrangement of sentences



into paragraphs. Such observations give credence to the assertion that the pandemic negatively affected writing competency of students, therefore there needs to be an imperative.

Recognizing the impact of reading at home on improving students writing abilities is crucial, in addressing writing challenges among students. This study offers a strategy to tackle core writing issues faced by students. Bentayeb (2010) highlighted that reading is more than an activity; it encompasses a complex process involving the fusion of readers background knowledge language skills visual representations and cultural contexts. This suggests that leveraging tools, in literature and language instruction can propel reading skills forward.

As pointed out by Renatovna and Renatovna (2021), writing effectively demands the ability to express a range of ideas, opinions, and perspectives, and this deficiency can hinder the overall quality and depth of their written work. Meanwhile, without connectives, written works appear disjointed and rough between paragraphs and ideas, making it hard for readers to follow the intended message. Without proper sentence structure, ideas may appear haphazardly arranged, lacking the necessary scaffolding to guide readers through a logical progression of thoughts. The significance of addressing poor sentence structure becomes even more pronounced in educational settings. Students grappling with this challenge may find themselves struggling to articulate their insights, arguments, and analyses effectively. As a result, their written work may lack depth and fail to showcase their full intellectual potential.

Despite the efforts of the educational sector to improve students' writing skills, it is very evident that many Senior High Students still experience difficulties in writing, most especially in sentence structure and word order. The findings of the Southeast Asia Primary Learning Metrics (SEA-PLM) 2019 indicate that a mere 10 percent of Filipino students have achieved competency in reading, 17 percent in mathematics, and a mere one percent in writing. This suggests that the ability to produce coherent texts with well-developed concepts and a diverse selection of suitable terminology may not be attainable even for children in the eleventh grade. Consequently, this poses a challenge for individuals in composing sentences with accurate structure and word order.

Alongside the aforementioned, the study is grounded on Home Reading Report. An enhanced model for teaching writing was formulated anchored on overcoming sentence structure in writing, specifically sentence structure (Udu, 2021). The researcher seeks to fill the gap and advance an in-depth understanding of the student's writing difficulties.

To satisfy the said aim, this qualitative study is anchored to DepEd Basic Education Research Agenda, which falls under the teaching and learning MATATAG: Bansang Makabata, Batang Makabansa agenda of the Department of Education (DepEd) to bring a new direction in resolving the country's basic education challenges. This matches with DEPED Matatag's essential components, such as in making a relevant curriculum, promoting learner well-being, and helping students and learners. The action research improves pupils' writing skills, a vital literacy ability. The research addresses sentence construction issues to teach students fundamental writing skills for academic and professional settings. Improving writing skills helps students become competent and job-ready. The curriculum-integrated Home Reading Report helps students understand varied writing styles and become better writers.

Secondly, this prioritizes learner well-being. The research targets writing- challenged pupils by identifying and fixing sentence structure issues. The Home Reading Report lets students read varied books that match their interests and abilities, promoting inclusive education. Personalized teaching tactics that aid students with writing and language skills create a good learning environment.

Lastly, in line with the schools' vision of improving the literacy rate, the findings of this action research will produce a school improvement plan that will focus on integrating a Home Reading Report initiative to address the issues of producing content and ideas, absences of connectives, vocabulary, and word choice, and poor sentence structure.

## **2. LITERATURE REVIEW:**

The study was based on Flower and Hayes' (1981) Cognitive Process Theory of Writing, which emphasizes that writing was a unique set of cognitive processes. Composing was a process of goal-directed thinking guided by the writer's expanding network of objectives. People had to perform a number of mental operations in order to write: they would have to plan, generate knowledge, draft it into writing, and edit it. (Flower & Hayes, 1981).

A writer captured in the act will resemble a very busy switchboard operator, juggling multiple demands on her attention with limitations on what she can do. They emphasized that adequate mental preparation will be essential for writing, as it will require planning, information processing, and editing. Writing was considered a difficult and intricate talent.

In addition, A Home Reading Report incorporates the three cognitive stages that writers complete: planning, translating, and reviewing. There are three sub-categories of planning, including composing and expressing ideas, organizing them, and deducing a conclusion from the ideas expressed in writing (Hayes & Flowers, 1981).

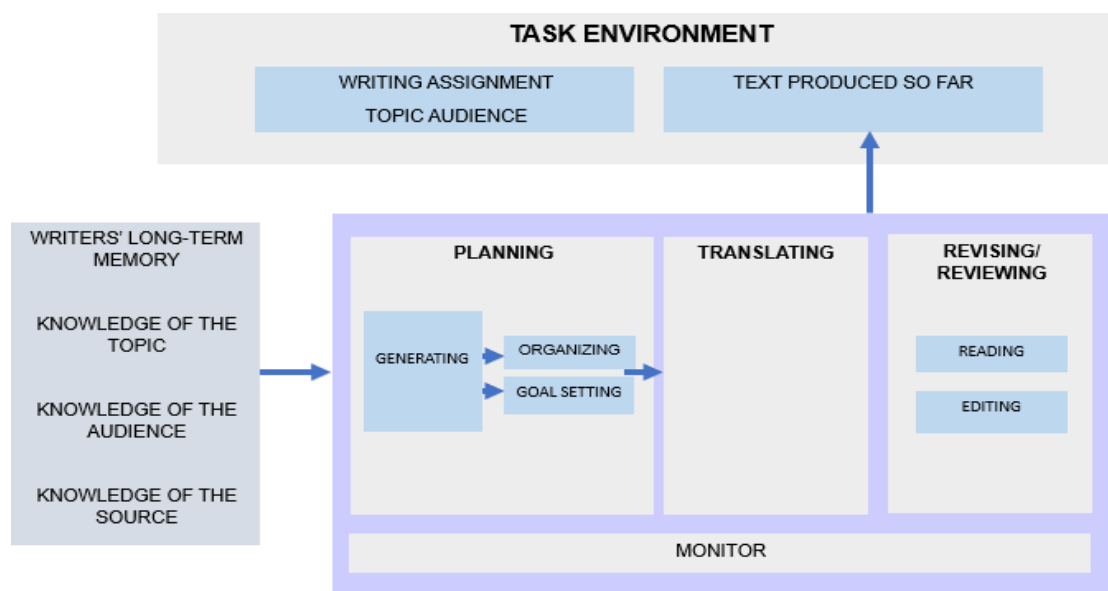


Figure 2. Shows how Book Report utilizes the cognitive process model of the composing process (Hayes & Flowers, 1981)

The planning stage of the Home Reading Report requires students to engage in three essential sub-categories. This process involves articulating, organizing, and deducing the thought. The first stage indicates that students must compose and articulate their thoughts about the reading materials they had read. It will help them analyze the flow of composition, themes, and narratives in a logical manner. Secondly, students were encouraged to organize their thoughts in a systematic manner. Each paragraph needs to be examined and must analyze each transition into the next.

This step encourages students to think critically about the book's content and how to present it in a clear and concise manner. Lastly, students have to deduce a conclusion from the ideas expressed in their writing. It will require drawing connections between various sections of the report, identifying overarching themes, and providing insights into the written piece's deeper meaning.

The translating stage involves the physical transformation of students' conceptualized ideas into written form. During this phase, students began composing their Home Reading Report on paper. They need to compose clear and well-structured sentences by utilizing the insights obtained during the planning phase. It aims to engage in the act of expression and make their comprehension of the text accessible to others. As students transform their ideas into written reports, they may face difficulties with sentence structure, grammar, and vocabulary. The structured format provides students with direction, making it simpler for them to organize and present their ideas coherently and effectively.

The reviewing stage will be the final stage. During this phase, students will return to their draft and evaluate their work. They need to evaluate their sentence structure, grammar, punctuation, and overall coherence with a critical eye. Students were able to refine and improve their writing by addressing any errors or inconsistencies through the process of reviewing. In the context of the Home Reading Report, critiquing becomes a crucial step in the writing process for students who struggle with sentence structure. Through meticulous review, students will be able to identify areas in which their sentence structures can be improved, resulting in more cohesive and effective writing.

### Action Research Questions:

In its bold attempt, this study aims to tell students about writing difficulties in sentence structure through Home Reading Reports. This research seeks answers to the following questions:

1. How can the (Home Reading Report) improve struggling grade 11 learners' skills in sentence structure?
2. What are the experiences of the researcher the learners before and after the intervention?
3. What is the action plan implemented to promote the long-term sustainability of the (Home Reading Report).

### 3. METHODOLOGY:

The study used a qualitative research design, delving into the experiences of students who encountered difficulty in writing sentence structure. The participants were selected students who garnered a grade of 75 to 79 in the English for Academic and Professional Purposes (EAPP), subject and upon the recommendation of their EAPP teacher. It was implemented for thirty (30) Grade 11 learners of section Hydra of Boracay National High School, but there were ten (10) research participants selected. The strategy was implemented for this group of learners because the researcher, who is also their class adviser had observed their sentence problems. These participants are the primary source of information from General Academic Strand Hydra students with poor sentence construction and are unable to write efficiently and effectively.

Since the goal is to gather in-depth information about students' writing difficulties and the effectiveness of the Home Reading Report intervention, the researcher's knowledge plays a crucial role in identifying individuals who can provide rich and relevant insights. The interview was done face to face, with which an audio recording and note-taking were present. Focus Group Discussion sessions were conducted to explore and understand the difficulties that were countered by the students in writing sentence structure. These sessions provide a platform for the participants to share their personal experiences and perspectives openly. In all the sessions, the researchers observe confidentiality and conceal their identity. Ensuring the trust and rapport of the participants as they share their information was essential to the researcher.

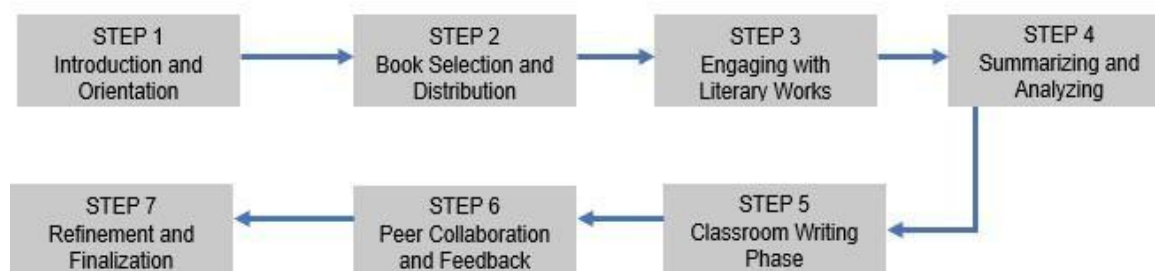
The data gathered before and after the interviews were presented in textual form. The Data Analysis Plan incorporates innovative approaches and interventions at each phase of the writing process. The purpose of this plan was to improve student's writing skills through structured guidance and support throughout the pre-writing, output production (writing), and post-writing stages.

Correspondingly, the data obtained from the FGD sessions undergo Thematic Analysis, a qualitative data analysis technique. The goal was to identify major and subordinate themes that emerged from the participant's responses. Themes were fleshed out from the vantage of difficulties encountered by the students in writing sentence structure, experiences of students and teachers before and after the intervention, and how the Home Reading Report will address the writing difficulty in sentence structure.

Excerpts from the FGD sessions were included in the research report to provide concrete examples and support the findings. These excerpts were carefully selected to illustrate the participants' struggles and progress in writing sentence structures. The analysis was anchored on the study's theoretical framework which provided a theoretical lens to interpret the findings and establish connections between the data and existing literature.

Once the intervention of Home Reading Reports was implemented, a systematic approach was adopted to ensure its effectiveness in enhancing students' sentence structure. The methods of intervention encompass several key steps to guide participants through the process of engaging with literary works and applying their newfound insights to their own writing.

#### HOME READING REPORT INTERVENTION IMPLEMENTATION



#### Step One: Introduction and Orientation

The researcher introduced the concept of Home Reading Reports to the participants. A clear explanation of the objectives and benefits of this approach will be provided, emphasizing the opportunity to explore diverse sentence structures employed by skilled writers. Participants were informed that the Home Reading Reports were conducted in the comfort of their households, while the writing process was taken place in the classroom.

#### Step Two. Choosing and Distributing Books

Participants were given guidance on choosing reading materials from a list of texts, for their age group, which included a range of genres and themes to suit various interests of the participants followed by clear instructions, on when to complete the reading. Exploring Literary Works Participants interact with the chosen pieces in their space by setting aside dedicated time, for reading and understanding them thoroughly. They are motivated to dissect the construction of sentences in depth and take note of writing styles while contemplating how authors shape their stories. In addition to this stage of engagement with literature works, at home participants will keep a reading journal to document sentence structures and reflections.

#### Step three involves immersing oneself in the world of literature.

Participants are asked to spend time at home with the chosen pieces to read and understand them thoroughly. They are motivated to study how sentences are constructed in the texts and to identify writing styles used by authors. They are also expected to keep a reading journal during this phase, to document sentence structures and their observations.

#### Step Four: Summarizing and Analyzing

After reading, participants write a brief synopsis of the central ideas, characters, and main events of the literary work. This summary will aid them when they begin writing in class afterward. Participants were asked to notice what kinds of sentence structures pop out to them, and how do those structures serve the story overall?

#### Step Five: Classroom Writing Phase

In the classroom phase, participants moved from reading to writing. Then, based on their summaries and learnings from the Home Reading Reports, participants crafted their pieces of writing. The focus was on applying the diverse sentence structures encountered during their reading to their compositions.

#### Step Six: Peer Collaboration and Feedback

Participants took part in peer review sessions where they exchanged their writing drafts with classmates. The peer review process provides an opportunity for participants to receive constructive feedback on their sentence structures, coherence, and overall writing quality. This collaborative approach encourages participants to learn from one another and further refine their writing skills.

#### Step Seven: Refinement and Finalization

Following the peer review, participants revised and refined their compositions based on the feedback received. Special attention was given to incorporating the diverse sentence structures explored during the Home Reading Reports. Participants work on polishing their writing to ensure that their sentences are well-structured, clear, and impactful.

#### 4. RESULT AND DISCUSSION

Home Reading requires students to actively engage with the text which helps them practice and refine their sentence structure. The nature and characteristics of home reading is crucial for enhancing students' writing skills. The selected Grade 11 Hydra learners provided valuable insights and narratives for their studies. Their stories and challenges in learning sentence structure and developing their reading comprehension through home reading is worth sharing. As the teacher-researcher interviewed them, he found out that home reading reports have a unique impact on students, depending on their way of appreciating the materials or in their interest in the narratives that they are reading. For students who face difficulties in writing and comprehension, the structured and consistent nature of Home Reading Reports demands practice and reinforcement. Meanwhile, students who are used to these assignments, ensure their continuous engagement which is crucial to further advance their skills.

There are four major themes which are holistic academic development through writing and critical thinking, developing proficiency through effective management, and emotional and cognitive challenges in reading comprehension.

Table 1 presents the minor themes and major themes of this study.

| Minor Themes   | Major Themes  |
|--|---|
| Enhancing Writing Skills<br>Developing Critical Thinking<br>Self-Improvement and Growth  | Holistic Academic Development Through Writing and Critical Thinking |
| Organizational Skills<br>Language Acquisition  | Developing Proficiency Through Effective Management                 |
| Difficulty in Understanding and Expressing Ideas<br>Pressure to Improve<br>Language Development  | Emotional and Cognitive Challenges in Reading Comprehension         |
| Role of Teacher Support in Language Development<br>Pressure Continuous Improvement<br>Struggling in Organizing Ideas<br>Overcoming Writing Sentences | Experiences during and after the conduct of the study               |

##### ➤ Holistic Academic Development through Writing and Critical Thinking

HRR intervention highlights students' ability to organize ideas and work on composing their writing. Students report that HRRs support them in expressing their thought better. For example, Student S1 commented, "*The Home Reading Report helps me come up with ideas and organize my writing.*" This resonates well with Renatovna and Renatovna (2021) who, noted that effective writing is where the ability to articulate ranging ideas and perspectives is allowed. Discussing further, Student S2 added, "*It will help in how to write a story and organize my ideas and sentences.*" This indicates that the HRRs did not only facilitate vocabulary and structure but also helped the students, in their own capacity, develop their thinking critically since they were engaged in discussions on the teaching of morals by the text and the characters.

The enhancement of students' writing skills through critical thinking is in line with the Bentayeb (2010) framework, which emphasizes an interactive process of reading that involves thinking and the expression of ideas in a logical way. In the study conducted, engaging students with narrative texts would inspire reflection on themes, enhancing both their writing skills and their ability to critique ideas.

##### ➤ Proficiency through Effective Management of Ideas

Through HRRs, students learned to control their ideas and sentence structures that helped them compose coherent essays. As noted by student S3, "*It helps me think more ideas and create an essay about some of the stories that I have read*". It also allowed me to express my feelings



about what I have been able to learn and improved my writing skills. This statement shows the finding of Flower and Hayes in 1981, which stated that the writing process involves planning and organizing ideas in an effective way. In HRR activities, students were encouraged to think and arrange their thoughts easily so as to translate them into structured sentences.

Moreover, Student S4 shared, *"It helps in writing and understanding the texts I've read."* This highlights the dual impact of HRRs, as students not only developed better writing skills but also improved their reading comprehension, an essential component of effective writing. Crossley (2016) supports that sustained engagement with both reading and writing leads to fluency in constructing well-organized texts.

#### ➤ Emotional and Cognitive Challenges in Reading Comprehension

While the students showed some development, they also persisted with emotional and cognitive challenges when it came to writing. As S5 stated, *"When crafting sentences, sometimes I find it hard because I don't know if that's what I should be doing."* According to Azerman, 2012, writing anxiety brings along cognitive overload in the midst of constructing sentences with minimal confidence from the student side. However, the HRR intervention facilitated an organized environment in handling these issues, and such assistance from Teacher Support smoothed out such challenges. Student S6 added, *"My experiences in writing sentences include how to spell and how to construct the thought and how to start it. After writing sentences, I can think clearly and write sentences correctly."* Both anxiety reduction and improvement in sentence structure are the views of Teng and Zhang (2024), as he did emphasize that proper practice and teacher feedback help to gradually remove students of their writing apprehension and cognitive barriers. The help from the teacher through the provision of feedback and structuring guidance was very important for making the students confident in their written material.

#### ➤ Experiences Before and After the Intervention

Before HRR, students said they found it difficult to **"organize ideas" and even to create grammatically correct sentences.** Student S7 said, *"Sometimes I struggle because what I write is incorrect, and I can't properly organize my ideas. Through the Home Reading Report, I was enlightened about proper idea organization."* This shows that one of the common challenges faced by students is their disorganized writing, a situation most students often face when they do not have a patterned approach in writing. Graham and Perin (2007) supports the same view, observing students who are unable to write often lack a systematic approach as to how to organize their thoughts. On the other hand, after intervention, the students reported significant improvement. According to Student S8, *"My experiences in writing sentences are difficult because I don't understand it much. Now it is easy because I understand the ideas and know how to organize them."* This shift is in line with Udu (2021) who posits that reading-based interventions such as HRRs can enhance both word acquisition and sentence fluency, thus leading to superior overall writing performance.

#### ➤ The Role of Teacher Support in Writing Development

Teacher support played a very important role in helping students improve their writing. Vygotsky (1978)'s Zone of Proximal Development emphasizes the role of scaffolding, where more knowledgeable others (teachers) guide students in overcoming their writing challenges. Students greatly benefited from the teacher's assistance, which helped them refine their sentence structures. For example, Student S9 said that *"Writing a sentence is like making a story from your emotions and imagination and also it helps me to improve my writing skills better."* This statement defines how the teacher's guidance not only enhanced technical writing skills but also helped develop creative expressions in writing. Besides this, the experiences shared by participants before and after the study gave very important insights into the multifaceted nature of reading, organizing ideas, and writing sentences. Participants reflected on their engagement with reading materials, emphasizing how exposure to diverse texts had enriched their understanding and broadened their perspectives. They articulated challenges and triumphs associated with organizing ideas and articulating thoughts

coherently, underlining the importance of effective communication skills in academic and real-world contexts. Therefore, the analysis and interpretation of the collected data made it clear that Home Reading Reports redefining nature in enhancing the skills of struggling grade 11 students. By looking into these subtle experiences and perspectives among participants, this study opened up avenues for future research endeavors and educational interventions on the way to foster holistic development among learners.

## **5. CONCLUSION**

The following conclusions are derived from the results and discussions above.

1. Transitioning from the conceptualization of ideas to the actual written report, one could notice the struggle against many problems related to organization, sentence structure, grammar, and spelling. Although they tried to present their thoughts in a coherent manner several factors arose that hinder their clarity and effectiveness in written communication.

2. While framing their thought processes in writing, students faced problems arranging the pieces of their thoughts coherently and logically. The high complexity involved in shaping thought processes in the written form resulted in a great challenge, quite often leading to disjointed stories and jumbled arguments.

3. The Home Reading Report is configured, thus it can be considered a guide. It gives students specific directions and allows them to organize and articulate their thoughts systematically and effectively. With a provided format, the report enables students to tackle the challenges of written communication more assuredly and clearly.

4. Home Reading Reports were an effective intervention for developing a love for reading and overcoming written composition challenges, especially concerning sentence structure among Grade 11 learners.

## **6. RECOMMENDATIONS**

The following recommendations are proposed to enhance the effectiveness of the Home Reading Report (HRR) program and address the challenges faced by Grade 11 Hydra learners at Boracay National High School in mastering sentence structure:

### **1. Provide Enhanced Teacher Support and Scaffolding**

- Develop structured instructional materials that include explicit examples, templates, and procedural guidance for mapping out ideas and formulating sentences.
- Offer one-on-one support sessions to address individual student challenges.

### **2. Incorporate Interactive and Collaborative Activities**

- Provide support during joint writing activities to foster confidence and lower anxiety levels.
- Coordinate vocabulary and grammar instruction with the reading materials in the HRRs.
- Use targeted exercises to help students recognize and use complex vocabulary and grammatical structures.

### **3. Conduct Regular Monitoring and Assessment**

- Using formative assessments, self-assessments and teacher evaluations in order to observe students' development of writing skills.
- Use assessment data to adjust instruction based on individual student needs.

### **4. Encourage Reflective Practice**

- Encourage Reflective Practice
- Require learner to write journals or logs of their learning experiences, challenges and progress.

- Implement activities that are reflective in nature to help students realize their learning processes and strategies used for improvement.

## 5. Future Investigation

- Investigate the permanence of effects on writing skills from increased teacher support and scaffolding.
- Genre must be analyzed to establish the role of technology and digital tools to aid in learning languages as well as in developing writing skills.

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# Gays Empowerment: A Phenomenological Study Exploring the Intersectionality of Gay Students Participating In-School Volleyball Tournaments

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**Abstract:** *This research study was conducted to navigate the factors that influence students' involvement and their live experiences having an intersectionality in participating in school volleyball tournaments. Considering participants' active engagement in volleyball sports where the five participants of the study were selected with the use of inclusion criteria. A phenomenological research method of inquiry was utilized. The findings suggest that gay students participating in school tournaments perceived high motivation, dynamic, and engaging tournaments because of the positive social interaction they have received. Additionally, their intersectionality stories illustrate the power of tenacity as they negotiate the setting of a school volleyball tournament. Gay students' participation in school volleyball tournaments increases their capacity to face hurdles, however contributes to a more inclusive and supportive environment for all the gay volleyball players. Furthermore, participants understood the concept of intersectionality affirming to provide a high foundation fostering gender inclusiveness and intersectionality in school volleyball competitions by basing their action plan on a Gender Inclusiveness Policy. Hence, this policy may provide clear rules, guarantee equitable participation opportunities, and contribute to the overall objective of creating an open and welcoming atmosphere for all athletes, regardless of gender identity or expression.*

**Keywords:** *Intersectionality, Gays' Participation, School Volleyball Tournament*

## 1. INTRODUCTION:

In this day and age, when most people consider themselves to be members of a learned and educated society, it is unusual that genuine gender equality is still a long way off. Many Filipinos still see gender as a binary concept of male and female. In consequence, individuals who deviate from this conflict are scorned by the majority of society. This outmoded belief may be traced back to the beginning of Spanish colonial control and Christianity is being introduced. According to precolonial writings, effeminate males had the freedom to express themselves. Everything altered when the Spanish colonists came. Effeminate males were considered undesirable and degraded because their gender expression violated the religious beliefs of the Spanish. Sport is an intimate representation of heterosexual masculinity. Hegemonic masculinity established heterosexual males as the sole valid identity, while women and members of sexual minority groups were marginalized (Connell, 2015). Sports have aided in the spread of sexism, homophobia, and patriarchy. (Anderson, 2019) discovered that as society evolved, hegemonic masculinity in sports was moving to inclusive masculinity, in which straight male sportsmen embraced gays. The inclusive intersectionality theory has been proven in several studies (Murray and White, 2017). Male gays are currently still faced with prejudice and discrimination. The inclusive intersectionality theory has been proven in several studies (Murray and White, 2017). Male gays are currently still faced with prejudice and discrimination (Menzel et al., 2019; Knoester and Allison, 2021) and reported barriers to sports participation (Greenspan et al., 2019; Storr et al., 2021).



Moreover, the intersectionality theory emphasizes, "because you're a minority, you get special standards, special treatment in the eyes of some." It "promotes exclusivity at the personal level and social division at the social level." It depicts a kind of feminism that "labels you." It reveals how suppressed you are and teaches you what you are and is not permitted to say or think" (Coaston, 2019). The Child Protection Policy, issued by the Department of Education (DepEd) in 2012, is intended to prevent bullying and discrimination in schools, particularly those based on sexual orientation and identity. The Anti-Bullying Law was approved by Congress in 2013, implementing rules and regulations that include sexual orientation and gender identity as forbidden reasons for bullying and harassment (HRW, 2017). Furthermore, numerous municipal governments in the Philippines have implemented anti-discrimination legislation which forbids discrimination based on sexual orientation and gender identity. Hence, this study could be one of the things for civilization to truly advance is for society to accept individuals as they are. Eliminating indifference and accepting that individuals have the freedom to choose whom they want to be, what they want to do, participate in school volleyball tournaments, and how to express themselves may give us a chance to get closer to equality.

## 2. LITERATURE REVIEW:

### Intersectionality and identity formation in volleyball sports among gay student-athletes

Sport is perceived as an arena of hegemonic masculinity, perpetuating men's social dominance and the social subordination of women and gay men (Abrahams et al., 2019). Numerous studies have consistently demonstrated that lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals have been excluded, rejected, stereotyped, discriminated against, and treated violently in sports contexts.

Many LGBTQ students reported being the target of homophobia in sports; they feared rejection by their teammates and discrimination by coaches and officials (Denison, et al., 2014). LGBTQ students perceived the sports context as an exclusive environment that allows blatant bullying and more subtle discriminatory behaviors Storr (2021). As a result, LGBTQ youth were less likely to participate in sports than their heterosexual peers. In some sexual orientation groups, the gap in participation in formal sports has widened over time Doull (2018). Social identities can influence how people perceive and experience their environments. Based on real-life examples and recent findings in sports (Cooper et al., 2017; Simien et al., 2019), it is plausible that athletes with certain intersecting gender identities are more likely to experience their sports environments negatively and their needs as being frustrated.

Sexism, heteronormativity, and homophobia are pervasive in every social institution, and athletics is not commonly known for its sense of inclusivity (Scandurra et al., 2013). Historically, sports have served as an arena for men to display their power and dominance over others, including other men. One old premise proposed that gay men should not participate in athletics because of the potentially harmful "masculinizing" effect of sports on them, fearing it would move them from the role they were expected to fill into a role expected of a man (Gender-based violence in university communities, 2018).

In sports, there is an evident cultural framework of gender division, represented by a very strong sex segregation of the female and male categories. Intercollegiate sport is still divided into "men's" and "women's" sports at all levels, especially at national governing levels. Intramural and club teams are one space commonly created for ease of integration of all persons into competition due to commonly having mixed or open teams, rather than only male and female teams. These marked differences between male and female categories can produce dangerous gender stereotypes facilitating the development of a heterosexist culture in sport (Scandurra, 2020). Gender stereotypes in sports not only raise men to have greater power and respect in sports, but they also place women and LGBTQIA+ persons at the "bottom" so to speak, creating a hierarchical system of oppression. Women and Gays are often viewed as "the other" in sports participation based on historical views of gender roles and sports division which features the dominant male gender and deemphasizes all other genders (Joyce & Walker, 2014).

Chambers (2023) described the perception of heteronormativity in the sports world as "staggering." "Boys (in sport) learn early that to be gay, to be suspected of being gay, or even to be unable to prove one's heterosexual status is not acceptable" (Messner, 2015). Heterosexism is built into various aspects of the game, including the jargon and language used to motivate, challenge, and tear down athletes

(Greim, 2016). Expressions such as “don’t be a pussy,” “you (blank) like a girl,” and “don’t be a faggot” are just a few of the commonly heard phrases that aggress toward LGBTQIA+ and/or female athletes (Greim, 2016). Because homophobic slurs are used as insults or negative punishment, it reinforces that no athletes have a sexual orientation apart from heteronormativity.

Although sports have not created the most welcoming space for LGBTQIA+ athletes, sports have continued to evolve, and more welcoming spaces are being forged for lesbian, gay, and bisexual athletes (Sarac, 2013). Athletes who identify as gay, lesbian, or bisexual have attained greater social acceptance and inclusion in sports, which now ushers in the possibility that other identities, such as transgender, two-spirit, genderqueer, and gender non-binary athletes, could encounter a more welcoming environment in sports. It is likely that transgender, two-spirit, genderqueer, or gender non-binary persons, in comparison to cisgender athletes (those who have a gender identity that aligns with their gender assigned at birth) may have greater hurdles to jump over in their efforts to gain social acceptance and inclusion. Transgender and intersex persons are becoming increasingly visible in society and beginning to be more involved in sporting contexts as well, which raises various concerns for athletes and spectators (Sartore-Baldwin, 2013). Tracking these concerns back to the culture of sport demonstrates just how the presence of transgender athletes in sports might “disrupt the binary ideas about sex that are reflected in the historical and contemporary organization of sport” that have been pervasive for most of the sport’s existence (Singh, 2013).

In many ways, there is still ongoing active prejudice against transgender, LGB, and female-gendered persons in sports, and such prejudice has become deeply cemented into the sports culture (Cunningham & Pickett, 2018). This active prejudice is observed greater with transgender athletes than with gay or lesbian athletes (Sartore-Baldwin, 2013). Furthermore, LGBTQIA+ athlete inclusion does not appear to become a priority for sports teams or athletic departments until an incident of discrimination or homophobia is reported (Sartore-Baldwin, 2013). This allows room for negative attitudes to create policy, participation decisions, and team dynamic decisions that impact LGBTQIA+ athletes before they can be protected from discrimination or violence. A non-inclusive environment fosters prejudice and exclusion, limits the effectiveness of a sports organization, inhibits team performance, and keeps LGBTQ student-athletes in the closet (Cunningham & Melton, 2013; Frankel, 2013).

#### **The objectives of the present study are:**

- 1) To explore the lived experiences of gay students participating in school volleyball tournaments.
- 2) To examine the intersectionality of gender identity, sports participation, and social interactions.
- 3) To identify the role of school sports programs in fostering inclusivity and empowerment among gay students.

### **3. METHODOLOGY:**

This study was anchored to the *Intersectionality Theory* of Kimberlé Williams Crenshaw (1989). The concept of intersectionality describes how systems of inequality based on gender, race, ethnicity, sexual orientation, gender identity, disability, class, and other forms of discrimination “intersect” to create unique dynamics and effects. Additionally, this study sought to understand the phenomenological experiences of male gay students regarding their gender expression during their volleyball participation, understand these experiences, determine how these experiences influence their way of living, understand the lived experiences of male gay student’s participation in school volleyball tournaments, and determine how these experiences influence their way of living using the semi-structured interview guide questions. Since this research aims to understand a phenomenon through lived experiences, it utilized “phenomenology” which can be defined as an approach to research that seeks to describe the essence of a phenomenon by exploring it from the perspective of those who have experienced it (Teherani, 2015) which was helpful to obtain rich information concerning the current situation of the phenomenon and to describe “what exists” in a situation. Phenomenology is concerned with the lived experiences of the people involved in the research (Greene, 2017) and it is a powerful tool to understand the subjective experiences of individuals and to gain insights into people’s inspirations and actions (Lester, 2019). Moreover, the philosophical approach used in this study is existential phenomenology which aims to understand the individual, the common particulars, and even peculiar ways that people

“find themselves” in their everyday world (Churchill, 2021). According to Churchill (2021), this aspect of existential-phenomenological research is useful, especially when people are interested in understanding how people uniquely experience situations that befall them during their involvement in school volleyball tournaments. Specifically, this study sought to answer the following questions:

1. What factors influence participants’ involvement in school volleyball tournaments?
2. What are the lived experiences of participants having intersectionality in participating in school volleyball tournaments?
3. How do participants promote inclusivity by having intersectionality in school volleyball tournaments?
4. What intersectionality plan of action can be undertaken based on the results of the study?

#### 4. DATA ANALYSIS

##### 4.1 DEMOGRAPHIC PROFILE

*Tables 1. The Demographic Profile of the Participants*

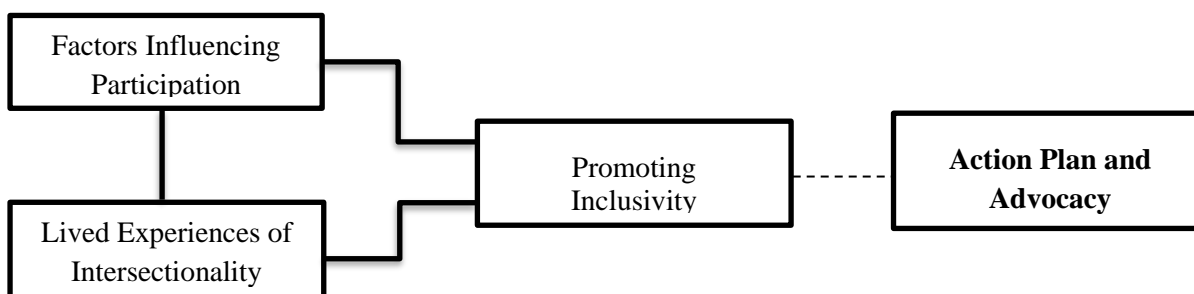
Table 1 shows the demographic profile of the participants. Only five (5) gay students were purposively selected as official participants of the study by utilizing the following inclusion criteria:

- 1) Bona fide students of Manocmanoc National High School.
- 2) Volleyball player in various school tournaments.
- 3) Voluntarily join this study and admittedly gay athletes.

| Gender              | Grade Level | Age | Nationality | Religion  |
|---------------------|-------------|-----|-------------|-----------|
| Participant 1 - Gay | 10          | 15  | Filipino    | Christian |
| Participant 2 - Gay | 11          | 16  | Filipino    | Christian |
| Participant 3 - Gay | 11          | 16  | Filipino    | Christian |
| Participant 4 - Gay | 12          | 17  | Filipino    | Christian |
| Participant 5 - Gay | 12          | 18  | Filipino    | Christian |

These five participants were composed of one grade 10 junior high school student, two grade eleven students, and two grade 12 senior high school students who voluntarily participated in this study and were allowed them by their parents with the parental consent form given by the researcher. These participants considered their selves as gay and were legitimate volleyball athletes with experiences in various school volleyball tournaments.

##### 4.2 CONCEPTUAL FRAMEWORK



This phenomenological concept of the study was the basis of in-depth gathered information from the gay student as participants of the study, exploring their intersectionality involving in school volleyball tournaments, their factors, live experience, and promoting inclusivity. In this context, action plans and advocacy were undertaken based on the results of the study.

##### 4.3 RESULTS AND DISCUSSION:

###### *Participants of the Study*

There were five (5) participants in this study. These five (5) participants identified themselves as gay and certified volleyball players in the school of Manocmanoc National High School where they were studying. The selection of the participants was based on the researcher’s inclusion criteria and only five (5) secondary gay students-volleyball players were selected using purposeful sampling. The data

collected came from the one-on-one interviews of the researcher with the participants. To ensure the safety of the researcher and the participants due to their age, the researcher secured the letter to conduct the study and parental consent that was signed by the School Head and sent immediately to the participants' parents. Hence, face-to-face interviews, focus group discussions (FGD), and participants' observations using the researchers' guide questionnaire, and the checklists, respectively, were used for data collection. The researchers' guide questionnaire and the checklists underwent face and content validity to ensure the soundness of the data collection methods without any biases. After the process of data gathering, data were collected, collated, analyzed, and interpreted from transcription and coding. The generating themes evolved based on the collaborative contributions among the primary participants. The following results are shown in Tables 1 to 3 below. Table 1 shows the answers of the participants for research question number 1.

**Table 1: Factors that influence participants' involvement in school volleyball tournaments.**

| Significant Statement  | Minor Themes              | Major Theme   |
|--|---------------------------|---|
| <i>"One of the factors that pushes me to engage myself in volleyball games or tournaments in school is my passion for sports". (P3)</i>  | Personal Interest         | Develop personal and professional Freedom and Fulfillment |
| <i>"A network of family, friends, teammates, and coaches may give emotional support and inspiration. Individuals who trust in the athlete's talents and give positive reinforcement may increase their confidence and mental health". (P5)</i> | Support System            |   |
| <i>"It is my personal choice for participating in volleyball tournaments and I gain personal happiness and fulfillment". (P2)</i>  | Individual Preferences    |   |
| <i>"Supportive spectators, such as family, friends, and fans, help to create a positive social environment for tournament players". (P1)</i>   | Social Environment        |   |
| <i>"Since the school does not have complete volleyball equipment, the presence of local facilities or venues that can accommodate volleyball tournaments contributes to the feasibility of hosting tournaments". (P4)</i>                      | Availability of Resources |   |

Legend: [P3, P5, P2, P1 & P4] – Participants

According to the various responses of the participants, most factors that influence them come from various reasons.

*"Not all the time I played volleyball in a certain tournament, I received good motivation, a dynamic and engaging tournament, positive social interaction, a support system, fair play, and respect for a diversity of players". [P3]*

**Table 2. The lived experiences of participants having intersectionality in participating in school volleyball tournaments.**

| Significant Statement   | Minor Themes   | Major Theme |
|---|----------------|-------------|
| <i>"Personally, every time I play or compete in a volleyball tournament, I experience discrimination because I am male gay. I always experience gender stereotypes and biased treatment based on my gender". [P2]</i> | Discrimination |             |

|   |                                |  |
|---|--------------------------------|--|
| <i>"Individuals with intersecting identities encountered stereotypes or gender bias that can undermine confidence and a sense of belonging in school volleyball tournaments. However, through resilience, I was challenged by stereotyping, defying expectations, and demonstrating my skills and abilities on the court". [P4]</i> | Resiliency                     | Encourage an inclusive and equitable society |
| <i>I actively sought out or pushed to create an inclusive place within the school volleyball community, and I believe that these places might be developed by inclusive coaches, teammates, or support systems that respect diversity and actively work against discrimination or bias. [P5]</i>                                    | Acceptance and Support         |  |
| <i>"Perceived Lack of Skill or Ability is the Stereotypes and misconceptions of others that may lead to the perception that individuals with intersecting identities lack skill or ability in volleyball". [P1]</i>   | Stereotypes and Misconceptions |  |
| <i>"I found empowerment and validation despite my intersecting identities represented and excelling in volleyball tournaments." [P3]</i>  | Role Model and Visibility      |  |

Legend: [P2, P4, P5, P1 & P3] – Participants

The statements and themes formulated in research question number 2 of the research study clearly showed a positive impact on informants despite the life experience they had experienced because of their gender. One participant shared a statement:

*"The intersectionality stories of mine illustrate my power and tenacity as I negotiate the setting of a school volleyball tournament. My capacity to flourish in the face of hardship serves as a great example of toughness for others, contributing to a more inclusive and supportive atmosphere for all male gay players". [P5]*

Table 3. **Participants in promoting inclusivity by having intersectionality in school volleyball tournaments.**

| Significant Statement   | Minor Themes   | Major Theme                |
|---|--|----------------------------|
| <i>"I wish to create a secure, inclusive, and welcoming environment for us male gay or even the LGBT volleyball players with intersecting identities". [P3]</i>   | An advocate of Gay Inclusivity                           | Fostering Better Policies, |
| <i>"I want to initiate open and respectful dialogues within the volleyball community and create a space for a discussion about intersectionality, male-gay inclusion, racial, and ethnic diversity, and other related topics that may encourage participants to share their perspectives and experiences". [P5]</i> | Awareness and Acceptance within the Volleyball Community |                            |
| <i>"As I identified myself as male gay and excelling in this kind of platform, I wanted to create mentoring programs that connect individuals with intersecting identities to experienced players and coaches within the volleyball community and help them navigate the challenges they may face". [P4]</i>        | Support Networks   |                            |



|   |  |                               |
|---|--|-------------------------------|
| <p><i>“I wanted to create inspiring social media platforms that specifically promote inclusivity and intersectionality in school volleyball tournaments that may share stories, experiences, and achievements of individuals with intersecting identities, highlighting their contribution to sports”. [P1]</i></p> | <p>Social Media and Media Engagement</p>   | <p>Projects, and Programs</p> |
| <p><i>“If given the opportunity, I wanted to craft a school gender and inclusivity policy that addresses key aspects related to diversity and inclusion in school volleyball tournaments and other school sports activities”. [P2]</i></p>  | <p>Basis for Gender Inclusivity Policy</p> |                               |

Legend: [P3, P5, P4, P1 & P2] – Participants

Based on the aforementioned views and the FGD in this study, one of the participants shared an opinion:

*“As I understand the concept of intersectionality, I could affirm to provide the groundwork for fostering gender inclusiveness and intersectionality in school volleyball competitions by basing their action plan on a Gender inclusiveness Policy. This policy may provide clear rules, guarantee equitable participation opportunities, and contribute to the overall objective of creating an open and welcoming atmosphere for all athletes, regardless of gender identity or expression”. [P5]*

**An intersectionality plan of action can be undertaken based on the results of the study.**

The results have crystallized an intersectionality action plan, which would build an inclusive and equitable environment for school volleyball tournaments by responding to the specific themes and phenomenology of the participants. At the western end of the action, line would be the development and implementation of a *Gender Inclusivity Policy*, which defines how a person with intersecting identities may be justly included in the game. Guideline policy should safeguard against discrimination and ensure equitable opportunities for every participant, which is gender neutral. Other initiatives such as advocacy campaigns, mentoring programs, and inclusive community-building projects should also be initiated in ways toward heightening awareness, dislodging stereotypes, and enhancing acceptance within the volleyball community. Social media may help amplify the voices of underrepresented athletes and highlight the contributions they make. Creating opportunities for dialogue and setting up support networks can build resilience and power within the players. In this manner, a sustainable culture of inclusion and respect in school sports will establish itself, from which all students will benefit.

**5. DISCUSSIONS:**

In the Philippine setting, the word “*bakla*” has strong negative connotations that in casual conversation, according to UNESCO (2015), it is even used as a form of mocking fashion. According to Kosciw (2014), many LGB students are extremely distressed whenever they hear derogatory terms based on sexual orientation. This fact degrades the humanity of LGB and as long this is a stereotype in society, bullying, and discrimination will always be a day-to-day experience of male gay people even the LGB community. Additionally, sports engagement among homosexual men may boost self-esteem (Krane, Barber, & McClung, 2012), however empirical research involving gay/bisexual males has been lacking. Participating in sporting activities may protect gay/bisexual men from the harmful consequences of heterosexism and other related stresses in their lives (Meyer, 2013). Gay and bisexual men may find sports involvement difficult, especially throughout infancy and adolescence when they are developing their sexual identity, gay and bisexual men are disadvantaged and often excluded from sports activities as a consequence of heterosexism (Zamboni and Crawford, 2018). Moreover, while it is seldom explicitly recognized, sports also offer a space for men to be close and personal with one another without breaching gender standards. The combination of these factors may lead to inherent heterosexism in sports, with homosexual and bisexual men seen as dangerous owing to a breach of conventional masculinity. The presence of openly homosexual and bisexual individuals in sports may force heterosexual guys to examine their emotional interactions with their teammates. The results of this study clearly showed that gay males as students and as volleyball players join tournaments because of wanted

to have gender validation, strong support systems, and networks. Their internal and external motivations led them to navigate their authenticity and tenacity in the field of sports and break the stereotypes, biases, and misconceptions of other individuals toward their chosen gender identity. The theory of intersectionality helps them to understand their inclusivity and spaces in society that may create avenues and platforms to uplift their intersecting identities excelling in sports even if they are experiencing judgment from people as they discover their gender, their awareness of discrimination and prejudice in society towards them, and their knowledge of how people are disgusted with homosexuality. Furthermore, gay participants voiced both acceptance and disagreement with society's perspective on crossing identities. Filipinos may follow more typically male characteristics mandated by society's conventions, such as men not being feminine, men being revered and admired, men never showing fear, and men seeking danger and adventure. As a result, male homosexuals who are considered feminine may be viewed poorly in comparison to actual guys. According to Herek (2012), heterosexual males are more hostile toward homosexual men, indicating same-sex negativity. Also, adherence to established gender roles or the learning of certain gender-role attitudes has a direct impact on a person's personal and social difficulties. Participants who described their experiences with discrimination and unacceptance were also the same individuals who expressed their gratitude for the acceptance and assistance they received. This rationale arises from the fact that, since they were the ones who had the worst treatment from the public, they were also the ones who prioritized the accommodation of a small number of individuals. It is nonetheless believed that individuals who suffered less severe forms of gender inequality throughout their intersectionality endeavor valued the assistance they received from others, but less intensely than those who endured discrimination. Hence, when male gay participants declared their gender, they put themselves up to the judgment of their peers and friends. This is also the period when gay male participants begin to establish their position in social hierarchies, thus the acceptance and support they received from their closest friends had a significant influence on their whole experience. While in the Filipino context, the family is crucial to emotional and psychological growth. This is backed by Ryan et al. (2010) research, which found that familial acceptance throughout adolescence is connected with improved health outcomes. Filipinos respect family views above everything else since they are a family-oriented country.

## 6. CONCLUSION:

This study comprehensively explored and analyzed the intersectionality of gays' participation in school volleyball tournaments. The analyses and implications concluded that the experiences of male gay informants with intersecting identities in-school volleyball participation including factors that influenced them in joining certain tournaments, and notions towards inclusivity may yield a successful support system while considering the gay male student-player individual requirements, objectives, and preferences. Moreover, male gay participants' personal experience of people's acceptance and dissent treatment towards them, from family, peers, dynamic groups, teachers, and coaches with internal and external factors that motivate male gay participants or degrade them because of their intersecting identities. This may lead to embracing intersectionality and establishing a supportive and inclusive climate within the school volleyball community. Participants may guarantee that people with overlapping identities have access to the tools, mentoring, and community they need to prosper in volleyball competitions by developing support networks. Furthermore, to obtain the notions and beliefs of gay male participants about inclusivity by executing their plan of action, utilizing their power through social media and media involvement to improve inclusion in school volleyball events by embracing intersectionality. That leads to initiatives that may serve to build a more varied, supportive, and inclusive atmosphere for all players, while also raising awareness and motivating change beyond the volleyball community's local surroundings.

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# Triple SIMs: Its Effect on the Student's Academic Performance in Physics

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**Abstract:** *This study aimed to determine the effect of teacher-made triple Strategic Intervention Materials (SIMs) in print, offline, and online platforms on the academic performance of Grade 12 Physics students of Malay National High School during Modular Distance Learning. The study employed a quasi-experimental research design with three groups where sixty students were purposively chosen from the Grade 12 population using homogenous sampling. Using the Learner Enrollment and Survey Form, the researcher determined which platform each student would use to access the learning materials. All groups underwent the same pre-tests and post-tests which consisted of 50-item multiple-choice questions administered before and after the SIM implementation. The study's findings revealed that before the implementation of SIMs, students' pretest scores in Physics were low, indicating a limited understanding of the subject. The Kruskal-Wallis Test showed no significant difference in the performance level of the three groups before the intervention, suggesting homogeneity in participants' academic performance in Physics. Following the implementation of SIMs, the post-test indicated a significant increase in students' understanding of Physics lessons with students achieving a high result. Furthermore, a highly significant difference was observed between the two tests when the Wilcoxon Signed Rank Test was used to compare the pretest and post-test scores for the three groups indicating that students who utilized the printed, offline, and online SIMs scored higher on the post-test than on the pretest. The Kruskal-Wallis Test revealed no significant differences in academic performance among the three groups after using SIMs indicating that all groups improved equally and the materials were effective across different platforms. This suggests that SIMs function well regardless of how students access them. The study also emphasized the need for further research to evaluate SIM effectiveness across various subjects, grade levels, and teaching methods in modular, blended, and conventional settings.*

**Key Words:** *Strategic Intervention Materials, Grade 12 students, academic performance, Learner Enrollment and Survey Form, print, offline, online platforms*

## 1. INTRODUCTION

Physics is a subject within Physical Science, typically taught during the second quarter of the first semester in Grade 12. It serves as the foundation for other sciences, including chemistry, geology, agriculture, environmental science, and biology (Johnson, 2022). Students enrolled in this subject were expected to think critically, solve problems using formulas and equations, comprehend theoretical concepts, employ spatial reasoning, and conduct experiments (Oon P-T & Subramaniam, 2011). Due to the rigorous nature of these learning requirements, many students found it challenging to keep up with lessons, particularly during the COVID-19 pandemic, when traditional face-to-face learning was temporarily replaced by various flexible methods, such as offline, online, and modular learning. The COVID-19 pandemic significantly impacted students, teachers, and educational institutions worldwide (Mailizar et al., 2020). In the Philippines, Modular Distance Learning (MDL) was quickly implemented to ensure the continuity of education. MDL involved personalized instruction through



self-learning modules in print or digital formats, allowing students to learn independently at home. Parents were tasked with receiving and returning the modules to and from schools. However, teachers faced numerous challenges in implementing MDL. According to **Saavedra et al. (2021)**, the pandemic caused the most severe education crisis in history, forcing approximately 80% of students worldwide to learn from home. This sudden shift required teachers to reorganize their lessons and adapt to distance teaching (**Van Lancker & Parolin, 2020**).

Malay National High School, a public school in the district of Malay, implemented Modular Distance Learning during the pandemic. The researcher observed that senior high school students struggled with the self-learning modules in Physical Science, particularly in Physics. The scores in the written works that have been checked were below average, and students frequently submitted incomplete and poorly answered answer sheets. These issues persisted for two consecutive years during the pandemic. Factors affecting students' academic performance included the complexity of lesson content, poor conceptual understanding, lack of prior knowledge, and lack of interest in the subject. These findings were based on the researcher's observations and a focus group discussion (FGD) with fellow science teachers during the academic year 2021-2022. To address these issues, DepEd Order No. 012, s. 2021, entitled "*Amendment to DepEd Order No. 030, s. 2020 (Amendment to DepEd Order No. 007, s. 2020, School Calendar and Activities for School Year 2020-2021)*," allowed schools to implement interventions to bridge students' learning gaps. This aligned with DepEd Memo No. 117, s. 2005 (*Training Workshop on Strategic Intervention Materials*), which encouraged teachers to develop and craft Strategic Intervention Materials (SIMs) to address students' learning difficulties in Science. SIMs were supplementary learning tools designed to support self-learning modules. These materials served as self-paced learning resources that students could use independently, particularly during periods when face-to-face learning was not possible. Also, SIMs can be used as remedial materials to enhance students' understanding of Physics modules while studying at home. **Pleños (2014)** noted that the effective use of SIMs in Science subjects could lead to a 100% increase in students' passing rates. Thus, through this study, the researcher aimed to determine the effect of teacher-made SIMs in print, offline, and online platforms on improving the academic performance of Grade 12 students in Physics.

## 2. RESEARCH OBJECTIVES:

This study aimed to determine the effect of Triple SIMs on improving the level of academic performance of Grade 12 students in Physics of Malay National High School for the school year 2021-2022.

Specifically, it answered the following questions:

1. What is the level of performance of the three groups of students before the utilization of SIM in terms of print, offline, and online platforms?
2. Is there a significant difference between the academic performance of the three groups before the conduct of the intervention?
3. What is the level of performance of the three groups of students after the utilization of SIM in terms of print, offline, and online platforms?
4. Is there a significant difference in the level of performance of the students before and after the utilization of printed SIM?
5. Is there a significant difference in the level of performance of the students before and after the utilization of offline SIM?
6. Is there a significant difference in the level of performance of the students before and after the utilization of online SIM?
7. Is there a significant difference between the academic performances of the three groups after the conduct of the intervention?

## 3. LITERATURE REVIEW

### *Effectiveness of Strategic Intervention Materials in Science Education*

In the field of science education, teachers must provide appropriate learning materials to enhance the teaching and learning process. **Dy (2011)** emphasized that science teachers have the responsibility to

create and supply necessary teaching tools. Similarly, **Olayinka (2016)** highlighted that instructional materials are vital for improving efficiency and student performance. **Awolaju (2016)** further explained that these materials not only lead to better learning outcomes but also save time, increase student interest, and aid in information retention. **Sejpal (2013)** underscored the effectiveness of Strategic Intervention Materials (SIMs) as tools to improve test scores and information retention when compared to traditional teaching methods. Modules, including SIMs, were also noted for their flexibility, as they can be utilized by individuals, small groups, or large groups. **Villonez (2018)** supported this notion, suggesting that SIMs have a positive impact on student performance and should be adopted as instructional tools in Science lessons. **Reyna (2017)** pointed out that SIMs can serve as remediation tools, especially for students struggling with Physics topics like *Light* or *Electricity*. **Soberano (2012)** revealed that using SIMs significantly helped students master 13 least-mastered Chemistry concepts. The Department of Education (DepEd) also recognizes the value of SIMs, as evidenced by various initiatives. DepEd Memo No. 117, series of 2005, titled “*Training Workshop on Strategic Intervention Materials (SIMs) for Successful Learning*,” provided science secondary teachers with training to develop instructional materials like SIMs. This was aimed at enhancing students' learning experiences in science. Similarly, DepEd Memorandum No. 128, series of 2017, “*Teacher Induction Program Modules Development Writeshop*,” was designed to equip teachers with the skills necessary to create self-learning modules and instructional materials.

According to **Saclao (2016)**, SIMs should have specific features. First, they should provide a preview of what students will learn, focus on essential skills, offer tips on how to use the SIM, and include a flow chart for using the learning material. Second, it should include a pretest to assess students' prior knowledge. Third, it should contain a guide, activity, assessment, enrichment, and reference cards. Finally, it should include a posttest to measure what the student has learned, along with an answer key for the activities. In addition, each card serves a specific purpose. The guide card introduces topics and tasks; the activity card defines the tasks; the assessment card measures skill mastery; the enrichment card provides additional concepts and exercises; and the reference card lists resources for further reading. The effectiveness of Strategic Intervention Materials has been widely studied, with consistent findings that they improve student performance. **Herrera and Soriano (2016)** found that using SIMs led to significant improvements in Physics, particularly in addressing least-mastered topics. Similarly, **Escoreal (2012)** observed a reduction in the number of least-mastered skills following the implementation of SIMs, highlighting their potential to prevent marginalization of struggling learners. **Alejo et al. (2019)** reported that students who used Electronic Strategic Intervention Materials (E-SIMs) showed significant gains in post-test scores, with a 0.70 normalized gain score. **Salvieto et al. (2014)** demonstrated that SIM-BI (Strategic Intervention Material-Based Instruction) is effective for both surface learners and deep learners, indicating its adaptability to various learning styles. **Barredo (2013)** emphasized the importance of developing SIMs for students with low mastery in science competencies, as post-test results showed substantial mean gains for those exposed to SIMs. Likewise, **Gultiano (2012)** and **Soberano (2010)** highlighted the effectiveness of SIMs in helping students master competency-based skills in Chemistry, with experimental groups consistently outperforming control groups in post-test scores. **Pleños (2014)** observed a 100% increase in student passing rates in science following the use of SIMs and recommended their development across various competencies and grade levels. **Saclao (2016)** conducted a controlled study that revealed a significant difference in scores between students who used SIMs and those who did not, with a p-value of 0.000 and a t-value of -11.019. These findings demonstrated the substantial impact of SIMs on student performance. Saclao recommended that SIMs be used not only as remediation tools for low-performing students but also as enhancement tools for average and high-achieving learners. The study also called for administrators, supervisors, and teachers to develop SIMs for all topics, not just the least-mastered skills, and to provide workshops and seminars on the principles of SIM construction.

#### 4. METHODOLOGY

The researcher utilized a Quasi-Experimental Design, specifically the Pretest-Posttest Design as shown in Figure 1 which illustrates the conceptual framework of the study. The same testing instruments were administered during the pre-test and post-test conducted before and after the interventions (**Yusuf et**

al., 2017). The participants were divided into three groups: (1) the group with no gadgets and no internet access underwent the modular approach, (2) the group with gadgets but no internet access underwent the offline videos approach, and (3) the group with gadgets and internet access underwent the online videos approach. Descriptive analysis was performed using the mean and standard deviation (Rocha & Mondelli, 2020). Since the sample size in each group was limited and the participants were taken purposively, the Kruskal-Wallis Test, a non-parametric test was employed to assess whether there were significant differences in academic performance among the three groups before and after the intervention. Additionally, the Wilcoxon Signed Rank Test was used to determine if there were significant differences between the pre-intervention and post-intervention results within each group. The results were tabulated correctly and interpreted at a 5% significance level.

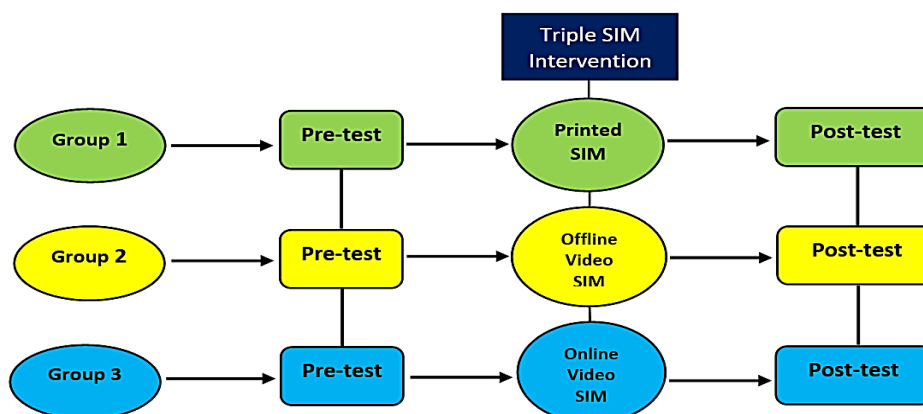


Figure 1. Conceptual framework of three independent variables in a Quasi-Experimental Design

A modified Three-Point Likert Scale was employed to assess and interpret the students' performance in Physics lessons before and after using SIMs in print, offline, and online. The table below presented the scale descriptions along with their corresponding verbal interpretations.

Table 1. The Modified Three-Point Likert Scale

| Mean Score | Description | Interpretation   |
|------------|-------------|--|
| 35-50      | High        | Understood most of the lessons in Physics before/after the implementation of the SIMs (print, offline, online) interventions.  |
| 18-34      | Average     | Understood some of the lessons in Physics before/after the implementation of the SIMs (print, offline, online) interventions.  |
| 1-17       | Low         | Understood a few of the lessons in Physics before/after the implementation of the SIMs (print, offline, online) interventions. |

#### Participants and Other Sources of Data and Information

The study involved three sections of Grade 12 students from the ABM, GAS, and TVL strands, which the researcher taught during modular distance learning for the school year 2021-2022 at Malay National High School, Motag, Malay, Aklan. A total of sixty (60) participants were selected, with twenty (20) students per group, aged 17 to 18, consisting of 15 males and 45 females. The participants were divided into three groups: (a) the printed group, (b) the offline videos group, and (c) the online videos group. The study lasted for eight (8) weeks, aligning with the second quarter of learning competency codes in Physical Science as outlined in DepEd's K to 12 Physical Science Curriculum Guide (August 2016).

#### Data Gathering Methods

The research instruments consisted of 50 multiple-choice questions based on the second-quarter Physical Science 12 learning competencies from the DepEd Curriculum Guide (2016). This instrument underwent pilot testing (Fraser et al., 2018) and item analysis (Smriti, 2018) both before and after its utilization. The researcher sought assistance from expert evaluators to examine and analyze the instrument's validity and reliability, particularly in terms of content and construct feasibility. Since

the research instruments were found to be valid and reliable, the researcher used the final version of the instrument with the three (3) groups of participants during the pre-test and post-test administrations. The Cronbach Alpha and KR-20 were the two quality assurance methods used in this study to test the reliability of the instrument. To identify significant differences, the researcher utilized the Statistical Package for Social Sciences (SPSS) software (Allahawiah & Al Saraireh, 2014). After the intervention was implemented, the pre-test and post-test scores of all participants were compared, and appropriate statistical treatments were used to process and analyze the data. The researcher then organized a focus group discussion (FGD) with fellow Physics teachers and the school head to discuss the significant findings. The flow of the FGD included open-ended questions and informal interviews to explore how the Triple SIMs (Print, Offline, and Online) could be implemented in other grade levels and subject areas within the school.

### *Intervention*

The researcher developed Triple (printed, offline, and online) Strategic Intervention Materials (SIMs), which consist of simplified content designed to enhance students' understanding of Physics lessons. Most of the images within the SIMs were based on factual representations of objects. The learning material included examples integrated into real-life situations, along with practical learning activities. The language and terminology used in the SIMs were within the students' comprehension level. In terms of layout and format, the researcher ensured that the SIMs were visually engaging and interactive, aiming to capture students' interest and motivate them to learn independently. The material encouraged students to study at their own pace, with guided instructions provided for each activity and time frames allocated for each lesson. To determine which three groups of participants would use the intervention, the researcher utilized the *Learners' Enrollment and Survey Form* (LESF). The LESF was the primary enrollment tool used during Modular Distance Learning for the 2021-2022 school year. It is an expanded version of the regular enrollment form, capturing not only students' basic profiles but also important survey data from parents. This survey data helped assess the household's readiness for distance education by providing insights into the availability of gadgets and devices, internet access, preferred learning modality, and challenges that could impact learning in a distance education setting. The data gathered through the LESF allowed the researcher to identify the appropriate participants for the study. The Grade 12 students from Malay National High School who exhibited low performance after the first quarter of Physical Science were selected. A total sample size of 60 students was chosen, comprising 20 students from the ABM strand, 20 from GAS, and 20 from TVL. These students were divided into three groups, each assigned to one of the delivery platforms: print, offline, or online SIMs. Below are the processes by which the researcher-developed Triple SIMs were crafted and adapted to different platforms:

1. **Printed Materials.** SIMs were crafted using the Canva application for photo editing and Microsoft PowerPoint 2019 for formatting and layout. The final outputs were converted into PDF format, and the hard copies were printed on A4-sized bond paper. These materials comprise of following parts: First, the Title Card, which included the table of contents, topics, and learning competencies anchored in the second quarter of the **DepEd Curriculum Guide (2016)**. Second, the Guide Card, which contained the guide and tasks to be done in the SIM, as well as discussions for each lesson. Third, the Activity Card, which featured learning activities aimed at helping students attain mastery of the learning competencies. Fourth, the Assessment Card was designed for students to measure their level of mastery upon completing the tasks. Fifth, the Enrichment Card, which included additional learning activities to enhance students' understanding. Sixth, the Reference Card, which provides information about the topic and sources. Lastly, the Answer Card, which contained answer keys for students to check their responses, located at the end of the learning material. These printed SIMs were quality-assured by the school and district Learning Resources Management and Development System (LRMDS) evaluators, who reviewed the content, language, layout, and format, and the standards set by DepEd for supplementary printed materials. These materials were provided to a group of participants who had no access to gadgets and the internet.
2. **Offline Materials.** The softcopy of the printed materials from Microsoft PowerPoint was saved as a Windows Media Video and then exported and edited in the Wondershare Filmora X application. Background music was added, which participants could adjust based on their preferences using their



gadgets. The content and layout presented in the video were the same as in the printed version. These offline SIM videos could be transferred from one device to another. Using SHARE-it and Bluetooth, the offline SIM videos could be transferred to devices such as cellphones, laptops, and tablets. Additionally, the video file could be transferred by connecting a flash drive to another laptop or any computer device. Participants could master the lessons in the videos, as they had the option to pause, review, and re-watch the content as many times as they wished. These videos were quality-assured by the school and district Learning Resources Management and Development System (LRMDS) evaluators to check content quality, instructional quality, technical quality, and adherence to the standards set by DepEd in crafting offline video materials through the Learning Resource (LR) Quality Assurance Tool. These offline SIM videos were provided to a group of participants who had access to gadgets/devices but no data or internet access.

3. Online Materials. SIM videos which were saved on the researcher's computer were uploaded to online platforms such as YouTube Channel and Google Drive. These online videos were provided to a group of participants who had access to gadgets and could easily connect to the internet with stable connectivity. The participants could watch the learning material at their own convenience at home. They could pause, review, and re-watch the online videos as many times as necessary to master the topic. The researcher shared the URL links of the uploaded videos from the YouTube Channel and the shared links from Google Drive via Messenger in their Group Chat. This online material also underwent quality assurance to check content quality, instructional quality, technical quality, and adherence to the standards set by DepEd for crafting online video materials.

#### *Study's Interventions Procedure*

During the implementation of the intervention method, the researcher gave the SIMs to the three sets of participants who accessed the intervention based on the platforms they were using. These groups were as follows: The first group of participants consisted of twenty (20) students who used the modular-print approach. In this setup, the researcher printed the SIMs before handing over the copies to the student participants' advisers. During the module distribution, the advisers distributed the printed copies of the SIMs to the parents of the participants along with the Self-Learning Modules (SLMs). The participants in this group were required to answer the printed SIMs and modules at home and complete all the learning activities provided in the learning materials. The second group of participants consisted of twenty (20) students who used the offline-video approach. During the module distribution, the researcher first instructed the advisers to send or transfer the video files of the SIMs to the participants' parents using available devices such as flash drives, SHARE it, and Bluetooth before distributing the Self-Learning Modules (SLMs) to them. The participants could access the offline SIM videos in their own learning spaces at home using a laptop, tablet, or cellphone. All learning activities found on the offline SIM videos and modules had to be answered completely by the participants. Lastly, the third group of participants consisted of twenty (20) students who used the online video approach. In this method, the researcher uploaded the SIM videos to online platforms such as YouTube Channel and Google Drive. The advisers distributed the Self-Learning Modules (SLMs) to the parents of student participants during module distribution. At the same time, the researcher sent the URL and shared links of the uploaded SIM videos on the YouTube Channel and Google Drive in the created group chat. The participants could fully access the SIM videos using a laptop, tablet, or cellphone with an internet connection. The participants were required to complete all learning tasks found in the modules and online SIM videos. The distribution of learning materials along with the submission of answers and outputs occurred every two weeks at the school starting in the second quarter of the school year 2021-2022. This method of distributing intervention materials continued until the end of the second quarter.

#### *Ethical Issues*

Ethical considerations formed a significant element of the research (Chetty, 2016). The appropriate ethical standards were maintained and followed. In this study, proper permission was secured by the researcher to conduct the study through letters addressed to the school head, the public schools district supervisor (PSDS), and the schools division superintendent (SDS) of Aklan. Likewise, parental consent was obtained by the researcher from the parents of the student participants. These student participants who were the subjects of the study were treated with the utmost confidentiality and their right to privacy



was respected. The data and information gathered from them were assured to be used for research purposes only. In addition, due to the COVID-19 pandemic, the minimum health protocols imposed by the Inter-Agency Task Force (IATF) were strictly followed such as social distancing and wearing facemasks during the conduct of the study.

## 5. ANALYSIS AND DISCUSSION

### *Level of Performance of the Three Groups of Students Before the Utilization of SIMs in Terms of Print, Offline, and Online Platforms*

The students performance levels before being exposed to the Printed SIM (M=14.15, SD=2.43), Offline SIM (M=14.45, SD=2.09), and Online SIM (M=15.35, SD=2.56) were considered "low," as all three groups scored less than half of the mean scores from the pre-test results. This finding suggested that the students had a limited understanding of the Physics lessons prior to receiving the interventions. Since the students took the pre-test without any prior background in the lessons, it was assumed that the distributions of the sets of values for the three groups were normally distributed. The results of this study aligned with the findings of **Sinco (2020)**, which indicated that students' pre-test performance prior to using Strategic Intervention Materials (SIMs) fell short of the 75% standard criterion. Consequently, interventions were deemed necessary to address this issue. As noted by **Kautzman (2012)**, interventions could take various forms and offered flexibility. In this research, the use of SIMs was implemented as an intervention to enhance the academic performance of Grade 12 Physics students. These SIMs were provided through print, offline, and online platforms.

*Table 2. Pre-test Performance of the Three Groups Before the Utilization of Triple SIMs*

| Triple SIM        | N  | M     | SD   | Interpretation |
|-------------------|----|-------|------|----------------|
| Modular-print SIM | 20 | 14.15 | 2.43 | Low            |
| Offline-video SIM | 20 | 14.45 | 2.09 | Low            |
| Online-video SIM  | 20 | 15.35 | 2.56 | Low            |
| Total             | 60 |       |      |                |

Note: The multiple-choice test has a maximum score of 50. Here are the verbal descriptions and the scales that correlate to them. 1.00-17.00 (*Low*), 18.00-34.00 (*Average*), and 35.00-50.00 (*High*).

### *Significant Difference between the Level of Academic Performance of the Three Groups Before the Conduct of Intervention*

The researcher employed the Kruskal-Wallis Test to determine whether there was a significant difference in academic performance among the three groups (print, offline, and online) before using the Triple SIMs. As shown in Table 3, the test results revealed no significant difference, with a p-value of 0.248, which was higher than the 0.05 significance level. Thus, the null hypothesis was accepted. This data indicated that the academic performance of the three groups was normally distributed. The findings also suggested that the participants were homogeneous as all students demonstrated similar performance levels in Physics. This implies that prior to the intervention, the three groups had equally low academic performance on the said subject.

*Table 3. Pre-test Difference in the Three Groups of Students Before the Utilization of Triple SIMs*

| Kruskal-Wallis H | df | p-value | Decision on Null Hypothesis | Interpretation  |
|------------------|----|---------|-----------------------------|-----------------|
| 2.791            | 2  | 0.248   | Accepted                    | Not significant |

Note:  $p > 0.05$

### *Level of Performance of the Three Groups of Students After the Utilization of SIM in Terms of Print, Offline, and Online Platforms*

Table 4 revealed that all three groups of students performed at a "high" level after using the Printed SIM (M=42.35, SD=3.44), Offline SIM (M=42.65, SD=3.79), and Online SIM (M=42.95, SD=3.62). These results suggested that students in all groups had developed a strong understanding of the Physics lessons after being exposed to the different platforms of SIMs. The findings demonstrated that these interventions were highly effective in enhancing students' academic performance in Physics. Similarly,

Aranda et al. (2019) found a highly significant difference in students' pre-test and post-test performance when using the SIM, indicating that the SIM was effective in improving the performance of low-achieving students. Likewise, Herrera et al. (2016) confirmed the effectiveness of SIMs in addressing students' least-learned competencies, as evidenced by a notable increase in their post-test Physics scores.

Table 4. Post-test Performance of the Three Groups after the Utilization of Triple SIMs

| Triple SIM        | N  | M     | SD   | Interpretation |
|-------------------|----|-------|------|----------------|
| Modular-print SIM | 20 | 42.35 | 3.44 | High           |
| Offline-video SIM | 20 | 42.65 | 3.79 | High           |
| Online-video SIM  | 20 | 42.95 | 3.62 | High           |
| Total             | 60 |       |      |                |

Note: The multiple-choice test has a maximum score of 50. Here are the verbal descriptions and the scales that correlate to them. 1.00-17.00 (*Low*), 18.00-34.00 (*Average*), and 35.00-50.00 (*High*).

*Significant Difference in the Level of Performance of Students Before and After the Utilization of Printed SIMs*

Table 5 presented the results of hypothesis testing based on two assessments: a pre-test administered prior to the use of printed SIMs and a post-test conducted afterward in Physics. The analysis yielded a z-value of -3.927 and a p-value of 0.000\*, which was below the 0.05 level of significance. As a result, the null hypothesis was rejected, indicating a statistically significant difference in the academic performance of Grade 12 students before and after utilizing the printed SIMs. These findings underscored a substantial improvement in students' performance, with post-test scores significantly exceeding those of the pre-test. The findings aligned with those of Alemnge and Andongaba (2021), who identified printed materials as an effective approach for facilitating teaching and learning. Similarly, Dy (2011) established that SIMs enhanced student comprehension, while Barredo (2013) found that the use of SIMs improved the retention of Science concepts and overall academic achievement among students.

Table 5. Pre-test and Post-test Difference in the Group of Students using the Printed SIMs

| Wilcoxon Signed-Rank Test              | Z      | p-value | Decision on Null Hypothesis | Interpretation     |
|--|--------|---------|-----------------------------|--------------------|
| Pre-Intervention and Post-Intervention | -3.927 | 0.000*  | Rejected                    | Highly significant |

Note:  $p < 0.05$

*Significant Difference in the Level of Performance of the Students Before and After the Utilization of Offline SIMs*

The data presented in table 6 indicated the results of hypothesis testing based on two assessments administered before and after the use of Offline SIMs in Physics. The analysis yielded a z-value of -3.923 and a p-value of 0.000\*, which was below the 0.05 significance threshold. Consequently, the null hypothesis was rejected, signifying a significant difference in the academic performance of Grade 12 students before and after utilizing the offline SIM. Notably, post-test scores were higher than pre-test scores, indicating an improvement in student performance. Stiubiener et al. (2012) emphasized the importance of evaluating instructional materials, such as offline videos, in distance learning contexts to improve the learning process. Delivering SIM content through video format was shown to enhance students' understanding of the material, leading to improved academic performance. Similarly, Escoreal (2012) found that this approach significantly reduced the average number of least-learned skills among students.

Table 6. Pre-test and Post-test Difference in the Group of Students using the Offline SIMs

| Wilcoxon Signed-Rank Test              | Z      | p-value | Decision on Null Hypothesis | Interpretation     |
|--|--------|---------|-----------------------------|--------------------|
| Pre-Intervention and Post-Intervention | -3.923 | 0.000*  | Rejected                    | Highly significant |

Note:  $p < 0.05$

*Significant Difference in the Level of Performance of the Students Before and After the Utilization of Online SIMs*

In table 7, the analysis of hypothesis testing for the pre-test conducted before the implementation of the Online SIM and the post-test administered afterward revealed a z-value of -3.924 and a probability value of 0.000\*. This probability value was lower than the 0.05 level of significance, leading to the rejection of the null hypothesis. This indicated a significant difference in the academic performance of Grade 12 students before and after using the online SIM, with post-test scores being higher than those of the pre-test. The result is supported by **Pasion (2019)**, who stated that SIMs contribute to improving students' retention of subject content, sustaining their interest in learning, and integrating lessons into real-life experiences through the video materials presented to them.

*Table 7. Pre-test and Post-test Differences in the Group of Students Using the Online SIMs*

| Wilcoxon Signed-Rank Test              | Z      | p-value | Decision on Null Hypothesis | Interpretation     |
|--|--------|---------|-----------------------------|--------------------|
| Pre-Intervention and Post-Intervention | -3.924 | 0.000*  | Rejected                    | Highly significant |

Note:  $p < 0.05$

*Significant Difference Between the Academic Performance of the Three Groups After the Conduct of Intervention*

In table 8, the results of the Kruskal-Wallis H test indicate that there are no significant differences in academic performance based on the type of Strategic Intervention Materials (SIMs) used whether they are printed, offline, or online. This means that the platforms in which the SIMs were delivered did not impact the effectiveness of the materials in improving student outcomes. However, despite the lack of significant differences among the different types of SIMs, participants who engaged with these materials showed a marked improvement in their academic performance in Physics after the intervention. This suggests that the use of SIMs, regardless of their delivery method, positively influenced students' learning. As stated by **Villonez (2018)**, SIMs improve student performance and teachers should consider incorporating it as a teaching strategy or instructional material for science lessons.

*Table 8. Post-test Difference in the Three Groups of Students After the Utilization of Triple SIMs*

| Kruskal-Wallis Test | df | p-value | Decision on Null Hypothesis | Interpretation  |
|---------------------|----|---------|-----------------------------|-----------------|
| 0.232               | 2  | 0.89    | Accepted                    | Not significant |

Note:  $p > 0.05$

## 6. RESULTS / FINDINGS

The study's findings were as follows:

First, before the three groups of participants were introduced to their specific treatments of SIMs (printed, offline, and online), they exhibited a limited understanding of the Physics lessons. Their pretest scores fell below half of the mean scores described, leading to a verbal interpretation of their performance as "low". Second, prior to the implementation of the SIMs, the performance levels of the three student groups were comparable with no significant differences in their pre-test scores. This suggested that they had similar lower academic performance in Physics indicating the homogeneity of the research participants. Third, after implementing the SIMs, students demonstrated significant improvement in their performance. The post-test scores for the printed, offline, and online groups were much higher than their pre-test scores. The mean scores for all groups after the experiment also

surpassed more than half of the test scores defined in the description. This indicated that after the intervention, they had a good understanding of most of the Physics lessons. In terms of the level of performance of the students before and after the utilization of the printed SIM, the null hypothesis was rejected, indicating a significant difference in the students' academic performance before and after using the printed SIMs. The same conclusion applied to the offline group, where the null hypothesis was also rejected indicating a significant improvement in academic performance following the use of offline SIMs as evidenced by their increased post-test scores. Likewise in the online group, the null hypothesis was rejected showing a significant difference in academic performance before and after the use of online SIMs supported by their higher post-test scores compared to pre-test scores. Finally, there was no statistically significant difference in post-test results among the three treatment groups. However, the findings indicated that students who used printed, offline, and online SIMs experienced significant improvements in their post-test scores compared to their pre-test scores. This suggested that the type of SIM whether printed, offline, or online did not affect the materials' overall effectiveness in enhancing student outcomes. Despite no significant differences between the types of SIMs, participants showed notable improvements in their Physics performance after the intervention. This indicated that SIMs positively impacted students' learning regardless of the delivery method.

## **7. CONCLUSION**

The implementation of the Triple Strategic Intervention Materials (SIMs) in print, offline, and online formats has significantly improved the academic performance of Grade 12 students in Physics as evidenced by their higher post-test scores compared to their pre-test results. Initially, students demonstrated low performance across all groups highlighting the need for an intervention to address these identified gaps. The use of the Kruskal-Wallis Test confirmed that students were homogeneous, displaying similar low academic performance prior to the intervention. However, after utilizing the SIMs through print, offline, and online platforms, students demonstrated a high level of understanding, indicating the effectiveness of these supplementary materials in enhancing their comprehension of Physics concepts and improving their academic performance. Furthermore, the Wilcoxon Signed-Rank Test revealed a highly significant difference between pre-test and post-test scores in each group, confirming that the SIMs positively impacted student learning outcomes.

Moreover, the Kruskal-Wallis Test showed no significant differences in academic performance among the three groups after the intervention emphasizing the overall effectiveness of the SIMs regardless of the platform used. These findings align with the research of Casinillo and Suarez (2020), which demonstrated that the integration of SIMs effectively enhances students' academic performance in Science. Similarly, Villonez (2018) concluded that SIMs are more effective and efficient than traditional teaching methods across various science courses advocating for their use as valuable instructional resources. The findings indicate that the Triple SIM approach not only encourages independent learning but also enhances students' understanding of Physics by providing simplified content, factual images, and real-life examples. Its visually appealing design, accessible language, and interactive elements allow students to learn at their own pace while adhering to clear guidance and designated time frames for each lesson. As a result, teachers are encouraged to incorporate SIMs into conventional classroom settings, online platforms, or blended learning approaches, especially now that schools have resumed face-to-face classes. By integrating these innovative materials, teachers can effectively address the diverse learning needs of their students and improve academic performance in the subject.

## **8. RECOMMENDATIONS / SUGGESTIONS:**

Strategic Intervention Materials (SIMs) are supplementary learning tools designed to enhance students' understanding of Physics concepts. They are especially valuable when used alongside self-learning modules (SLMs), as they provide students with the flexibility to learn at their own pace. During the pandemic, SIMs were crucial in facilitating independent learning in the absence of face-to-face instruction. As the district Science Coordinator of Malay District in the Division of Aklan, one of her primary responsibilities is to encourage and motivate teachers to develop and utilize these materials effectively to support student learning. A key aspect of this initiative involves sharing the results of her study at Malay National High School in Motag, Malay, Aklan, and throughout the district. This study



aims to ensure the comprehensive distribution of Physics SIMs in printed, offline, and online formats, aligning them with the competencies outlined in the 2016 DepEd K-to-12 Curriculum Guide. The ultimate goal is to significantly improve students' academic performance in Physics ensuring they have access to quality learning resources.

In addition to the SIMs created for Senior High School, Science teachers across the district, particularly those teaching Grades 7-10, will be encouraged to develop SIMs in various formats to meet the diverse learning needs of their students. Teachers will also motivate students to use these SIMs as supplementary resources to enhance their academic performance in Physics, especially now that face-to-face classes have resumed. To support this effort, teachers will be introduced to SIM development during Annual In-Service Training (INSET), Learning Action Cell (LAC) sessions, and focus group discussions. These sessions will provide teachers with the necessary training to create SIMs across different platforms, ensuring they are equipped to develop materials that address students' varying needs. Furthermore, it is essential to conduct broader research on the effectiveness of SIMs across various educational settings, grade levels, and subjects. This research will offer valuable insights into how SIMs can be adapted to different teaching styles and learning environments, whether conventional, online, or blended.

After the SIMs undergo the district-level quality assurance process, they will be submitted to the Division Learning Resources Management and Development System (LRMDS) for thorough review. Once approved, these materials will be uploaded to the Division LRMDS portal for wider dissemination and utilization, making them accessible to all teachers in the district. Finally, the findings of this study will be published in local academic journals and presented at international research conferences, contributing valuable insights to the broader academic community.

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# Playing Damath: Its effect on the students' numeracy skills in the basic operations on integers

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**Abstract:** *DaMath is a math-related board game whose name is derived from the popular Filipino game "Dama" and "Mathematics" was played during the Independent/ Cooperative Learning (ICL) time of the participants in this study. This was conducted to find out the effect of playing DaMath to the Grade 7 students' numeracy skills in the basic operations on integers of Malay National High School for SY 2017 – 2018. The students utilized their independent/cooperative learning time in playing the game in a friendly and nonthreatening atmosphere. The respondents of the study were given a pretest with 40 - test items involving integers. It consists of the four-fundamental operations in Mathematics: addition, subtraction, multiplication, and division. Then, intervention was given to them through playing DaMath. The posttest results show an increase in the mastery level of the students in the basic operations on integers after they had undergone the intervention. Thus, this study concluded that the DaMath can be played during ICL time to increase the mastery level of the students in the basic operations on integers. Furthermore, the learning environment shall be enhanced to facilitate the teaching – learning process in Mathematics and teachers shall be given opportunities to upgrade and update themselves with the current trends and strategies in teaching Mathematics so that developments can be acquired which may facilitate learning in Mathematics.*

**Key Words:** *Mathematics, DaMath, independent cooperative learning, ICL, basic operations, numeracy.*

## 1. INTRODUCTION:

Based on researcher's observation and focus group discussions with fellow teachers, it was noted that Grade 7 students of Malay National High School tend to do unnecessary things, extreme noise and misbehave during their vacant time. Only few read books and prepare for their next class. Generally, they play "sipa", "habulan", mobile games, etc. It was also observed that the Grade 7 students from the last three sections of SY 2016 – 2017 have poor mastery in the fundamental operations in Mathematics. Their quarterly test from first to fourth quarters showed poor mastery of mathematical concepts more particularly on the basic operations involving integers. Therefore, varied strategies must be introduced so that their vacant time will be productive and at the same time, they are learning in a fun and interesting way. Since Mathematics is often perceived as one of the difficult subjects, it will be fitting to introduce strategies like games to enhance their numeracy skills which will be done in a conducive and friendly manner.

## 2. LITERATURE REVIEW

The K to 12 Curriculum is decongested as one of its main features. It focuses on understanding for mastery and has removed the unnecessarily repeated competencies. (SEAMEO INNOTECH., 2012) It allows knowledge, skills and values to be learned by the students in certain period of time. This aims that learners will master the competencies and develop necessary concepts and life skills needed to become a well - rounded and productive individual.

According to Kogelman and Warren (1978), Math and numbers are more difficult to avoid because they are everywhere. The only way to avoid these things is to either not do them or have someone else do them for you. Even then, they remain constant reminders of things you can't do yourself and for which you must depend on others. Thus, it is needed to develop comfort with figures to make the everyday task simpler, faster and more convenient.

On the other hand, games help us develop non-cognitive skills that as fundamental as cognitive skills in explaining how we learn and if we succeed. Skills such as patience and discipline, which one should acquire as a child but often does not, correlate with success better than IQ scores do. And those non-cognitive skills – that is, not what you know but how you behave – are far better suited to a game context than to a traditional classroom and textbook context (Macky, 2013). A math – related board game called DaMath took its name from the popular board game “dama” and “mathematics.” It was invented by Jesus L. Huenda, a teacher in Sorsogon, who had encountered problems in teaching math using traditional teaching methods. Inspired in part by an investigatory project called “Dama de Numero” submitted by a student in 1975, Huenda overhauled the game and introduced it to his class, who enjoyed playing. (Wikipedia)

Numeracy is the capacity to think in quantitative terms. It refers to being literate with numbers (The New Webster's Dictionary, 2004). The numeracy skills include comprehension in the four fundamental operations: addition, subtraction, multiplication and division. Obtaining an acceptable level of literacy and numeracy can greatly improve many factors in your life, including improvements to your social life, education and career prospects. The ability to read, write, and understand information, can hugely affect your employability. An absence of mathematical confidence and poor numeracy skills are obstructions to employment as numeracy tests are increasingly becoming a routine part of the recruitment process. (Kangan Institute, 2016) Mathematics as a school subject, therefore, must be learned comprehensively and with much depth. (K to 12 Mathematics Curriculum Guide, May 2016)

The K to 12 Mathematics Curriculum Guide of August 2016 for Grade 6 Mathematics stipulates learning competencies pertaining to integers like the learner represents integers on the number line, compares and arranges integers, describes and interprets the basic operations on integers using materials such as algebra tiles, counters, chips, and cards and performs the basic operations on integers. A grade 7 learning competency stipulated in the said curriculum also says that the learner performs fundamental operations on integers. However, focus group discussion of fellow mathematics teachers revealed that the learners were confused at times performing the fundamental operations (addition, subtraction, multiplication, division) if signed numbers were involved.

Signed numbers are numbers that represent both quantity (or magnitude) and direction. For instance, Php 2.00 increase in price and Php 2.00 decrease represented in mathematical language as +2 and -2 respectively while 4 steps east is expressed as +4 and 4 steps west as -4. When represented graphically in the number line with zero as the starting point, the numbers to the left of 0 are called negative integers while to the right are nonzero positive integers. The union of positive integers (or natural numbers), negative integers and zero comprises the set of integers. (Ibe, Acelajado, Golla, 1999) This paves way to another set of numbers faced by Grade 7 learners and the signs involved (positive and negative) confuses the learner as what shall be the answer whenever they perform the basic operation. Hence, with the aim to improve the mastery level in the operations on integers, the games are integrated.

**The objective of this study is** to find out the mastery level of the students in the basic operation on integers before and after playing DaMath during their Independent/Cooperative Learning (ICL) time.

### 3. METHODOLOGY

The Pretest – Intervention – Posttest Design was used in this research. To eliminate the threat to validity of mortality, the teachers ensured the perfect attendance of the students in the first quarter - second quarter of the school year. The participants are the Grade 7 students belonging to the last three sections. To collect data, test items consisting of addition, subtraction, multiplication and division was used. Pretest was administered and data was recorded. Parallel posttest was administered consisting also of

40 – item test related to integers after the students played DaMath during their ICL time. Results were gathered for comparison to know if there was an improvement.

Before the intervention starts, students were oriented on the history, purpose and how to play the game together with the game board and its chips and score sheets. Trial to play the game was also implemented. The administration of this intervention was not only inside the classroom. They played DaMath on the benches constructed under the mango and mahogany trees inside the school premises. Facilitators (Math Club Officers) were assigned to ensure that the DaMath game was correctly played. The non-threatening, friendly, collaborative, atmosphere was encouraged.

The data collected was analyzed by comparing the average scores (mean) of the students obtained from the pretest and posttest to check if there is an increase in the mastery level of the students in the basic operations on integer. The mean is commonly used, easily understood, easily calculated and generally recognized average.

It is a reliable measure or more stable measure to use when sample data are being used to make inferences about the population. It is used to describe a set of data as to what point the item values or scores tend to cluster or concentrate. (Bernabe, et.al, 2014)

#### 4. DATA ANALYSIS

##### *Mastery Level of Students in the Basic Operations in Integers Before and After Playing DaMath*

The results obtained before and after playing DaMath were compared. Table 1 shows that the mastery level of the participants during the pretest is low, while during the posttest, it increased from low to average with a difference of 5.94. The increase in mastery level indicates that the intervention helped the students in enhancing numeracy skills on the basic operations on integers. More specifically, in areas of addition, subtraction, multiplication and division. Playing DaMath during their ICL time had helped the students to utilize their time properly while enhancing their numeracy skills in a game-based, nonthreatening and friendly atmosphere.

Table 1: *Mastery level of students in the basic operations in integers before and after playing DaMath*

|                       | Mean  | Description |
|-----------------------|-------|-------------|
| Before playing DaMath | 15.09 | Low         |
| After playing DaMath  | 21.03 | Average     |

#### 5. CONCLUSIONS

The mastery level of the students in the basic operations involving integers during the pretest was low. After the playing DaMath as an intervention strategy, it increased from low to average as shown by the result of posttest. The improvement on the numeracy skills in the operations on integers of the Grade 7 students after the conduct of the intervention may be attributed to DaMath as well as the teaching-learning processes that happened inside the classroom facilitated by the Mathematics teachers. DaMath was a collaborative game played by the students during the independent/cooperative learning time. This made their time spent in school even more worthy to learning. It promotes collaboration among peers, integrates patience and perseverance as the students strategized in playing and enhances their numeracy skills, which is of help to them. This is an added worthwhile activity out of variety of things they could do during ICL time.

#### 6. RECOMMENDATIONS

Based on the results and conclusions of the study, the following recommendations were drawn:

1. DaMath can be played before the class starts provided the game ends after 10 minutes so as not to consume the time for actual teaching-learning process. Familiarity and proficiency in the rules must be observed. If sufficient time is needed, the independent/cooperative learning time is better utilized.
2. Grade 7 students enjoyed the learning process when games were incorporated as a teaching strategy, thus, the independent/cooperative learning time provided in the class schedule must be crafted and scheduled for the students to do varied things like:
  - playing with games like DaMath, Tower of Hanoi, 4 in a Line, Chess, Scrabble and the like.



- studying with the lessons in their next subject and practice for the performance tasks given by their subject teachers.
- reading with reference materials like learner's module, textbooks, handbooks, magazines and other related reading materials.
- 3. The learning environment like classroom should be enhanced to facilitate the teaching – learning process in Mathematics to improve their numeracy skills.
- 4. The teachers shall be given opportunities to upgrade and update themselves with the current trends and strategies in teaching Mathematics (personal and professional developments).
- 5. Related – researches must be conducted to address issue on the numeracy skills of the students.

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# Integrating Comprehensive Assessment and Intervention Strategies for Students with Special Needs: A Case Study Analysis Aligned with NEP 2020

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**Abstract:** *This case study explores the integration of comprehensive assessment and intervention strategies for students with special needs, specifically focusing on the alignment with the National Education Policy (NEP) 2020. The study presents detailed analyses of five case studies involving students with diverse disabilities, including cerebral palsy, hearing impairment, intellectual disability, low vision, specific learning disabilities. Each case study highlights the assessment methods employed, such as motor skills assessments, audiological evaluations, and cognitive testing, along with the tailored intervention strategies implemented, including physical therapy, assistive technologies, and individualized learning plans. The outcomes demonstrate how these strategies contribute to improved academic performance, enhanced mobility, and better social integration. The findings underscore the effectiveness of personalized approaches in promoting inclusivity, equity, and holistic development as envisioned by NEP 2020. This study offers valuable insights into how comprehensive and adaptive educational practices can support students with special needs, providing recommendations for enhancing educational practices in line with the policy's objectives.*

**Key Words:** *Students with Special Needs, NEP 2020, inclusive education, adaptive learning, assistive technologies, holistic development.*

## 1. INTRODUCTION:

The National Education Policy (NEP) 2020, introduced by the Government of India, represents a transformative shift in the educational landscape, emphasizing inclusivity, adaptability, and holistic development for all students. A core principle of NEP 2020 is its commitment to creating an educational environment that supports and integrates students with diverse needs, including those with disabilities. This case study aims to examine how comprehensive assessment and intervention strategies align with the objectives of NEP 2020 to foster an inclusive and equitable educational system.

### Understanding NEP 2020 and Special Needs Education

NEP 2020 envisions an education system that not only delivers academic knowledge but also addresses the diverse needs of every student, promoting a well-rounded development that encompasses cognitive, social, emotional, and physical aspects. For students with special needs, the policy advocates for adaptive learning environments and individualized support to ensure that educational practices accommodate their unique requirements. This holistic approach seeks to dismantle barriers to education and create opportunities for all learners to succeed.

## The Importance of Comprehensive Assessment and Intervention

Comprehensive assessment is crucial in identifying the specific needs of students with disabilities. Effective assessments provide insights into cognitive, adaptive, and behavioral aspects, forming the basis for personalized interventions. Intervention strategies, including individualized education plans (IEPs), assistive technologies, and holistic approaches, are designed to address these needs and support the student's academic and personal development. By aligning these strategies with NEP 2020's goals, educators can foster an inclusive environment where every student has the opportunity to thrive.

### Purpose and Scope of the Study

The purpose of this study is to explore and analyze the educational experiences, challenges, and progress of students with diverse disabilities in inclusive classroom settings. Through detailed case studies, the research aims to:

1. **Identify Specific Educational Needs:** To assess the unique challenges faced by students with disabilities such as Cerebral Palsy, Hearing Impairment, Intellectual Disability, Low Vision, and Specific Learning Disabilities in academic environments.
2. **Evaluate the Impact of Interventions:** To examine the effectiveness of tailored interventions, assistive devices, and specialized support services in enhancing academic performance, social skills, and personal independence of students with disabilities.
3. **Promote Inclusive Education Practices:** To highlight the importance of inclusive education strategies and practices that foster equitable learning opportunities for students with diverse needs, ensuring their full participation and engagement in school activities.
4. **Contribute to the Development of Best Practices:** To provide evidence-based recommendations for educators, policymakers, and caregivers on effective strategies for supporting students with disabilities and promoting their academic and social development.

## 2. LITERATURE REVIEW:

The literature on comprehensive assessment and intervention strategies for students with special needs highlights a range of approaches and practices that align with the principles of inclusive education as envisioned by policies like the National Education Policy (NEP) 2020. This review covers key studies and frameworks that inform the integration of assessment and intervention strategies, providing a foundation for understanding their effectiveness and alignment with NEP 2020's objectives. **Rastogi, S. K., & Singh, H. (2024)** This study explores the educational needs of visually impaired students aged 11-14 under the National Education Policy (NEP) 2020, focusing on the Lucknow district of Uttar Pradesh, India. The objectives include assessing the current status of educational provisions, examining the accessibility and effectiveness of instructional materials, and identifying barriers that hinder academic success. Employing a mixed-methods approach, the research utilizes quantitative surveys and qualitative interviews to gather comprehensive data from 25 visually impaired students in selected schools. The findings related to the challenges and successes experienced in inclusive education. This research seeks to provide insights that can inform better educational practices and support mechanisms, ultimately enhancing the learning experiences of visually impaired students in the middle stage.

**Lee, M. (2020):** "Interventions for Children with Hearing Impairment in Educational Settings" Lee discusses the effectiveness of integrating hearing aids, speech therapy, and visual alert systems to improve communication skills and academic performance.

**Johnson, A. (2019)** "Educational Interventions for Children with Autism Spectrum Disorder" Johnson's review focuses on structured teaching methods and sensory accommodations, emphasizing their role in enhancing social interactions and reducing sensory overload. **Garcia, R. (2018)** "Effective Instructional Strategies for Students with Specific Learning Disabilities" Garcia's review examines specialized instructional strategies and accommodations like multi-sensory learning and extended test time, supporting improved literacy skills and classroom performance.

**Smith, J. (2018)** "Interventions for Children with Cerebral Palsy: A Review". This review examines various motor skills assessments and physical therapy interventions, highlighting their impact on mobility and classroom participation for children.

**Brown, S. (2017)** "Educational Strategies for Children with Intellectual Disabilities" Summary: Brown's review explores individualized learning goals, life skills training, and simplified instructions, illustrating their impact on academic achievement and daily living skills. **Taylor, E. (2019)** "Assistive Technologies and Educational Outcomes for Students with Low Vision" Taylor reviews the use of magnification devices, Braille training, and adapted materials to enhance reading abilities and classroom engagement, aligning with Rohan Gupta's case.

## 2.1 Objective of the Study

The primary objective of this study is to explore and document effective educational strategies and interventions that address the specific needs of students with disabilities in an inclusive setting. The study aims to:

1. To examine the unique challenges faced by students with Cerebral Palsy, Hearing Impairment, Intellectual Disability, Low Vision, and Specific Learning Disabilities in academic, social, and personal contexts.
2. To analyze the role of comprehensive assessments in identifying the strengths, needs, and developmental areas of students with disabilities.
3. To assess the effectiveness of implemented interventions in improving students' academic performance, social participation, and daily living skills.

## 2.2 Research Questions

1. What are the unique challenges faced by students with Cerebral Palsy, Hearing Impairment, Intellectual Disability, Low Vision, and Specific Learning Disabilities in academic, social, and personal contexts.
2. How do various assessment tools and techniques help in identifying the strengths, needs, and developmental areas of students with disabilities?
3. What are the most effective intervention strategies for addressing the unique needs of students with different disabilities?

## 3. METHODOLOGY:

**3.1 Population of the study:** The population of this study consists of students with various disabilities enrolled in formal education settings within the Lucknow district. These students exhibit a range of disabilities, including Cerebral Palsy, Hearing Impairment, Intellectual Disability, Low Vision, and Specific Learning Disabilities, which impact their academic, social, and personal development. The focus is on understanding the challenges they face and the effectiveness of individualized interventions and inclusive education practices in addressing their needs.

### Sample of the Study:

The sample for this study consists of five students, each representing a different type of disability, allowing for a comprehensive exploration of the diverse challenges and educational needs faced by students with disabilities. The students selected include

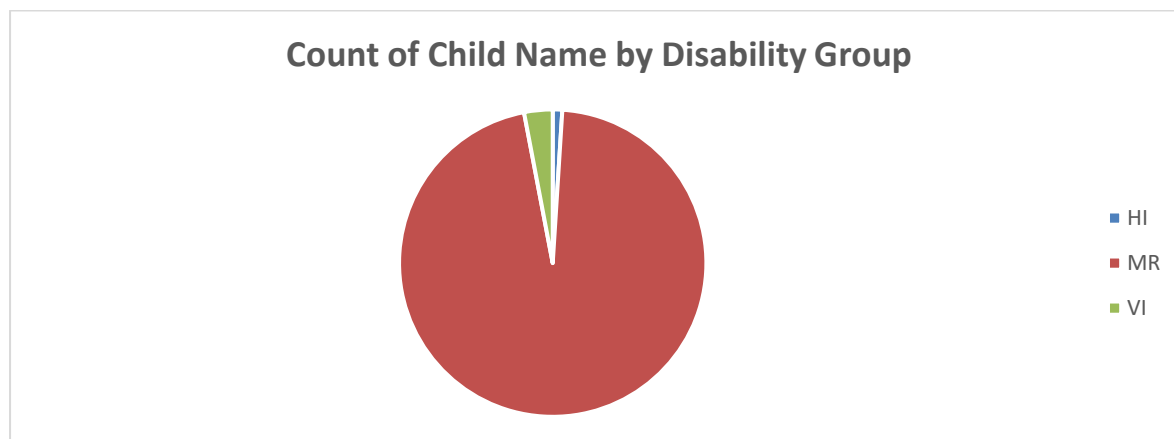


Fig 1. Count of Child Name by Disability Group

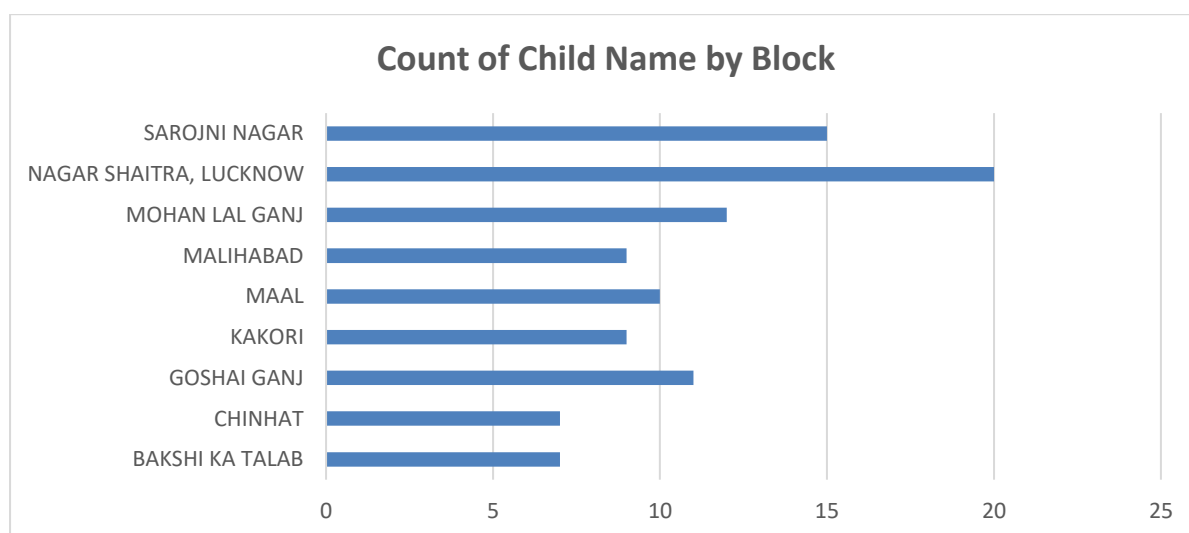


Fig 2. Count of Child Name by Block

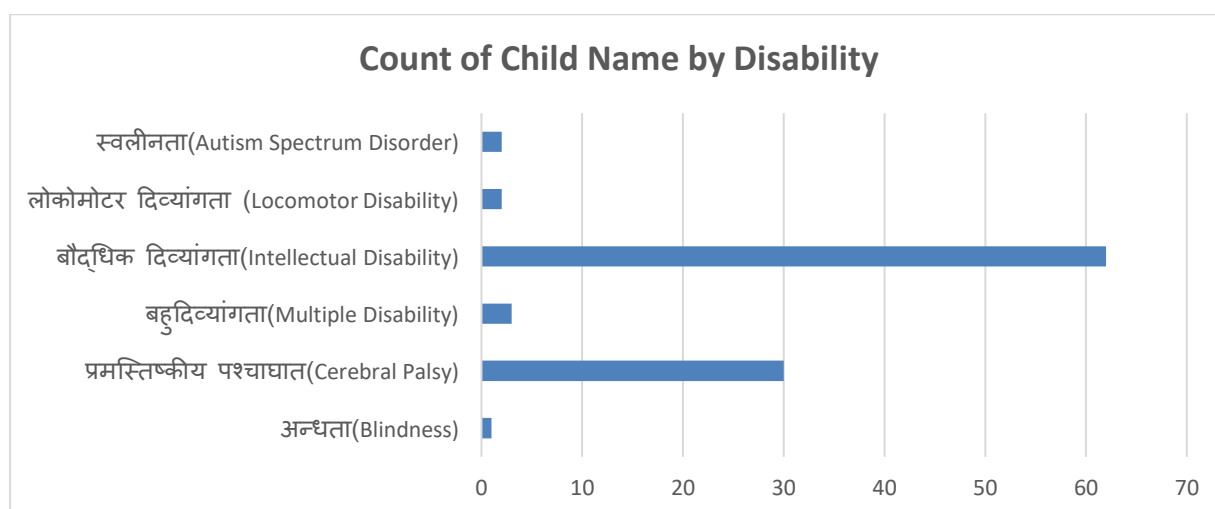


Fig 3. Count of Child Name by Disability



- Arsh Khan, a 12-year-old in Grade 7 from Chinhath Block with Cerebral Palsy
- Savita, an 11-year-old in Grade 6 from Mohan Lal Ganj Block with Hearing Impairment
- Aryan, a 9-year-old in Grade 4 from Kakori Block with Intellectual Disability
- Shiva, an 8-year-old in Grade 3 from Bakshi Ka Talab Block with Low Vision
- Yuvraj, a 6-year-old in Grade 1 from Goshi Ganj Block with Specific Learning Disabilities.

These students were purposefully selected based on the following criteria: they are enrolled in formal education settings, have a diagnosed disability that significantly impacts their academic, social, or personal development, and require individualized educational strategies or interventions. By including a diverse range of disabilities, the sample provides a rich context for understanding the specific challenges these students face, the interventions that support their development, and the broader implications for inclusive education practices. This selection allows for an in-depth analysis of the ways in which tailored educational strategies can promote the academic and social inclusion of students with varying needs.

### Tools Used in the Research

In this study researcher utilized a variety of self-developed tools to assess the needs, abilities, and progress of students with disabilities and to evaluate the effectiveness of interventions. These tools include:

#### 1. Assessment Tools

- **Motor Skills Assessments** (for Cerebral Palsy):
  - Self-developed Gross and Fine Motor Skills Checklists: Used to evaluate Arsh's coordination, stability, and dexterity.
- **Audiological Evaluations** (for Hearing Impairment):
  - Pure-Tone Audiometry, Speech Audiometry, and Tympanometry: Assessed Savita's hearing ability and middle ear function.
- **Cognitive and Developmental Assessments** (for Intellectual Disability):
  - Self-developed Intelligence Tests: Measured Aryan's cognitive abilities.
  - Developmental Milestone Checklists: Compared Aryan's progress to age-appropriate benchmarks.
- **Visual Acuity Tests** (for Low Vision):
  - Snellen chart and Low Vision Evaluation: Measured Shiva's visual sharpness and functionality.
- **Educational Assessments** (for Specific Learning Disabilities):
  - Reading, Writing, and Cognitive Tests: Evaluated Yuvraj's decoding skills, comprehension, and executive functioning.

#### 2. Behavioral and Social Evaluation Tools

- **Adaptive Behavior Scales:**
  - Evaluated daily living, social, and communication skills for all students, particularly Arsh and Aryan.
- **Observation Checklists:**
  - Monitored social interactions, classroom behavior, and participation in activities.

#### 3. Parent and Teacher Input Tools

- **Structured Surveys and Questionnaires:**
  - Gathered feedback from parents and teachers on students' abilities, challenges, and responses to interventions.

#### 4. Intervention Monitoring Tools

- **Therapeutic Progress Tracking:**
  - Physical therapy progress logs (for Arsh).
  - Speech therapy session reports (for Savita).
- **Assistive Device Usage Logs:**
  - Tracked the use and effectiveness of hearing aids, mobility aids, magnification devices, and Braille tools.

#### 5. Classroom Adaptation Tools

- **Modified Instructional Materials:**
  - Large print texts, Braille books, and high-contrast materials for Shiva.
  - Simplified and multi-sensory learning resources for Yuvraj and Aryan.
- **Observation Sheets:**
  - Documented the impact of classroom adaptations on engagement and performance.

#### Case Study 1: Cerebral Palsy Student Profile:

| Name:     | Age: | Grade:    | Disability:         | District ; | Block:  | Nyay Panchayat: |
|-----------|------|-----------|---------------------|------------|---------|-----------------|
| Arsh Khan | 12   | 7th Grade | Cerebral Palsy (CP) | Lucknow    | Chinhat | Bhitauu         |

#### Assessment:

1. **Motor Skills Assessments:**
  - **Gross Motor Skills:** Arsh showed challenges with coordination and stability in tasks like walking and balancing.
  - **Fine Motor Skills:** Difficulties observed in hand dexterity and hand-eye coordination, affecting tasks such as writing and grasping objects.
2. **Adaptive Behavior Scales:**
  - **Daily Living Skills:** Identified areas needing support in self-care activities and mobility within the classroom.
  - **Social Skills:** Evaluated his ability to interact with peers and participate in group activities, considering physical and communication challenges.

#### Intervention:

1. **Physical Therapy:**
  - **Objectives:** Improve motor function and mobility.
  - **Approach:** Included strengthening exercises, stretching routines, and balance training.
2. **Assistive Devices:**
  - **Implemented:** Specialized seating and mobility aids like walkers.
  - **Purpose:** Supported mobility and classroom engagement, enhancing comfort and participation.

#### Outcome:

1. **Improved Mobility:**
  - **Achieved Through:** Physical therapy and assistive devices.
  - **Result:** Arsh demonstrated better coordination and balance, facilitating easier movement in the classroom.
2. **Increased Classroom Participation:**
  - **Enabled By:** Specialized seating and mobility aids.
  - **Impact:** Arsh engaged more actively in group activities and social interactions, boosting overall confidence and enthusiasm for learning.

This comprehensive approach addressed Arsh's specific needs, fostering significant improvements in his daily living skills and social interactions at school

### Case Study 2: Hearing Impairment Student Profile:

| Name:  | Age: | Grade:    | Disability:        | District ; | Block:         | Nyay Panchayat: |
|--------|------|-----------|--------------------|------------|----------------|-----------------|
| Savita | 11   | 6th Grade | Hearing Impairment | Lucknow    | Mohan Lal Ganj | Bhaundari       |

#### Assessment:

##### 1. Audiological Evaluations:

- **Hearing Tests:** Pure-tone audiometry measured Savita's ability to hear various frequencies and intensities, identifying the type and degree of hearing loss.
- **Speech Audiometry:** Assessed Savita's ability to recognize and understand spoken words at different volumes, providing insight into her speech perception.
- **Tympanometry:** Evaluated middle ear function and eardrum mobility to rule out or diagnose middle ear conditions.

##### 2. Communication Assessments:

- **Speech and Language Evaluation:** Assessed Savita's expressive and receptive language skills, including articulation, sentence formation, and understanding of spoken language.
- **Observation in Social Settings:** Monitored Savita's interactions to evaluate how her hearing impairment affected her participation in conversations and group activities.

#### Intervention:

##### 1. Hearing Aids:

- **Hearing Aid Fitting:** Savita was fitted with customized hearing aids to amplify sounds based on her hearing loss profile. Adjustments were made to enhance speech frequencies and reduce background noise.
- **Training and Support:** Savita received training on using and maintaining her hearing aids, including understanding settings and troubleshooting.

##### 2. Speech Therapy:

- **Individual Therapy Sessions:** Focused on improving speech production and language comprehension through auditory training, articulation exercises, and language enrichment.
- **Group Therapy:** Enhanced conversational skills and social interactions by practicing turn-taking and understanding social cues in group settings.

#### Outcome:

1. **Improved Communication Skills:** Hearing aids and speech therapy significantly enhanced Savita's speech clarity and comprehension, improving his engagement in conversations and group discussions.

### Case Study 3: Intellectual Disability Student Profile:

| Name: | Age: | Grade:    | Disability:             | District ; | Block: | Nyay Panchayat: |
|-------|------|-----------|-------------------------|------------|--------|-----------------|
| Aryan | 9    | 4th Grade | Intellectual Disability | Lucknow    | Kakori | Bara Gaon       |

### Assessment:

#### 1. Cognitive Assessments:

- **Standardized Intelligence Tests:** Administered tests like the self-developed Intelligence Scale for Children to assess verbal comprehension, perceptual reasoning, working memory, and processing speed.
  - **Developmental Milestone Checklists:** Compared Aryan's development with typical milestones to identify delays.
- #### 2. Adaptive Behavior Assessments:
- **Vineland Adaptive Behavior Scales:** Evaluated skills in communication, daily living, socialization, and motor skills.
  - **Parent and Teacher Surveys:** Collected feedback from Aryan's parents and teachers to understand her abilities and challenges.

### Intervention:

#### 1. Individualized Learning Goals:

- **Personalized Learning Objectives:** Set specific goals for reading, mathematics, and language development.
  - **Modified Curriculum:** Adapted the curriculum to Aryan's pace with simplified concepts and frequent reviews.
- #### 2. Life Skills Training:
- **Hands-On Activities:** Taught essential life skills like hygiene and self-care through engaging activities.
  - **Simplified Instructions:** Used clear, step-by-step instructions and visual aids to support task completion.
- #### 3. Supportive Classroom Environment:
- **Structured Routine:** Maintained a consistent schedule to provide stability and predictability.
  - **Peer Interaction:** Promoted group activities to improve social skills and classroom inclusion.

### Outcome:

1. **Improved Academic Achievement:** Aryan made progress in reading, mathematics, and language skills, enhancing her confidence and motivation.
2. **Enhanced Daily Living Skills:** Increased independence in managing personal hygiene and routines through life skills training and simplified instructions.

### Case Study 4: Low Vision Student Profile:

| Name: | Age: | Grade:    | Disability: | District ; | Block:          | Nyay Panchayat: |
|-------|------|-----------|-------------|------------|-----------------|-----------------|
| Shiva | 8    | 3rd Grade | Low Vision  | Lucknow    | Bakshi Ka Talab | Asti            |

### Assessment:

#### 1. Visual Acuity Tests:

- **Snellen chart:** Measured Shiva's visual sharpness.
  - **Low Vision Evaluation:** Assessed distance and near vision using specialized charts.
- #### 2. Functional Vision Assessments:
- **Functional Vision Assessment:** Evaluated Shiva's ability to read, write, and navigate the classroom.
  - **Classroom Observation:** Identified specific challenges and areas for adaptation.

### Intervention:

- Magnification Devices:**
  - Handheld Magnifiers:** Assisted Shiva in reading and viewing materials up close.
    - Electronic Magnification Systems:** Used video magnifiers to enhance clarity of printed text and images.
- Braille Training:**
  - Braille Instruction:** Provided training in Braille to support reading and writing skills.
  - Braille Books and Materials:** Supplied Braille textbooks to ensure access to content.
- Adapted Classroom Materials:**
  - Large Print Materials:** Provided textbooks and worksheets in large print.
  - High-Contrast Materials:** Used high-contrast colors for better readability.

### Outcome:

- Enhanced Reading Abilities:** Magnification devices and Braille training improved Shiva's reading comprehension and fluency.
- Increased Classroom Engagement:** Adapted materials and support led to greater participation and ease in classroom activities.

### Case Study 5: Specific Learning Disabilities Student Profile:

| Name:  | Age: | Grade:    | Disability:                          | District ; | Block:     | Nyay Panchayat: |
|--------|------|-----------|--------------------------------------|------------|------------|-----------------|
| Yuvraj | 6    | 1th Grade | Specific Learning Disabilities (SLD) | Lucknow    | Goshi Ganj | Shivlar         |

### Assessment:

- Educational Assessments:**
  - Reading Assessments:** Tested reading comprehension, decoding, and fluency to identify reading challenges.
  - Writing Assessments:** Evaluated spelling, grammar, and composition skills.
  - Cognitive and Processing Assessments:** Assessed working memory, processing speed, and executive functioning.
- Learning Profiles and Observations:**
  - Teacher Observations:** Monitored Yuvraj's academic performance and classroom activities.
  - Parent Input:** Collected feedback on Yuvraj's academic challenges and learning experiences at home.

### Intervention:

- Specialized Instructional Strategies:**
  - Multi-Sensory Learning Techniques:** Used visual, auditory, and tactile methods for teaching reading and writing.
  - Structured Reading Programs:** Focused on phonemic awareness, decoding skills, and comprehension strategies.
- Accommodations:**
  - Extra Time on Tests:** Provided additional time to complete tests and assignments.
  - Modified Assignments:** Adjusted assignments to focus on key learning objectives and reduce complexity.
- Support Services:**
  - Reading Specialist:** Offered one-on-one instruction to address reading difficulties.
  - Academic Coaching:** Provided coaching to develop organizational and study skills.



**Outcome:**

- Improved Literacy Skills:** Yuvraj made progress in reading comprehension, decoding, and writing, enhancing her overall academic performance.
- Enhanced Classroom Performance:** Modified assignments and extra time on tests improved Yuvraj’s ability to complete tasks and participate actively in class, increasing her confidence and engagement.

**4. CONCLUSION:**

The findings of this study highlight the critical role that individualized interventions and inclusive educational practices play in the development of students with disabilities. The tailored strategies employed for each case—whether physical therapy and assistive devices for Arsh with Cerebral Palsy, hearing aids and speech therapy for Savita with hearing impairment, or multi-sensory learning methods for Yuvraj with Specific Learning Disabilities—demonstrate the necessity of addressing the unique needs of each student. These interventions not only improved their academic performance but also enhanced their social engagement, personal independence, and overall well-being. For instance, Arsh’s improved mobility and increased classroom participation were made possible through specialized seating and mobility aids, while Savita’s communication skills were significantly boosted by the combination of hearing aids and group therapy. Similarly, Aryan’s academic and life skills progress was supported through personalized goals and a consistent routine, leading to greater stability and focus.

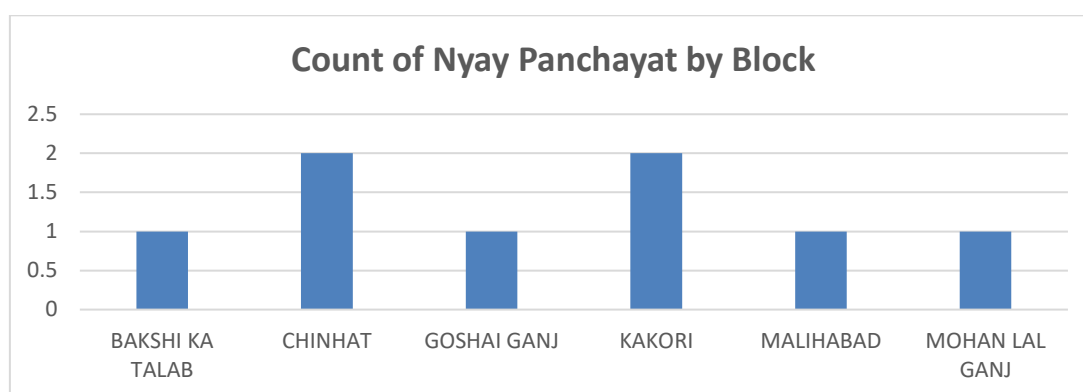


Fig4. Count of Nyay Panchayat by Block

The study also emphasized the transformative role of assistive devices, such as hearing aids, magnification tools, and mobility aids, in overcoming physical and sensory barriers. These devices facilitated students’ access to learning materials and allowed them to engage more effectively in classroom activities, thereby promoting inclusivity. Moreover, the cross-cutting findings highlight that inclusive education practices—such as collaborative efforts between teachers, parents, and peers—are crucial for creating a supportive environment where students feel valued, confident, and motivated to learn.

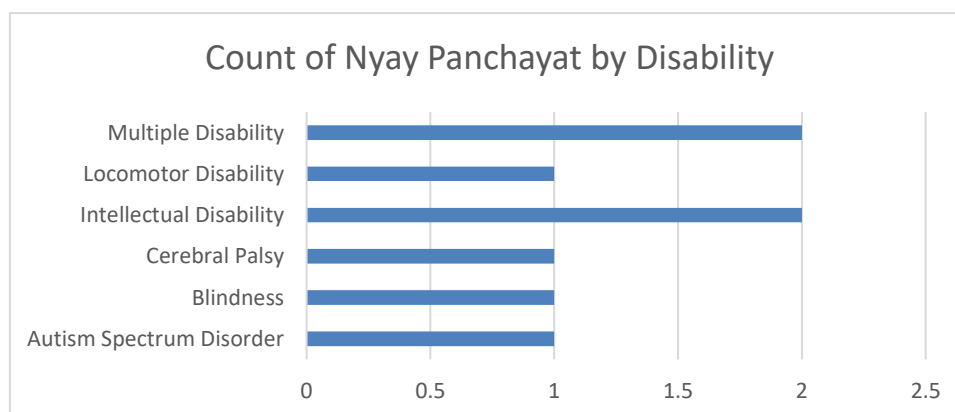


Fig 5. Count of Nyay Panchayat by Disability

In conclusion, the research underscores the importance of a multi-faceted approach to education for students with disabilities. It illustrates how individualized interventions, combined with the use of assistive technology and inclusive teaching practices, can lead to significant improvements in both academic and social outcomes. By fostering an environment that values diversity and supports the unique needs of each learner, educational systems can help ensure that students with disabilities not only succeed in their academic endeavors but also thrive as confident, engaged members of their communities. These findings provide valuable insights for educators, policymakers, and families, emphasizing the need for continued efforts to build and sustain inclusive educational practices that promote equity and accessibility for all students.

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# Global Trends in Physical Activity Interventions for Managing Polycystic Ovarian Syndrome: A Bibliometric Analysis

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**Abstract:** PCOS is a common endocrine disorder among women of reproductive age, characterized by metabolic, reproductive, and psychological complications. Physical activity interventions have been recognized as a critical non-pharmacological strategy in managing the symptoms of PCOS, including improving insulin sensitivity, hormonal regulation, and enhancing overall quality of life. This bibliometric analysis investigates global trends in research on physical activity interventions for PCOS management from 2000 to 2024. Using bibliographic databases such as Scopus, this study explores publication trends, influential authors, collaboration networks, key journals, and geographic distribution of research output. The analysis identifies the most frequently cited articles and highlights emerging themes in the field, such as the role of aerobic exercises, resistance training, and yoga in managing PCOS symptoms. Furthermore, the study reveals gaps in research, such as limited studies on culturally specific and population-targeted interventions. These insights can guide future research and policy development in designing effective, evidence-based physical activity programs for PCOS management, ultimately improving women's health outcomes.

**Keywords:** Polycystic Ovarian Syndrome, physical activity, bibliometric analysis, global trends, exercise interventions, women's health.

## 1. INTRODUCTION :

Polycystic Ovarian Syndrome (PCOS) is a complex endocrine disorder that affects approximately 5-10% of women of reproductive age globally, making it one of the most common hormonal disorders among women (Teede et al., 2018). The condition is characterized by hyperandrogens, irregular menstrual cycles, and polycystic ovaries, which can result in long-term complications such as infertility, metabolic syndrome, and type 2 diabetes. The etiology of PCOS is multifactorial, with genetic, environmental, and lifestyle factors contributing to its onset and progression (Kandarakis et al., 2019). Genetic factors play a significant role in PCOS, with evidence indicating a hereditary component. Women with a family history of PCOS are more likely to develop the condition, and genetic variations related to insulin resistance and androgen production have been linked to the syndrome (Goodarzi et al., 2017). Daughters of women with PCOS also have a higher risk of developing the condition (Zhao et al., 2020). Insulin resistance, present in up to 70% of women with PCOS, contributes to hormonal imbalances that worsen symptoms (Dunaif, 2020). Excess body weight further increases insulin resistance, exacerbating these imbalances (Moran et al., 2019). These imbalances disrupt ovulation, leading to anovulation and difficulties with conception (Morreale, 2018).

Hyperandrogenism, a defining feature of PCOS, plays a key role in diagnosis (Teede et al., 2018). Women with PCOS often seek fertility treatments due to irregular ovulation (Palomba et al., 2018). Psychological symptoms may also emerge from the physical and chronic nature of PCOS (Kerchner et al., 2009). In many cases, PCOS is often confused with Polycystic Ovarian Disease (PCOD), another condition involving cystic ovaries. However, PCOD is typically less severe and does not necessarily exhibit the same systemic hormonal imbalances that are characteristic of PCOS. Both conditions, however, present significant challenges to women's reproductive health and quality of life (Franks, 2020). For many women, the onset of PCOS can occur during adolescence, and early symptoms are often connected to disruptions in the hypothalamic-pituitary-ovarian (HPO) axis. These hormonal imbalances can cause irregularities in ovulation and menstruation, leading to the development of cysts on the ovaries (Morreale, 2018). Women struggling with PCOS often face multiple health challenges beyond reproductive issues. The syndrome is closely associated with insulin resistance, obesity, and an increased risk of cardiovascular disease (Moran et al., 2019). Managing PCOS is therefore crucial not only for reproductive health but also for reducing the risk of these associated metabolic disorders. One of the most effective and non-pharmacological interventions for managing PCOS symptoms is physical activity (Benham et al., 2020). Recent studies have emphasized the importance of regular physical activity in improving insulin sensitivity, reducing body mass index (BMI), and promoting better hormonal balance in women with PCOS (Harrison et al., 2019). Physical activity interventions are critical in addressing the root causes of PCOS, particularly since they target the underlying insulin resistance and weight management issues that exacerbate the condition (Teede et al., 2018). Women are often advised to engage in at least 30 minutes of moderate-intensity physical activity per day, which has been shown to have substantial benefits, including the regulation of menstrual cycles and reduction in androgen levels (Karabulut et al., 2021). Such interventions are essential for women at all stages of PCOS, including those in the early stages of the syndrome where lifestyle changes can significantly alter disease progression (Chandler et al., 2020). Despite the global acknowledgment of the benefits of physical activity for managing PCOS, there remains a gap in the implementation of these interventions at a broader scale. Culturally tailored approaches that consider varying socioeconomic contexts, particularly in low-resource settings, are needed to make these interventions more accessible and effective (Brady et al., 2020). The following bibliometric analysis aims to provide a comprehensive overview of the global trends in physical activity interventions for managing PCOS. By examining publication trends, key research areas, and geographic disparities in research output, this analysis sheds light on the progress made in this field and identifies areas for future research and policy development.

## 2 LITERATURE REVIEW:

Cowan et al. (2023) recognized as a condition among women of reproductive age, leading to reproductive, metabolic, and psychological challenges. Weight management and lifestyle modifications, including diet and physical activity, are the primary recommended treatments. While general dietary guidelines are advised, no specific diet has proven superior for managing PCOS symptoms. Vigorous aerobic exercise, however, has shown promise in improving body composition, fitness, and insulin resistance. Psychological and sleep interventions are also important, as women with PCOS often experience emotional distress and sleep disturbances, which can hinder positive lifestyle changes. There is growing interest in Traditional, Complementary, and Integrative Medicine (TCIM) approaches, particularly supplements like inositol, which show potential benefits. However, more research is needed to validate the efficacy of other supplements, herbal medicines, acupuncture, and yoga. Holistic approaches require further study to determine their role in the comprehensive management of PCOS. Butt et al. (2023) examined that endocrine disorder affecting 6-26% of reproductive-aged women worldwide. This systematic review aimed to assess the impact of physical activity on reproductive health in women with PCOS. It included seven randomized controlled trials (RCTs) published between 2010 and 2022, focusing on physical activity and its effects on menstrual cycles, hormonal balance, and hyperandrogenism. The findings showed that physical activity, either alone or combined with other treatments, improved reproductive functions, reduced infertility, and alleviated psychological stress in women with PCOS. Kazemi et al. (2022) aimed to analyze differences in dietary and physical activity (PA) behaviors between women with Polycystic Ovary

Syndrome (PCOS) and those without. The review synthesized evidence from multiple studies to understand the unique lifestyle behaviors that may contribute to weight gain and obesity in women with PCOS. Findings revealed that women with PCOS had poorer diet quality, consumed more cholesterol and less magnesium and zinc, and engaged in lower levels of physical activity compared to controls, though they drank less alcohol. The study highlighted the need for further research to clarify the influence of genetic, metabolic, and sociodemographic factors on these behaviors, with implications for developing precision lifestyle medicine to manage PCOS-related complications like obesity, diabetes, and cardiovascular disease. **Lamb et al. (2011)** aimed to assess the prevalence and predictors of physical activity in women with Polycystic Ovary Syndrome (PCOS) and explore the associated health benefits. A cross-sectional analysis was conducted on 150 women with PCOS, comparing active women (those meeting the Department of Health and Human Services [DHHS] exercise guidelines) with inactive women based on demographic, psychosocial, and health characteristics. Results showed that women who met the physical activity guidelines experienced various health benefits. The study also identified specific groups at risk for insufficient physical activity, emphasizing the need for targeted interventions. **Banting et al. (2014)** explored the relationship between physical activity and mental health in women with and without Polycystic Ovary Syndrome (PCOS), while also examining exercise barriers, motivators, and sources of support. Involving 153 women with PCOS and 64 without, the study found that women with PCOS experienced higher levels of depression and anxiety compared to controls. However, physically active women showed significantly lower levels of depression than their inactive counterparts. Women with PCOS reported unique barriers to physical activity, such as lack of confidence, fear of injury, and physical limitations, but were also more motivated to exercise for managing medical conditions and identified more sources of support. The findings suggest that physical activity can improve mental health in women with PCOS, and exercise prescriptions should be tailored to address both common and PCOS-specific challenges.

### The objectives of the present study are:

The primary objective of this study is to conduct a comprehensive bibliometric analysis of global research trends in physical activity interventions for managing Polycystic Ovarian Syndrome (PCOS). Specifically, the study aims to:

This trend may indicate diminishing relevance or prioritization of the topic within the academic community, possibly due to evolving research interests or saturation in foundational studies.

- Assess yearly citation patterns (2020–2024) to identify shifts in scholarly attention toward physical activity and PCOD research.
- Examine annual research output to highlight periods of increased or decreased scholarly activity.
- Identify leading journals publishing research on physical activity and PCOD.
- Evaluate the contributions of key researchers and their influence on the field.
- Analyze global research contributions to identify dominant regions and their research focus.
- Highlight interdisciplinary research opportunities and underrepresented areas of study.
- Assess the role of key funding agencies in supporting research outputs.
- Identify global collaborations, thematic focuses, and influential studies within the field.

### 3 METHODOLOGY:

To articulate the methodology section in alignment with the PRISMA 2020 guidelines. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocols, this overview will detail the outlined criteria, which encompass the search strategy, eligibility requirements, and the meticulous study selection process. The accompanying flowchart visually represents the systematic screening and subsequent inclusion of studies relevant to physical activity and polycystic ovary syndrome (PCOS) derived from the Scopus database. In adherence to the PRISMA protocols, key



components such as the rationale for the review, systematic identification of relevant studies, and assessment of study quality will be addressed. This organized framework provides a thorough understanding of the selection criteria utilized, thereby bolstering the rigor and reproducibility of the analysis.

### **Inclusion Criteria**

The analysis included articles published in peer-reviewed journals (n=349), focusing on studies related to physical activity and its impact on polycystic ovary syndrome (PCOS). The majority of the selected articles were in English (n=333), with other languages considered only if they were deemed highly relevant to the topic. Priority was given to studies published between 2020 and 2024, although earlier works prior to 2020 were also screened for relevance to ensure a comprehensive understanding of the subject. Open access articles were favored for inclusion (n=203) due to their ease of accessibility and peer-review status. Additionally, studies that examined physical activity as an independent variable were specifically emphasized, given their importance in understanding the direct effects of exercise on the health outcomes of women with PCOS.

### **Exclusion Criteria**

The eligibility criteria for this review encompass the exclusion of studies that do not involve a physical activity intervention, non-original research (such as reviews, conference papers, editorials), articles lacking access to full texts, retracted papers, and short notes. Additionally, studies focusing on adolescents under 18 years of age or menopausal-aged women over 50 years were excluded from consideration. Furthermore, research published prior to 2020 was also excluded to ensure that the analysis reflects the most current evidence and practices in the field.

### **Information Sources:**

The information sources utilized for this systematic review primarily consisted of peer-reviewed articles obtained from the Scopus database. The initial search yielded a total of 532 articles. A total of 128 relevant studies remained for inclusion in the systematic review.

### **Search Strategy:**

A systematic search was conducted in the Scopus database using the predefined search strategy that included keywords related to "physical activity" and "polycystic ovary syndrome (PCOS)". This approach aimed to gather comprehensive and relevant evidence regarding the impact of physical activity interventions on women with PCOS.

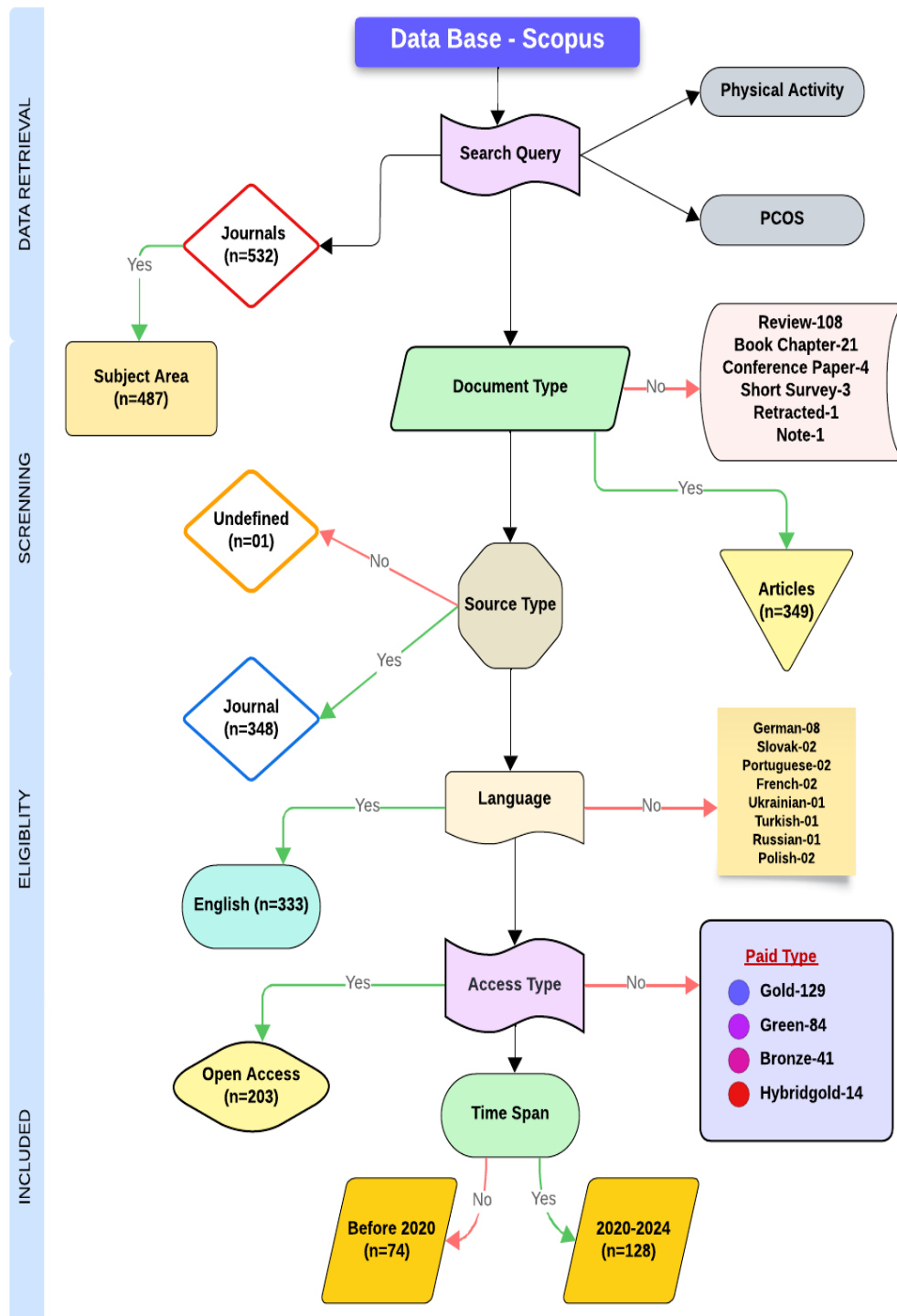
### **Data Collection Process:**

The data collection process for this research began by accessing the Scopus database, focusing on studies related to "Physical Activity" and "PCOS" (Polycystic Ovary Syndrome). A search query was initiated, yielding a total of 532 documents categorized under various types. Among these, 487 documents were classified as journal articles, which then proceeded to further screening. The documents that did not meet the journal criterion (1 document marked as undefined) were excluded.

For the next stage, only articles (349 out of 532 documents) were included, while other document types such as reviews (108), book chapters (21), conference papers (4), short surveys (3), retracted items (1), and notes (1) were excluded. These articles were further filtered by language, with 333 articles in English. Articles in other languages (such as German, Slovak, Portuguese, French, and others) were excluded at this stage.

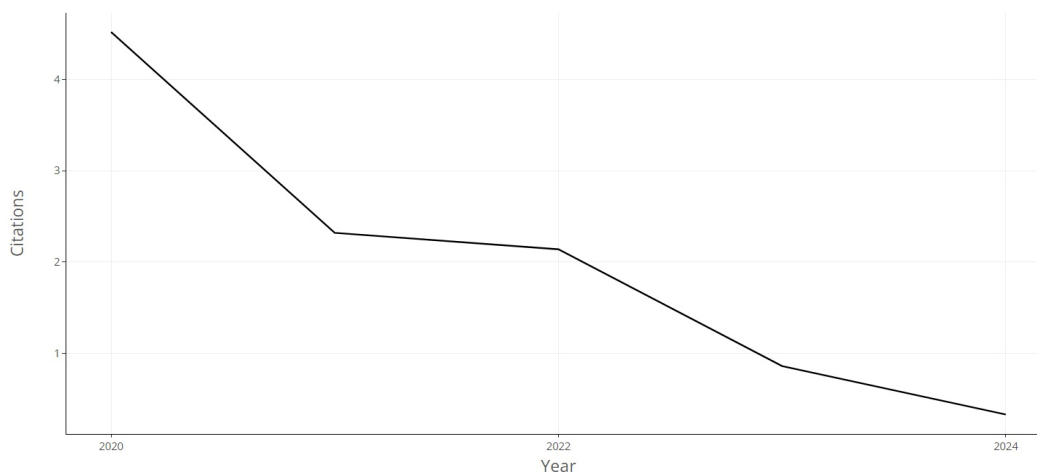
The selected English-language articles were then filtered based on access type, with 203 identified as open-access articles. Finally, the time span was considered, dividing articles into two groups: those published before 2020 (74 articles) and those from 2020 to 2024 (128 articles). Additionally, the access type for these articles was classified by the paid type: Gold (129), Green (84), Bronze (41), and Hybrid Gold (14).

Flow Chart:1



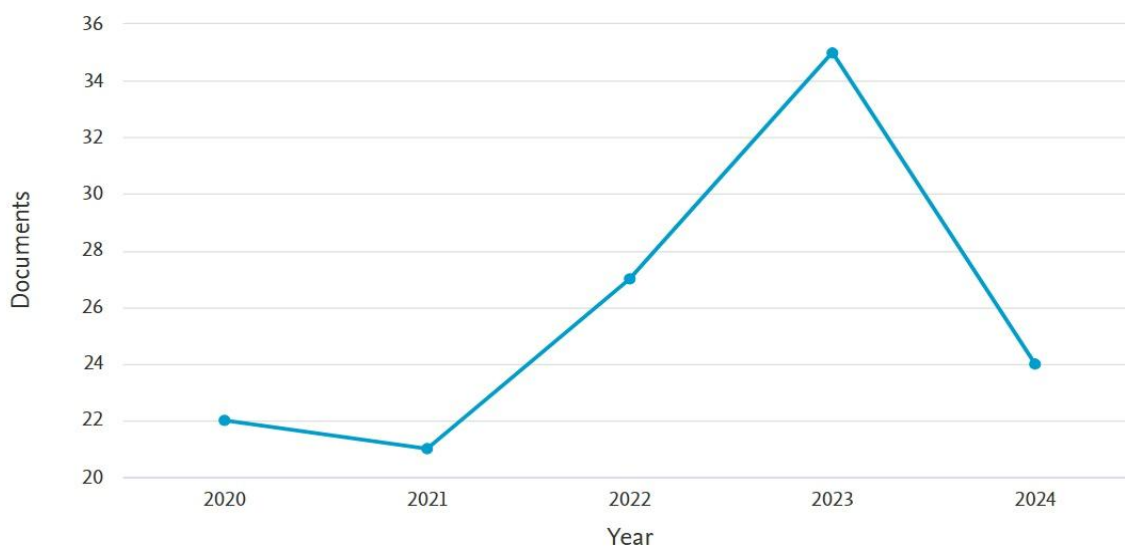
## 4 DATA ANALYSIS

*Figure 1: Yearly Citation Distribution for Studies on Physical Activity for PCOD*



The trend in citations from 2020 to 2024 demonstrates a steady decline in scholarly attention to the topic. In 2020, citation counts peaked at approximately 4.5, indicating strong academic interest. However, by 2021, this interest began to wane, with citations dropping to around 3. The decline continued gradually through 2022, with citations decreasing to roughly 2.5. A sharper drop occurred in 2023, bringing the citation count down to about 1.5. By 2024, citations had reached their lowest point, hovering near 1. This overall trend suggests a diminishing relevance or interest in the topic within the academic community over these years.

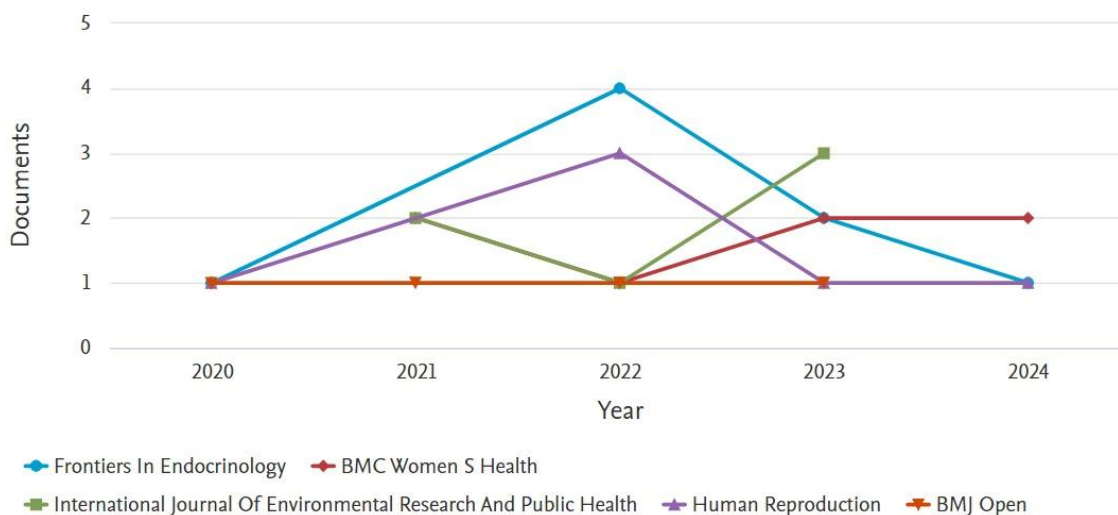
*Figure 2: Annual Publications per year on Physical Activity for PCOD (2020-2024)*



The distribution of documents over the years from 2020 to 2024 reveals a fluctuating trend in publication volume. Starting in 2020 with around 22 documents, there was a slight decrease in 2021, bringing the count down to approximately 21. This was followed by a gradual increase in 2022, reaching about 24 documents. The most notable change occurred in 2023, where the number of documents surged sharply to around 35, marking the peak of publications within this period. However, this heightened interest was short-lived, as 2024 saw a significant drop, with the document count returning to roughly 24.

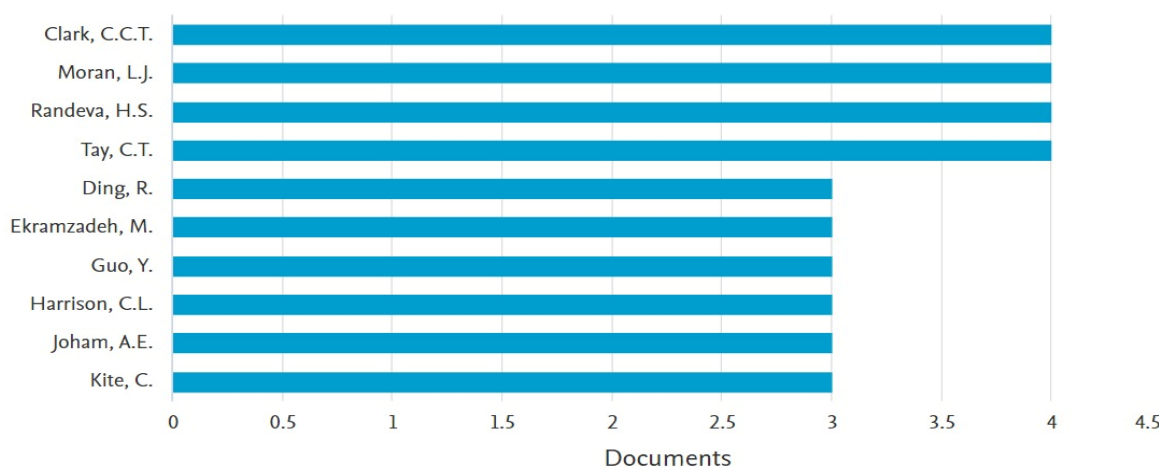
22. This trend may reflect a peak in scholarly interest or research output on the topic in 2023, followed by a reduction in 2024.

**Figure 3: Distribution of Journals Publishing on Physical Activity for PCOD**



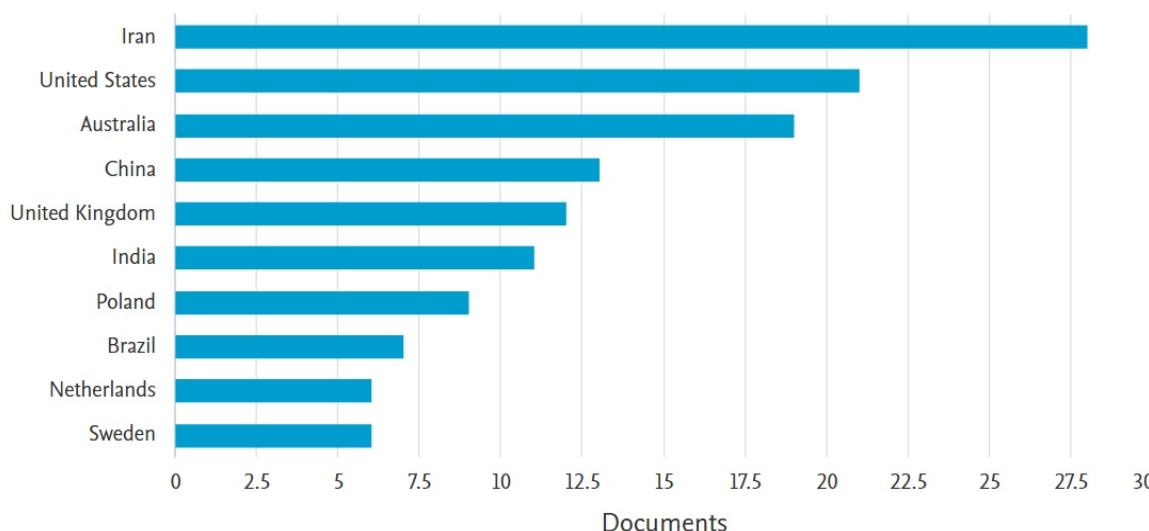
The line graph illustrates the publication trends across several journals from 2020 to 2024. *Frontiers in Endocrinology* started with one document in 2020, gradually increased to a peak of four in 2022, and then dropped back to one document in 2023, with no publications recorded for 2024. *BMC Women's Health* maintained a consistent output of one document per year throughout the period, showing steady but low publication activity. Similarly, the *International Journal of Environmental Research and Public Health* began with one document in 2020 and 2021, rose to two in 2022, and peaked at three documents in 2023, with no contributions in 2024. *Human Reproduction* showed a rise from one document in 2020 to three in 2022, but it had no publications in 2023 or 2024. Lastly, *BMJ Open* had no publications in 2020 but maintained a steady output of one document per year from 2021 to 2023, with no documents in 2024. Overall, the data suggests that *Frontiers in Endocrinology* and the *International Journal of Environmental Research and Public Health* saw notable peaks during the period, while other journals remained consistent but lower in output.

**Figure 4: Documents by Author on Physical Activity for PCOD**



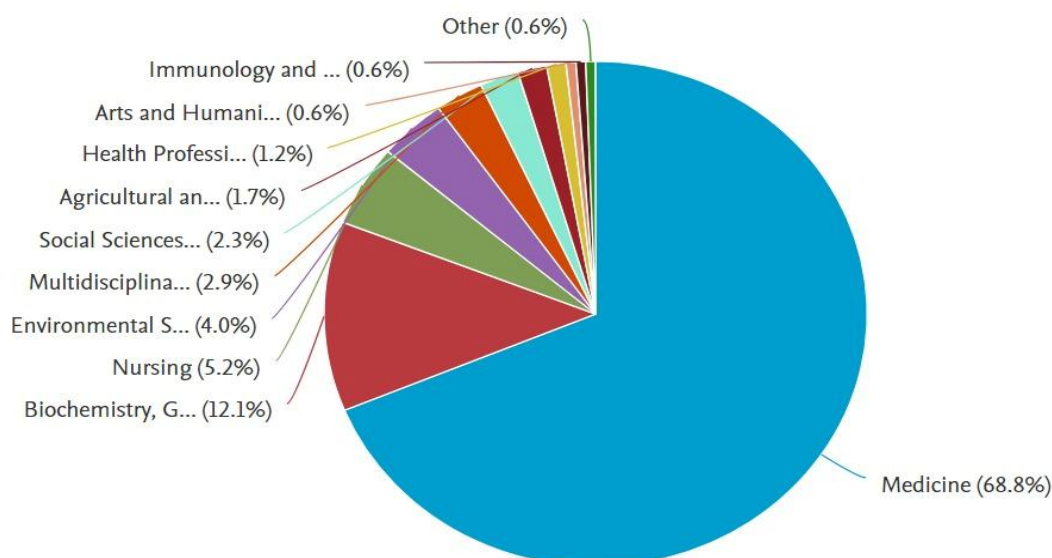
The bar graph illustrates the number of documents authored by each of the listed researchers, showing that all contributors, including Clark, C.C.T.; Moran, L.J.; Randeva, H.S.; Tay, C.T.; Ding, R.; Ekramzadeh, M.; Guo, Y.; Harrison, C.L.; Joham, A.E.; and Kite, C., have each published three documents. This uniform contribution suggests a balanced level of research output among these authors, indicating either a collaborative approach to research or a similar level of individual engagement within this specific research field.

**Figure 5: Geographical Distribution of Research Contributions on Physical Activity for PCOD**



The bar graph presents the number of documents published by researchers from various countries. Iran leads with the highest output, contributing close to 30 documents. Following Iran, the United States has a significant number of publications, around 20. Australia and China are next, with each contributing over 15 documents, while the United Kingdom and India have slightly fewer, each producing over 10 documents. Poland, Brazil, the Netherlands, and Sweden contributed a smaller number of documents, with each country producing between 5 and 10. This distribution highlights Iran as a primary contributor in this field, with the United States, Australia, and China also making substantial contributions, while the remaining countries have more moderate outputs.

**Figure 6: Documents by Subject Area on Physical Activity for PCOD**



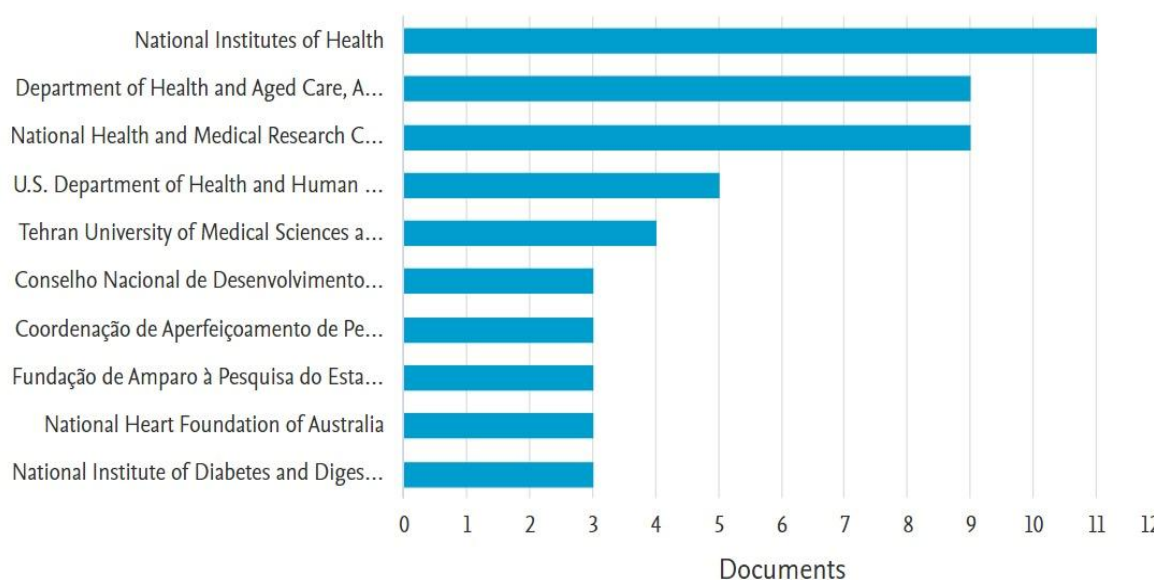


The pie chart represents the distribution of research articles or studies across various disciplines, with "Medicine" occupying the largest share at 68.8%. This suggests a predominant focus on medical research within the context analyzed. Following Medicine, the next most represented field is "Biochemistry, Genetics, and Molecular Biology" at 12.1%, indicating a significant interest in biological and genetic aspects. "Nursing" ranks third with 5.2%, showing a notable emphasis on healthcare support roles. Environmental Science, at 4.0%, reflects some focus on environmental impacts or interactions.

Other fields include "Multidisciplinary" studies (2.9%) and "Social Sciences" (2.3%), which suggest a moderate interest in combining diverse areas and understanding social perspectives. Smaller contributions come from "Agricultural and Biological Sciences" (1.7%), "Health Professions" (1.2%), "Arts and Humanities" (0.6%), and "Immunology and Microbiology" (0.6%), with a final category, "Other," also at 0.6%. These smaller percentages indicate limited yet present interdisciplinary interest beyond the core fields of medicine and biology.

Overall, this distribution highlights a concentrated focus on medical and biological sciences, with smaller, yet valuable, contributions from other disciplines.

**Figure 7: Documents by Funding Sponsor on Physical Activity for PCOD**

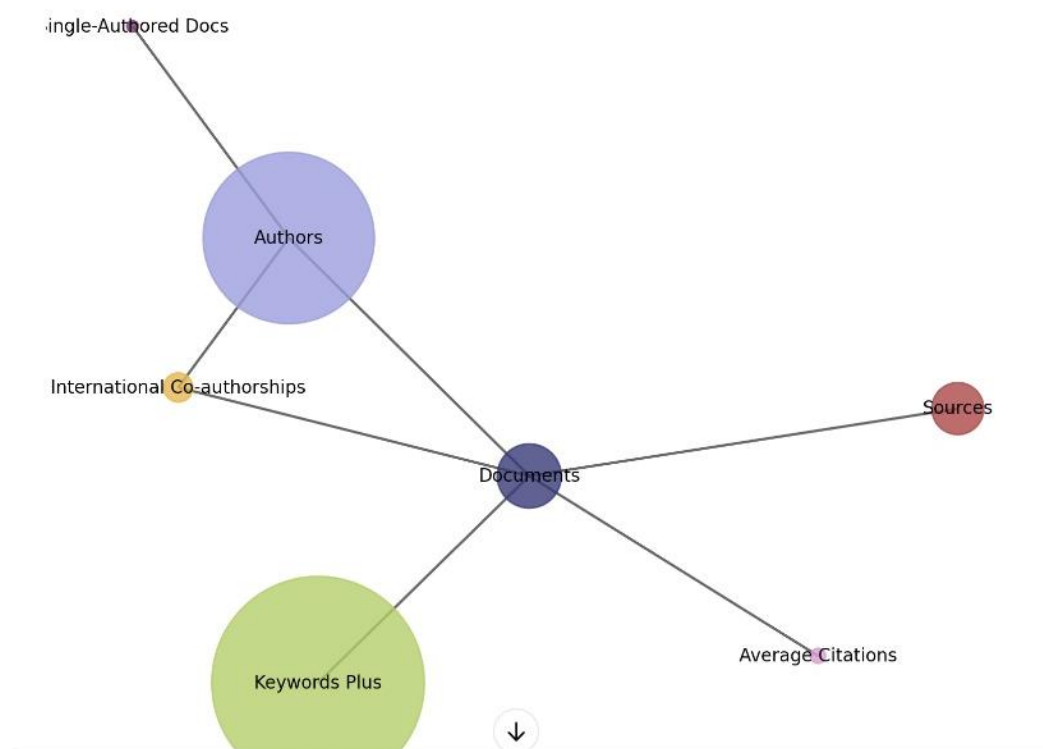


The bar chart illustrates the number of documents contributed by various organizations, highlighting key institutions involved in research contributions. The "National Institutes of Health" leads with the highest number of documents, totaling 11, indicating its prominent role in this research area. Following closely are the "Department of Health and Aged Care, Australia" and the "National Health and Medical Research Council," each contributing 9 documents, showcasing their strong involvement in research initiatives, particularly within the Australian context.

The "U.S. Department of Health and Human Services" ranks next with 4 documents, reflecting significant but lesser engagement compared to the top contributors. The "Tehran University of Medical Sciences and Health Services" contributed 3 documents, showing its active participation in research, along with several Brazilian institutions, including the "Conselho Nacional de Desenvolvimento Científico e Tecnológico" and the "Coordenação de Aperfeiçoamento de Pessoal de Nível Superior," each contributing 2 documents. Other notable contributors, each providing 1 document, include the "Fundação de Amparo à Pesquisa do Estado de São Paulo," the "National Heart Foundation of Australia," and the "National Institute of Diabetes and Digestive and Kidney Diseases."

This distribution highlights a predominant contribution from American and Australian health organizations, with additional input from Brazilian and Iranian institutions, indicating an international interest in advancing research within this area.

*Figure 8: Documents by Science Mapping on Physical Activity for PCOD*



The diagram represents a bibliographic coupling map, which visualizes the relationships between various components of scientific literature based on shared references. At the center are documents, which serve as the focal point of analysis, connecting to other key elements. The authors node highlights the contribution of researchers, indicating shared authorship across the documents. The international co-authorships node emphasizes global collaborations, showing how documents are linked through partnerships between authors from different countries. The Keywords Plus node represents frequently occurring terms or phrases within the documents, revealing the central themes and topics of research. The sources node identifies the journals or publication venues where these documents appear, reflecting the common platforms used for dissemination. Lastly, the average citations node showcases the impact of the documents by indicating the average number of citations they have received, which signifies their influence within the scientific community. The connections between these nodes illustrate the shared characteristics and interdependencies among the elements, with the size of nodes and the thickness of lines potentially representing the strength of these links.

## 5 DISCUSSION:

This bibliometric analysis highlights key insights and uncovers several research gaps in physical activity interventions for PCOS management. While there is clear evidence supporting the benefits of exercise—especially aerobic activities, resistance training, and yoga—in alleviating symptoms like insulin resistance, hormonal imbalances, and psychological distress, significant gaps persist in understanding specific mechanisms and optimizing intervention strategies. One major gap lies in exploring how different types of exercise directly impact ovarian morphology, as limited research examines how physical activity influences ovarian structure and cystic changes, potentially impacting PCOS at a cellular level. Another area needing attention is the determination of optimal training schedules, such as frequency, intensity, and duration, to maximize benefits in metabolic, hormonal, and psychological outcomes. Furthermore, while aerobic and resistance training are often studied, other

forms like high-intensity interval training (HIIT) or hybrid exercise regimens remain underexplored. The development of culturally sensitive and population-specific interventions also holds promise, particularly in regions where PCOS is prevalent, yet research contributions remain sparse. Addressing the influence of cultural factors could make these interventions more effective and accessible, especially in low-resource settings. Moreover, despite the advantages of physical activity, research on integrating digital health technologies—such as wearable fitness trackers, telemedicine, and mobile applications—is still limited. These technologies could offer scalable and individualized support to women with PCOS. Tackling these gaps through interdisciplinary research spanning medicine, genetics, exercise science, and social sciences is essential to enhance our understanding of PCOS and improve management strategies on a global scale.

## **6. CONCLUSION:**

Based on the analysis of global research trends in physical activity interventions for managing Polycystic Ovarian Syndrome (PCOS), the conclusion underscores the critical role of physical activity as a non-pharmacological strategy in addressing PCOS symptoms. Key insights highlight the effectiveness of interventions like aerobic and resistance exercises, alongside emerging interest in yoga, for improving insulin sensitivity, hormonal balance, and psychological well-being. Despite growing research, substantial gaps exist, particularly concerning culturally tailored interventions and region-specific research focused on PCOS management in diverse socio-economic settings.

The bibliometric review demonstrates that while physical activity is integral to PCOS management, research output varies significantly by region, with a majority concentrated in a few countries. The data shows that further expansion into underrepresented regions is crucial for comprehensive global understanding and implementation. Additionally, there is a need to enhance collaborative efforts among institutions and researchers to address these gaps and develop effective, accessible intervention programs that cater to varying cultural and resource contexts.

Future research should continue to focus on innovative approaches that incorporate digital health technologies, which can enhance engagement and monitoring in physical activity programs. Integrating these technologies and culturally relevant practices could increase adherence and effectiveness, ultimately improving health outcomes for women with PCOS across different populations. In conclusion, this study provides a foundation for future policy and research directions aimed at promoting physical activity as a cornerstone in the holistic management of PCOS, paving the way for healthier lives for women worldwide.

## **7. RECOMMENDATION:**

- Developing and testing culturally specific physical activity interventions, particularly in low-resource settings, can improve accessibility and engagement among diverse populations affected by PCOS.
- Colleges should implement more yoga classes specifically targeted towards women, offering both physical and mental health benefits that are particularly effective in managing PCOS symptoms. Regular yoga sessions can support hormonal balance, reduce stress, and promote overall wellness.
- Incorporating digital tools, such as mobile applications and wearable devices, to support physical activity adherence could make intervention programs more accessible and personalized.
- Future studies should further investigate the role of holistic interventions like yoga and mindfulness practices, which could enhance psychological well-being and support comprehensive PCOS management.
- Establishing partnerships among countries with high PCOS prevalence can lead to shared resources, knowledge, and more effective population-specific strategies.
- Public health policies should support preventive care measures that promote regular physical activity from an early age, helping to mitigate PCOS onset and progression.

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# The Influence of Traditional Games on the Development of Fundamental Movement Skills in Early Childhood: A Bibliometric Analysis

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**Abstract:** *Fundamental movement skills (FMS) are crucial for children's physical, cognitive, and social development, providing the foundation for lifelong physical activity and overall well-being. Traditional games, rooted in cultural practices, have gained attention as effective tools for enhancing FMS in early childhood, promoting physical engagement, coordination, and social interaction. This bibliometric analysis examines global research trends on the influence of traditional games on FMS development in children aged 3 to 8, covering the period from 2000 to 2024. Using databases such as Scopus and Web of Science, this study explores publication patterns, influential authors, key journals, and geographic distributions of research output. The analysis identifies frequently cited articles and prominent themes, including the role of locomotor, object control, and balance skills in early childhood development through traditional games. Additionally, the study uncovers gaps in the literature, particularly the limited research on region-specific traditional games and their integration into formal education. By mapping the existing body of work, this review provides insights into the benefits of traditional games in fostering FMS, offering guidance for educators, policymakers, and researchers in promoting culturally relevant physical activity interventions for early childhood development.*

**Key Words:** *Fundamental Movement Skills (FMS), Traditional Games, motor skills, Fundamental motor skills.*

## 1. INTRODUCTION

Traditional games have long been recognized as a cornerstone of cultural heritage, offering unique insights into diverse communities' histories, values, and practices (Prajapati et al., 2020). These games, often requiring minimal resources, not only provide entertainment but also serve as vital tools for fostering physical, social, and cognitive development in children (Clemente et al., 2021). Designed for simplicity and inclusivity, traditional games naturally integrate active play with cultural enrichment, making them particularly valuable in early childhood development.

In early childhood, the development of fundamental movement skills (FMS)—such as locomotor skills (e.g., running, hopping), manipulative skills (e.g., throwing, catching), and stability skills (e.g., balancing, twisting)—is essential for promoting lifelong physical activity and health. Research indicates that early proficiency in FMS is strongly associated with higher levels of physical fitness, reduced obesity risk, and sustained participation in sports and recreation throughout life (Lubans et al., 2010; Hardy et al., 2012). However, modern lifestyles, characterized by increasing screen time and sedentary behaviour, have led to significant declines in active play. This has resulted in delayed motor development and fewer opportunities for children to practice essential movement skills (Carson et al., 2015).

Traditional games provide a compelling solution to these challenges by embedding the practice of FMS into enjoyable, structured, and inclusive activities. For example, games such as hopscotch, tag, and jump rope enhance agility, balance, coordination, and endurance among young participants (Hastie et al., 2011). These games not only promote physical competence but also nurture critical life skills such as problem-solving, teamwork, creativity, and resilience key aspects of holistic childhood development (Bailey et al., 2009). Their inclusive nature, requiring minimal equipment and allowing children of different skill levels to participate, further fosters social interaction and teamwork.

Beyond their developmental benefits, traditional games carry significant cultural value. By engaging in activities rooted in their community's heritage, children can develop a deeper sense of identity and belonging (García-López et al., 2014). This dual role of traditional games in preserving cultural traditions and promoting developmental health underscores their importance in today's increasingly globalized yet sedentary world.

Research highlights the potential of traditional games to enhance early childhood development while addressing cultural preservation. For instance, Clemente et al. (2021) emphasize that traditional games not only improve motor skills but also foster an appreciation for local traditions. Similarly, Mandigo et al. (2010) advocate for incorporating these games into educational and community programs to promote social cohesion, mental well-being, and physical literacy.

## **2. STATEMENT OF THE PROBLEM**

This bibliometric analysis examining year-wise and country-wise publications, as well as citation trends, is necessary to assess the scope and impact of existing research, identify knowledge gaps, and understand the extent to which traditional games have been empirically explored as effective methods for FMS development in early childhood.

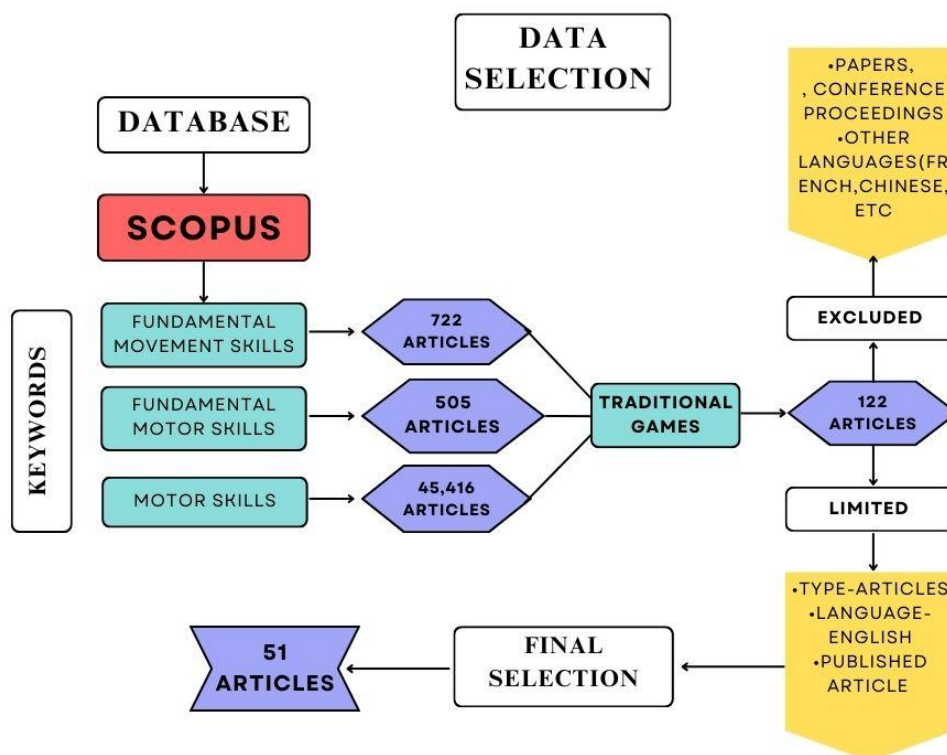
This analysis will address these gaps by mapping the global research landscape on traditional games and FMS, providing a foundation for future research and informing policymakers, educators, and practitioners about the value of integrating culturally relevant traditional games into early childhood physical development programs.

## **3. OBJECTIVES OF THE STUDY**

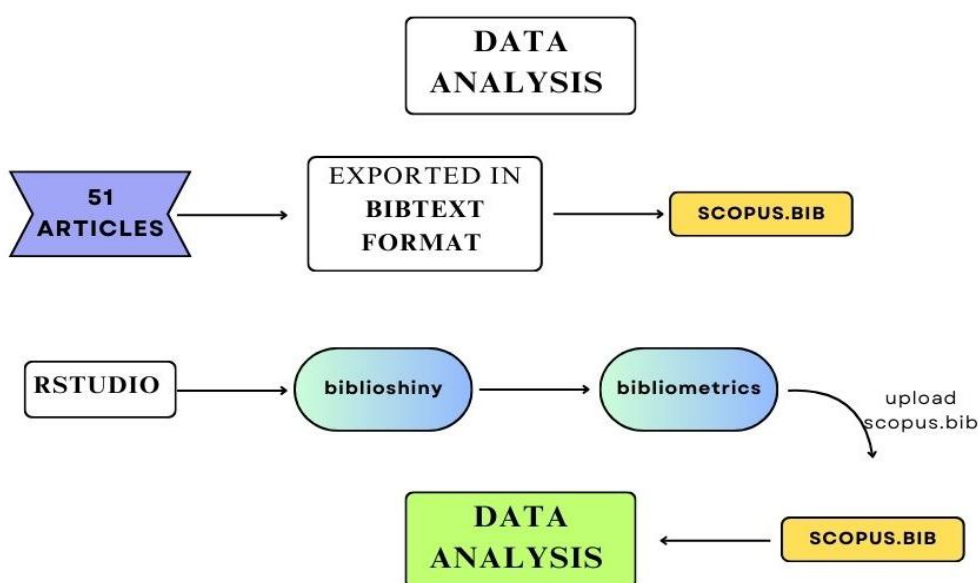
- To analyze publication trends on the influence of traditional games on fundamental movement skills (FMS) development in early childhood, examining the frequency and distribution of publications across years.
- To conduct a country-wise analysis of research on traditional games and FMS, identifying countries with the highest contributions and trends in research focus.
- To evaluate the citation impact of studies on traditional games and FMS in early childhood, highlighting highly cited works and influential studies in the field.

## **4. METHODOLOGY**

This research article presents a bibliometric analysis and systematic review of studies on fundamental movement skills and Traditional games. Using Scopus as the primary data source, the study conducted a systematic search with the keywords "fundamental movement skills," "fundamental motor skills," and "motor skills," yielding 722, 505, and 45,416 articles, respectively. To focus on traditional games, the keyword "traditional games" was added, refining the search to 122 relevant articles. The dataset was further narrowed by selecting only open-access, peer-reviewed articles published in English while excluding paid-access publications (e.g., Gold and Bronze), conference papers, reviews, and other non-article publications. This process resulted in a final dataset of 51 articles.



The research approach included a systematic data analysis procedure that began with collecting 51 articles, which were exported in Bib Tex format as a file entitled "SCOPUS.BIB." This file was used as the primary input for bibliometric analysis. The data was processed using RStudio's "biblioshiny" and "bibliometrics" packages, allowing for sophisticated bibliometric analysis and visualization—the SCOPUS.BIB files were put into these programs to develop insights and interpret data. This methodology enabled an effective and reproducible analytic pipeline, allowing for the extraction of essential patterns and trends from the dataset to support the study objectives.



## 5. ANALYSIS OF DATA

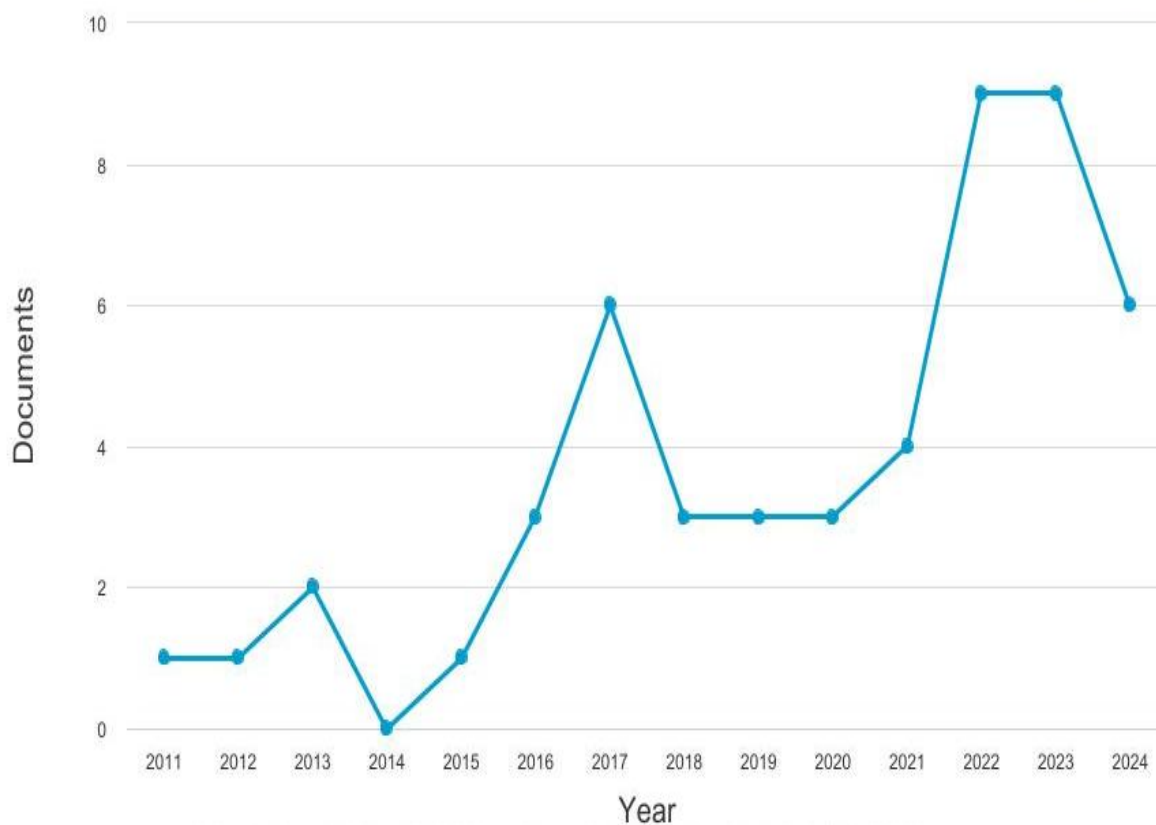


Fig.1 Year-wise Publications

The graph's publication trend indicates a growing scholarly interest in the relationship between traditional games and basic movement skills. The small and irregular number of publications published between 2011 and 2015 (between 0 and 2 each year) indicates that this field of study was not well-studied in the early 2010s. Another indication of a lack of consistent scholarly attention during this time is the scarcity of publications in 2014. However, a sharp rise in publications beginning in 2016 suggests that scholarly focus has changed. This shift might be the result of a greater understanding of the value of basic movement skills as instruments for fostering physical literacy, cultural preservation, and community involvement especially when it comes to traditional games. A combination of reasons, such as increased interest worldwide in culturally inclusive research and changes in legislation that highlight the importance of traditional games in education and physical activity, may have contributed to the dramatic increase in publications in 2022 and 2023, which peaked at nine articles annually. This time frame probably represents a wider recognition of the value of traditional games in promoting the development of motor skills, the preservation of cultural heritage, and intergenerational learning. Even though there were only six publications published in 2024, this number is still larger than in previous years, indicating that the area has attained a level of ongoing scholarly attention. The stability over the past few years suggests that basic movement skills and traditional games could become a recognized area of study.

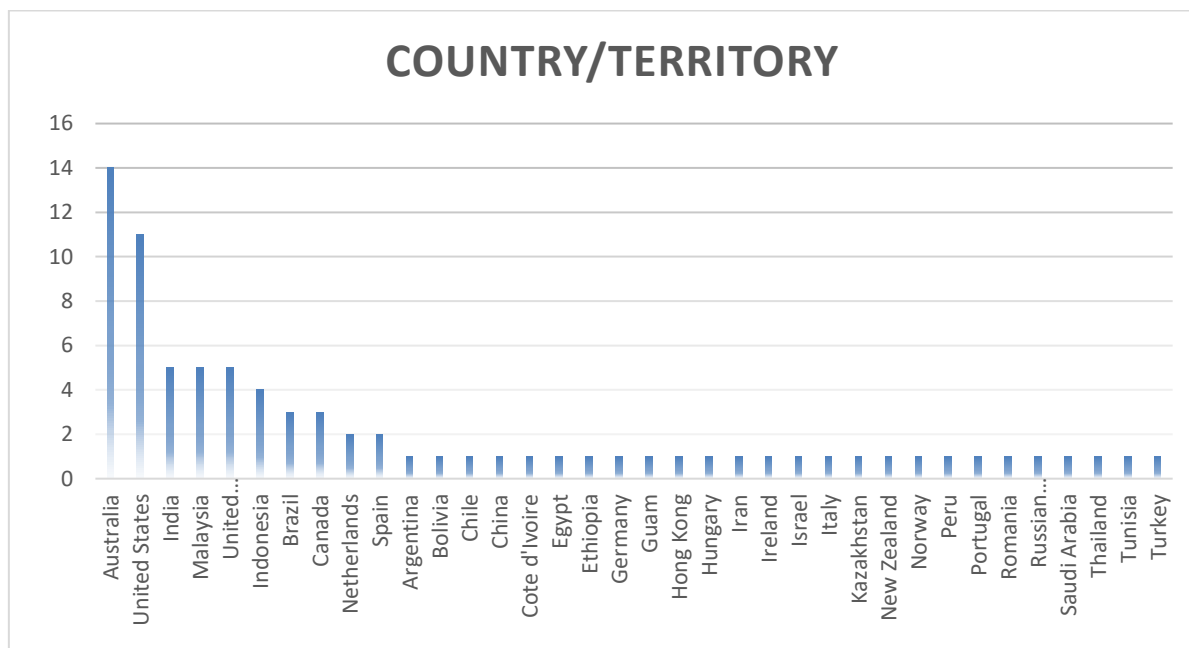


Fig.2 Country-wise publication

The distribution of published publications demonstrates large inequalities in worldwide research contributions. Australia (14 papers) and the United States (11 articles) dominate, demonstrating strong research infrastructure and funding, whereas India, Malaysia, the United Kingdom, and Indonesia contribute somewhat (5 articles apiece). A considerable number of countries, including Spain, Argentina, and Bolivia (2 articles each), as well as others with a single publication, demonstrate larger but limited worldwide involvement. These gaps are most likely caused by variations in financing, infrastructure, and access to high-impact publications. Enhancing research equity through international partnerships, capacity building, and targeted financing may allow under-represented nations to make a greater contribution, boosting variety and creativity in the global scientific community.

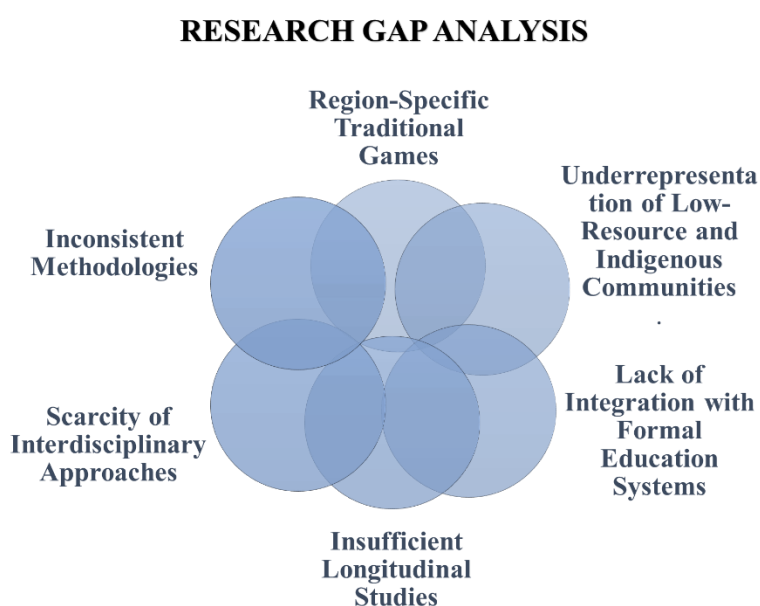
| Year | Mean TC per Article | N | Mean TC per Year | Citable Years |
|------|---------------------|---|------------------|---------------|
| 2011 | 84.00               | 1 | 6.00             | 14            |
| 2012 | 20.00               | 1 | 1.54             | 13            |
| 2013 | 44.00               | 2 | 3.67             | 12            |
| 2015 | 24.00               | 1 | 2.40             | 10            |
| 2016 | 52.33               | 3 | 5.81             | 9             |
| 2017 | 15.00               | 6 | 1.88             | 8             |
| 2018 | 16.00               | 3 | 2.29             | 7             |
| 2019 | 11.00               | 3 | 1.83             | 6             |
| 2020 | 3.33                | 3 | 0.67             | 5             |
| 2021 | 7.00                | 4 | 1.75             | 4             |
| 2022 | 4.78                | 9 | 1.59             | 3             |
| 2023 | 3.22                | 9 | 1.61             | 2             |
| 2024 | 1.00                | 6 | 1.00             | 1             |

Fig.3 Citations and citable years



The data highlights important trends in the research of basic movement and conventional game skills, as well as differences in citation patterns and a discernible rise in the number of publications over time. Articles from prior years have higher mean total citations per article due to their fundamental importance in creating the discipline and the advantage of longer citation windows. The increase in studies in recent years indicates growing scholarly interest, which is most likely attributable to a global focus on culturally inclusive physical education and the role that traditional games play in fostering physical literacy. However, because they address current concerns and changing research needs, recent works have the potential to have an impact in the future, even though they have fewer citations. The increased number of citable years for earlier articles confirms their ongoing importance, while the mean total citations per year further highlight the lasting impact of early investigations. This implies that while more recent studies are broadening the conversation, foundational research has created important theoretical and methodological frameworks. Techniques like open-access dissemination and interdisciplinary cooperation could be used to increase the impact of recent research. Additionally, investigating regional differences and performing long-term citation analyses may yield important information on the spread and development of this field of study. All things considered, the results show a developing and dynamic subject with growing scholarly interest and changing research.

## 6. RESEARCH GAP ANALYSIS



The difficulties found in the analysis of traditional games unique to a certain region underscore the necessity of an all-encompassing and multidisciplinary strategy to fill in knowledge and application gaps. The lack of multidisciplinary approaches restricts knowledge of traditional games' cultural, educational, and social aspects, while inconsistent methodologies make it difficult to conduct comparative analyses and generalize findings. Because low-resource and indigenous populations are underrepresented, there is a concern that important cultural practices will be lost, and these games cannot be used as useful teaching and cultural appreciation tools because they are not integrated into formal educational institutions. Furthermore, the lack of longitudinal research limits our understanding of how traditional games affect education, community development, and cultural preservation over the long run. Future initiatives should standardise research methods, advance inclusive and participatory research, foster interdisciplinary cooperation, incorporate traditional games into educational

institutions, and carry out long-term studies to address these problems. By doing so, the cultural legacy would be protected and the potential of traditional games as teaching, socialization, and community engagement instruments would be unlocked.

## 7. RESULTS

The results of this study underscore the transformative potential of traditional games in enhancing fundamental movement skills (FMS) education, and fostering children's physical, social, and emotional development. Children who participated in programs incorporating traditional games exhibited significant improvements in physical attributes such as balance, coordination, agility, and motor skill precision. Additionally, these games led to heightened engagement and participation, particularly among students from underrepresented cultural backgrounds, who reported feeling a stronger sense of connection and pride in their heritage. Beyond physical development, traditional games facilitated the cultivation of teamwork, communication, problem-solving, and resilience, highlighting their value as tools for holistic growth. Policy advocacy efforts contributed to the successful initiation of pilot programs, securing resources for training educators and integrating traditional games into curricula. Consistent evaluation across schools was made possible by standardized assessment instruments, which provided thorough insights into the advantages and scalability of this strategy. However, issues including scarce funding, inadequate teacher preparation, and opposition to curriculum modifications were noted, highlighting the necessity of consistent lobbying, funding, and multidisciplinary cooperation. To fully utilize traditional games as a culturally appropriate and inclusive teaching technique, these issues must be resolved. To ensure wider applicability and impact, future research should concentrate on extending longitudinal studies to a variety of cultural situations, investigating cognitive and emotional advantages, and improving methodology. These results provide a creative and inclusive paradigm for physical education programs around the world, confirming the critical role that traditional games play in linking cultural legacy with contemporary educational demands.

## 8. RECOMMENDATIONS

### **Enhance Educator Training:**

Develop specialized training programs for educators to equip them with the knowledge and skills needed to effectively integrate traditional games into physical education curricula.

### **Secure Policy Support and Funding:**

Advocate for policy changes that recognize the value of traditional games in education, providing sustainable funding and resources for schools to implement such programs.

### **Standardize Assessment Tools:**

Create and adopt standardized tools for assessing FMS outcomes to ensure consistent evaluation across schools and regions, enabling comparative studies and best practice identification.

### **Expand Longitudinal Studies:**

Conduct long-term, multi-regional research to explore the sustained physical, cognitive, and emotional impacts of traditional games on children's development, ensuring global applicability of findings.

### **Encourage Interdisciplinary Collaboration:**

Foster partnerships between educators, psychologists, anthropologists, and policymakers to holistically examine the benefits of traditional games and address implementation challenges.

### **Adapt Traditional Games to Modern Contexts:**

Tailor traditional games to fit within contemporary school schedules and physical education frameworks while preserving their cultural essence and significance.

### Promote Awareness and Community Involvement:

Raise awareness about the benefits of traditional games through community engagement, ensuring support from parents, local leaders, and other stakeholders to create a unified effort toward their integration.

### Address Resource Limitations:

Develop strategies to overcome resource constraints, such as creating low-cost materials and establishing partnerships with local organizations to support program implementation

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# The Thorn Among the Roses: Exploring Men's Lived Experiences in Female-Dominated Professions in Tagum City

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**Abstract:** While extensive research exists on gender inequality, there remains a significant gap in understanding the challenges faced by men in female-dominated professions. This study aims to bridge that gap by examining the experiences of men working in such professions in Tagum City, Philippines. Using a phenomenological approach, the study explored the lived experiences of purposefully sampled cisgender men employed in professions with at least a 66.6% female workforce through seven in-depth interviews and a focus group discussion with seven participants. The findings revealed that participants encountered both positive experiences, such as inclusive recruitment and supportive work environments, and challenges, including gender stereotypes, skepticism, devaluation of feminized skills, gendered role assignment, and self-doubt. These challenges necessitated the development of coping mechanisms such as being comfortable with one's sexuality, demonstrating competence, clarifying assumptions, ignoring discrimination, and valuing self-worth. Interestingly, some participants discussed using ignoring discrimination as a strategy despite its limitations and potential negative impacts. The participants also emphasized the importance of embracing diversity, practicing open communication, investing in professional growth and development, and having faith in one's potential. By highlighting the experiences of men in female-dominated professions, this study offers valuable insights for promoting a more inclusive and equitable work environment where all employees feel valued and respected, regardless of gender.

**Keywords:** Experiences, Female-dominated professions, Phenomenology, Gender Inclusivity, Tagum City, Philippines

## 1. INTRODUCTION:

While gender inequality has been widely studied, there is a lack of understanding about the experiences of men in female-dominated professions, which may perpetuate gender roles and discrimination (Ayub & Yasin, 2023). This study focused on the challenges, coping mechanisms, and insights of heterosexual cisgender men working in such fields in Tagum City. Female-dominated professions are defined as those where women comprise at least 66.6% of the workforce, like nursing and social work (Torre, 2022). The term men in this study will specifically refer to heterosexual cisgender men. Heterosexuality is a romantic and sexual orientation toward people of the opposite sex (Overall, 1990). Additionally, cisgender men are male individuals who identify as men (Wilson et al., 2021).

### Research Objectives / Aims:

This study aimed to explore the experiences of men working in female-dominated professions in Tagum City, Philippines. Specifically, the research sought to:

- a. examine the challenges and barriers faced by men in female-dominated professions;
- b. explore the coping mechanisms employed by men to navigate the challenges in female-dominated professions; and
- c. investigate the broader implications of men's participation in female-dominated professions on workplace dynamics and gender equality.

## 2. LITERATURE REVIEW:

Gender stereotypes heavily influence occupational choices and experiences, with male-dominated jobs associated with assertiveness and female-dominated roles linked to nurturing qualities, reinforcing traditional gender roles (Froehlich et al., 2020). This leads to skepticism and devaluation of men's skills in female-dominated fields like healthcare and education, where they are often marginalized (Chaudhry & Calogero, 2023). Economic pressures, such as unemployment, may push men into these roles, though they face challenges aligning with traditional masculine identities and coping with negative biases (Yavorsky & Dill, 2020). The ongoing influence of cultural stereotypes underscores the need to address these biases to create equitable work environments (Casil-Batang, 2021).

## 3. Research Method:

The study utilized a phenomenological approach.

**Research Participants** This study centered on men working in female-dominated fields. In line with John Ward Creswell and John David Creswell's (2018) recommendations, a minimum of 14 participants were included: 7 in individual interviews and 7 in a focus group to elicit comprehensive responses. A purposive sampling method (Reed et al., 1996) was used with the following criteria: a) being a heterosexual cisgender man, b) residing and working in Tagum City, and c) being employed in occupations where women comprise 66.6% or more of the workforce (Torre, 2022). These professions included elementary and middle school teachers (79.2%), tailors, dressmakers, and sewers (86.5%), hairdressers and hair stylists (92.4%), skincare specialists (98.2%), and nurse practitioners (87.4%) (Shannon, 2022). The study excluded those with less than a year of experience in their professions and those in positions outside the core of their respective fields.

**Research Materials & Procedure:** The study utilized a validated interview guide, consent forms, and an audio recorder to gather and analyze data. Structured questions in the interview guide ensured consistency and depth in exploring participants' experiences (George, 2023). Consent forms clarified the study's purpose, confidentiality, and participants' rights, while the audio recorder captured authentic narratives and enabled member checking to enhance credibility (Byrne, 2001; Rutakumwa et al., 2019). Data was collected through face-to-face interviews, transcribed verbatim, and analyzed using thematic analysis to identify key themes and patterns in participants' experiences (Penn-Edwards, 2015; Braun & Clarke, 2019). Non-verbal cues were also noted to provide context and emotional depth to the narratives (Parks & Bennett, 2022).

**Trustworthiness & Ethical Considerations:** Trustworthiness was achieved through diverse data sources like interviews, focus groups, and surveys, along with participant feedback to accurately capture perspectives (Moran, 2021). Dependability was ensured by meticulous documentation and involving various researchers to reduce biases, while confirmability was addressed through self-reflection and peer debriefing for objectivity. Transferability was enhanced by including participants from diverse backgrounds and providing detailed descriptions of the research setting. Informed consent was communicated in accessible language and creating a supportive environment for participants, who also benefited from the opportunity to contribute to understanding gender dynamics (Annas et al., 1977; Williamson & Burns, 2014; Vanderstouwe, 2023).



#### 4. Discussion and Analysis:

This section discussed the findings and analysis of the data collected from participants through the following research questions:

1. What experiences did men face while working in female-dominated professions?
2. What coping mechanisms did men employ in the workplace?
3. What insights did men gain from their experiences as the minority in female-dominated professions?

**Profile of the Research Participants :** The study involved 14 men employed in traditionally female-dominated professions, including beauty care (4), tailoring (2), nursing (1), and elementary education (7). Their ages range from 25 to 45 years, with 50% classified as youth according to Republic Act 8044. Their professional experience varies from 1 to 6 years, and their relationship status includes 28.6% in relationships with women, 50% married to women, and 21.4% single. Motivations for choosing their professions are diverse: 50% cited passion, 35.7% chose their jobs due to financial necessity, and 14.3% were influenced by female role models.

#### Experiences of the Research Participants :

**Inclusive Recruitment:** The participants' experiences indicate a positive trend in inclusive recruitment practices within female-dominated professions, where their qualifications, rather than gender, were the focus during hiring. Although there is a general preference for women in these roles, it did not negatively impact the participants' chances. In contrast, studies suggest women face significant challenges in getting hired in male-dominated professions due to gender discrimination, biased hiring practices, and workplace cultures that perpetuate inequality (Kricheli-Katz, 2019; Galos, & Coppock, 2023). Unlike men in female-dominated fields, women in male-dominated roles frequently have to work harder to prove their qualifications and overcome biases (Campbell & Hahl, 2022).

**Supportive Work Environment:** The participants' experiences underscore the significance of a supportive work environment in female-dominated professions. They appreciate how their workplaces value every voice, with female colleagues providing guidance and support. This aligns with research indicating that inclusive and supportive environments lead to higher employee engagement and job satisfaction (Ghasempour Ganji et al., 2021; Mousa et al., 2020), with mentorship playing a key role in personal and professional growth (Baroudi & David, 2020). In contrast, women in male-dominated professions often face a lack of mentorship and support, leading to isolation and increased stress (Durbin et al., 2020; Uslu, 2021).

**Teasing and Questioning of One's Sexuality:** The participants' experiences underscore the impact of societal gender stereotypes on professional perceptions and behaviors, consistent with Eagly and Carroll's Social Role Theory (1989), which posits that early socialization into gender roles influences career choices and behaviors. This aligns with Anderson's (2020) research on gender expression and discrimination and Eagly and Karau's Role Congruity Theory (2002), which both highlight that deviations from traditional gender norms can result in marginalization and legitimacy issues in professional settings.

**Skepticism:** The participants' experiences highlight how gender skepticism impacts professional lives, demonstrating how biases and stereotypes affect perceived competence. According to Role Congruity Theory (Eagly & Karau, 2002), deviations from traditional gender norms often lead to doubts about an individual's professional abilities. This issue also affects women in male-dominated roles, who must prove greater competence to overcome biases and gain acceptance (Danbold & Bendersky, 2020).

**Devaluation of Feminized Skills:** Participants often encounter the assumption that female-dominated professions are less demanding, leading to support based on the misconception that these roles are easier. This stereotype devalues feminized skills, impacting job satisfaction and self-esteem by making workers feel undervalued (Brownridge, 2024). The participants also highlighted people's assumptions

that they only pursued female-dominated professions because of the reasons mentioned above. Additionally, the devaluation of feminized skills contributes to the gender pay gap, particularly through lower wages in female-dominated occupations and sectors (Shannon et al., 2019; Freeland, & Harnois, 2020; Brick et al., 2023).

**Self-doubt:** Participants' reflections highlight how people's skepticism and assumptions impact self-perception and confidence in female-dominated professions. According to **Steele and Aronson's Stereotype Threat Theory (1995)**, people experience performance anxiety and self-doubt when they feel judged based on negative stereotypes. This self-doubt reduces job satisfaction and motivation, as men feel insecure about their abilities compared to their female colleagues, affecting their overall professional engagement and achievement (Heilman, 2001; Eagly & Karau, 2002).

**Gendered Task Allocation:** Some participants shared that gender-based task allocation often restricts professional growth, with them frequently being assigned simpler tasks that undermine their capabilities (Blau et al., 2020; Wang et al., 2017). On the other hand, some participants revealed that they face expectations to perform more demanding tasks, contrasting with the less challenging roles assigned to women in physically or technically demanding professions (Heilman, 2001).

**The "Glass Escalator" Effect:** The study did not find evidence of the "glass escalator" effect (Williams, 2023), likely due to the specific job positions examined and the participants' self-doubt, which may limit their career advancement.

### Strategies Employed by the Research Participants

**Being Comfortable With One's Sexuality :** The participants' experiences highlight how being comfortable with their sexuality influences their workplace interactions and self-perception. The participants demonstrate confidence in expressing their sexual identities, aligning with **Sedgwick's Queer Theory (1992)** which challenges conventional views on sexuality and encourages the acceptance of diverse identities. By asserting their heterosexual identities, the participants proactively define their self-perception and challenge societal norms.

**Demonstrating Competence;** Participants in female-dominated professions often face skepticism about their competence due to gender-based stereotypes. To address this, they assert their skills, aligning with **Bandura & Walters' (1977)** concept of self-efficacy, and rely on colleagues' endorsements for social proof, consistent with Social Support Theory (Cohen & Wills, 1985). Managerial advocacy is also crucial, as managers' support helps build a culture of trust and respect, reflecting the principles of Transformational Leadership Theory (Bass, 1995), which highlights the role of supportive leadership in enhancing employee performance and motivation.

**Clarifying Assumptions:** The participants emphasized the importance of correcting the misconceptions that these roles are less demanding and highlighting their genuine passion in pursuing these professions. This narrative counters stereotypes that men in female-dominated professions simply lack better opportunities and underscores their deep-rooted commitment. Additionally, research indicates that intrinsic motivations, such as the desire to help others and the social utility of the profession, significantly influence men's career choices in teaching and nursing (Celik, 2017; Jugović et al., 2022; Harding, 2017; Blackley et al., 2019).

**Valuing Self-worth:** Valuing self-worth are crucial for individuals facing self-doubt, particularly in gender-normative environments. Self-Affirmation Theory (Steele, 1988) suggests that reflecting on personal strengths and achievements can mitigate threats to self-concept. Positive feedback from peers, aligned with Social Support Theory (Cohen & Wills, 1985), enhances belonging and competence by providing emotional support and reducing stress. Communal Coping Theory (Lyons et al., 1998) further supports this by highlighting how sharing experiences with peers facing similar challenges helps reduce isolation and fosters a supportive work environment.

**Ignoring Discrimination:** In female-dominated professions, men often face gendered task allocation, leading to assignments that are either overly simple or too demanding. The participants dealt with these challenges by ignoring discrimination, a strategy aimed at maintaining workplace harmony and demonstrating flexibility. This approach aligns with System Justification Theory (Jost & Banaji, 1994), which suggests that people accept social inequalities to preserve stability. However, ignoring discrimination can lead to burnout and reduced job satisfaction (Mokoena, 2020), highlighting the need for organizations to implement strategies that address and reduce discriminatory practices.

### Insights Learned by the Research Participants

**Embrace Diversity:** The participants highlighted the value of embracing diversity in the workplace, demonstrating that despite gender differences, they effectively worked as a cohesive team. This experience aligns with Social Categorization Theory (Tajfel & Turner, 1979), which suggests that grouping individuals based on shared traits fosters inclusivity. Additionally, their positive experiences show that diverse backgrounds enhance team performance by leveraging varied perspectives and promoting mutual support.

**Practice Open Communication:** Men in female-dominated professions often encounter initial awkwardness and skepticism, but they can overcome these challenges through open and transparent communication. This approach fosters an inclusive work environment where all voices are heard and valued, addressing misunderstandings and promoting collaborative problem-solving (Enyan et al., 2023). Social Penetration Theory (Altman & Taylor, 1973) supports this by suggesting that deeper interpersonal relationships develop through gradual self-disclosure.

**Invest in Professional Growth and Development:** The participants' emphasis on professional growth reflects the significant benefits of lifelong learning for both individuals and organizations. Continuous learning enhances performance by improving adaptability and problem-solving skills (Mustafa & Lleshi, 2024). Human Capital Theory (Becker, 1964) supports this by demonstrating how investing in education and training enhances productivity and organizational value.

**Have Faith in One's Potential:** The participants highlighted the significance of believing in their potential, noting that self-belief enabled them to pursue their careers confidently despite societal stereotypes and judgments. This confidence facilitated skill enhancement, reduced stress, and fostered a positive outlook. Bandura & Walters' Self-Efficacy Theory (1997) supports this, showing that belief in one's capabilities enhances motivation, perseverance, and job satisfaction.

### 5. RECOMMENDATION/SUGGESTIONS (IF ANY):

- Increase the scope and the number of participants to capture a wider variety of experiences and perspectives
- Include men of different sexual orientations and gender identities, such as LGBTQ+ men.
- Include a more balanced sample from different fields.
- Include men in higher roles to explore how structural advantages develop as careers progress.
- Track men's career experiences over time to capture changes and trends in workplace dynamics.

### 6. LIMITATIONS OF THE STUDY

- The sample size is limited within Tagum City and may be small for capturing the full spectrum of experiences and insights.
- The study only focused on heterosexual cisgender men, which excludes other male identities whose experiences in female-dominated professions might differ significantly.
- The narrow representation of certain professions may hinder a full understanding of the experiences across different types of female-dominated professions.

- The study only focuses on men working in the core of their professions, which may overlook structural advantages that become more pronounced as individuals move up the career ladder.

## 7. CONCLUSION:

Men in female-dominated professions face both advantages, such as inclusive environments, and challenges like gender stereotypes and assumptions about their skills and sexuality. Gender inequality affects all genders, and addressing this issue requires a unified effort.

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# An Examination of the Suitability and Profitability of the Integration of ICT into Teaching - Learning English

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**Abstract:** *Technology today has a greater impact on individuals, and almost all categories of communities have been influenced by it. From a common man to a business tycoon, from a student to a freelancer, doctors, lawyers, academicians, teachers, government, private employees, vendors, and tourists every individual is closely associated with technology in one way or the other and has been addicted to the technological gadgets such as smartphones, tablets, and laptops. A similar influence is identified in the stream of education and among its associates who are connected to it. The influence of technology made people dependent on it. Thus, a similar addiction could be diverted to the benefit of the learners in learning the language. This paper is an attempt to identify the opinions of the learners towards the integration of technology into teaching-learning English.*

**Key Words:** *Technology, Connected to, English language, Teaching-Learning.*

## 1. INTRODUCTION:

In the present era, ICT is defined as the technology that allows users in accessing, collecting, creating, organizing, presenting and share information through electronic or digital means of communication, Ting-Toomey, & Yee-Jung (2001). The advancement in technology has enforced many of the sectors to have severe changes among themselves. A similar progression has influenced teaching-learning as well, the traditional methods of teaching-learning are ineffective and not reaching to the expectations of the learners. Integration of ICT tools such as the Internet, Smartphones, interactive boards, computers, and tablets has an efficient impact on learners in terms of motivation and participation, Gunuc, (2016). Employing ICT in education could boost the learners' learning concerns, it can attract the learners, increase the speed of learning as well as reduce cost, Alotaibi & Kumar (2019).

The use of technology in teaching is to some extent limited since every kind of ICT for learning may not require integration into it and may not considerably contribute to learning, Gunuc (2016). A systematic approach is needed to integrate technology into learning, the use of technology in teaching and learning is an unanticipated act of education and this would be the same reason for the insignificant contribution to learning, however, the effective, organized and proper utilization of ICT in teaching would produce greater results in learning.

## 2. LITERATURE REVIEW:

Many researchers have appreciated the inclusion of ICT tools into ELT, and some other researchers have viewed it as an outstanding instructional tool. Suneetha et al (2016) in their research study concluded that the learning through mobile apps stood ideal by enabling the learners infuse self-motivation, encouragement, and autonomy. The blended learning that integrates social media tool such as Facebook had produced effective outcomes among the graduation level engineering students in

acquiring confidence in their writing skills, Kousaru et al. (2020). The integration of ICT into teaching-learning English by Cakmak et al. (2021), Kumar et al. (2001), Kumar et al. (2001), and Woodbridge (2003) have considered it an effective education pedagogy. Technology integration into ELT is more than a strategy, Gunuc (2016). The ICT tools will rightly preserve the role of a credible source of learning if they are rightly employed by the teachers as per the expectations of the learners, Ahmed & Shiela Mani (2021). The use of technology in teaching helps the teachers reach the needs of the learners and could create a constructive learning atmosphere besides enhancing the language skills among them, Almalki (2020); Angeli & Valanides (2009). Pierson (1999) regarded the combination of ICT in ELT as a fruitful transformation of teaching that offers teachers have enhanced understanding of teaching pedagogy, content, and technology. The advantages of the integration of technology are listed by Barron et al. (2001) as stated below:

- It supports varied types of learning
- Self-motivation and individual development are cultivated among the learners
- The relationship between teacher and students can be increased
- It also boosts active collaboration and critical thinking

Various studies on the appropriateness and the efficiency of ICT integration in teaching and learning are identified, and almost all of them have a very positive notion about the incorporation.

### 3. CHALLENGES OF EMPLOYING ICT IN ELT

Despite having positive awareness of the use of technology in ELT, there are some challenges conveyed by most of the teachers. Most teachers have insufficient knowledge and low self-confidence in using technology for teaching; moreover, inadequate sources and insufficient access to the internet are also important hurdles in using technology in teaching practice, Islam, et al. (2016). Some studies reported that poor technical infrastructure, insufficient digital equipment and software are also the major challenges that educators and learners have claimed, Islam, & Sadequle (2019); Kastner (2020). Other factors such as negative perceptions, bad experiences, and negative attitudes towards the use of technology are also some other barriers towards inclusion, Kilinc et al. (2018); Kimmons & Hall (2016).

### 4. OBJECTIVES / AIMS:

- **Aim of the Study**
- The purpose of the present study is to stress the prominence of the integration of ICT into ELT and ELL besides the identification of the lucrative benefits of the integration.
- **Research Questions**
- This paper deals with the numerous educational integrations of ICT. The major research questions are discussed below:
- What are the views of the professional learners towards the integration of ICT tools into ELT and ELL?
- How does the technology stand effective in being a good resource to improve language efficiency among graduate-level learners?

### 5. RESEARCH METHOD:

- **Participants:** The chosen research population is associated with undergraduate-level engineering and technology, the data is collected through a survey by using a structured questionnaire. The primary reason for selecting the said population is that they are closely connected to technology and ICT tools, they are constant users of technology.
- **Data Collection:** The data is collected through an online survey using the Google forms application which is known as an effective ICT tool for data collection in the form of survey responses. A set of statements were prepared in the Google form application and the link was shared among the target population.

## 6. RESULT / FINDINGS:

The responses received from the survey are analysed through descriptive statistics, the values of mean, minimum, maximum, variance, and standard deviation are clearly shown in the below-given table. The analysis is done with the 'N' value of 32 and the survey statements were 6.

**Descriptive Statistics**

| Statements   | N  | Mini mum | Maxi mum | Mean  | Std. Deviat ion |
|--|----|----------|----------|-------|-----------------|
| Inclusion of ICT tools into ELT results in fruitful learning   | 32 | 3.0      | 5.0      | 4.375 | .5536           |
| Technology in teaching-learning engages learners and makes learning interesting  | 32 | 3.0      | 5.0      | 4.500 | .5680           |
| Techno-learning pedagogy suits our learning atmosphere   | 32 | 3.0      | 5.0      | 4.188 | .5923           |
| I found ICT as a platform that is most comfortable and convenient to learn a language which is required to compete with the current professional world | 32 | 3.0      | 5.0      | 4.469 | .5671           |
| I have already been a constant user of technology to clarify my queries that are related to academic as well as non-academic issues                    | 32 | 2.0      | 5.0      | 4.000 | .6720           |
| Valid N (listwise)   | 32 |          |          |       |                 |

The above table describes the data analysis of the six statements shared among the target population for acquiring their views on the integration of ICT tools into ELT and ELL. The first statement is about the expectations of fruitful outcomes from the inclusion of ICT, surprisingly, the result is positive with the mean value 4.375 and this implies that the respondents have agreed and have a positive intentions towards the inclusion and its outcomes; the second statement is about the inclusion that is expected to be an interesting pedagogy in generating interest among the learners, the mean value for this statement is 4.500 and it implies that the respondents are positive and expecting the pedagogy as an interesting as well as engaging; the third statement is regarding the suitability of the pedagogy to learning atmosphere, the mean score is noted as 4.188 and this is clear that the respondents have a positive opinion on this; the fourth statement is regarding the suitability of the pedagogy in the present technically advanced and professional world in providing comfort and convenience to the learners, the mean score is 4.469, and this implies a very constructive response; the final statement is regarding the experience or the association of the learners with the technology, the mean score is noted as 4.000 and this implies that the learners have already had an experience with the technology in their academic as well as non-academic issues.

## 7. DISCUSSION / ANALYSIS:

The mean scores of all the statements are noted between 4.000 and 4.500 and these scores are very significant and have been considered very constructive as well as agreeable. The findings received from the analysis indicated that the respondents have very positive opinions towards the integration of ICT tools into teaching-learning English, they considered the inclusion as interesting, suitable, convenient, and profitable to the learning atmosphere of the target population.

## 8. CONCLUSION:

The outcomes acquired from the data analysis defined that the inclusion of ICT tools into teaching-learning the English language for professional purposes could be effective because of their operational features such as convenience, influence, attractiveness, resourcefulness, effectiveness and suitability. The learners who participated in the survey have a very positive opinion on technology blended

teaching-learning language skills. The rapidly growing professional opportunities and the serious prerequisite for efficiency in the English language and communication skills are the key factors that promote language learning through technology. Many researchers identified the inclusion of ICT tools or technology into ELT and ELL as effective and lucrative as well.

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# Gamification in English Language Teaching and Learning

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**Abstract:** English language teaching and learning observed various changes which includes traditional and modern methods. These methods fulfilled the requirement of students to learn effectively and motivated them to participate in the learning process. Technology and creativity widened the horizons of English language teaching and learning. Computers, Smart phones, Board games, digital and non-digital games are used to teach English language. Gamification is one of the methods used to teach English language. Students can efficiently learn the language with Gamification. This research paper focuses on different methods to teach vocabulary and grammar to students at different stages of learning with the help of games. One of the board games is "Vaikuntapali". This game can be used to teach vocabulary and grammar.

**Key Words:** English Language Teaching, Language Learning Methods, Gamification, Vaikuntapali, Vocabulary.

## 1. INTRODUCTION:

English Language teaching includes teaching LSRW skills, enhancing vocabulary, improving grammar and effective language usage in different situations. Gamification is a method of using game elements in the process of language teaching and learning. Digital and non-digital games encourage students to participate actively. Activities in games will give points to participants to prove their ability in the leader board to compete with other participants. Fun elements add enjoyment and excitement. Gamification in education encourages student centered learning and improves their creativity. Vaikuntapali (Parama pada Sopana Patam) is a traditional game in India which is also known as Snakes and Ladders game. Traditional method of playing Vaikuntapali can be modified with some other game elements and rules to teach English language.

## 2. LITERATURE REVIEW:

Gamification is an interesting topic to do research. Researchers already discussed, Gamification and student's motivation with the help of quizzes, some game elements and its influence on students who will gain different benefits, to achieve better student engagement through gamification and interactive activities like web-based games for example 'Nearpod', 'Kahoot', 'H5P' etc. , students increasing intrinsic motivation and self-efficacy through gamification as a method of experiential learning, benefits of gamification in the English learning and to learn speaking skills, to teach grammar in higher education, gamification of education and learning, digital games for English classrooms etc. Previous research topics informed about English learning and skill development through gamification which enhances student participation.

### 3. OBJECTIVES:

1. To encourage teachers to learn and use games in the teaching process
2. To motivate students to participate in games in the process of language learning

### 4. NEED FOR THE STUDY:

Gamification is a creative concept in the field of education. Digital and non-digital games can be created and used in classroom situations to create attractive and efficient teaching as well as learning environment. Vaikuntapali is a traditional game in India which we can use to teach vocabulary, grammar and soft skills also.

### 5. CONTENT:

Gamification is adding game elements in language learning and teaching process. Students' active participation and their involvement enhances the efficiency of learning. Creation of groups for collaborative work is possible in gamification.

Vaikuntapali is a traditional board game in which we will find 100 squares and sometimes 131 squares also. On the board, we find numbers, pictures, snakes and ladders. A player uses dice which contains 1 to 6 dots on different surfaces of the dice. When the player throws the dice, it shows any number from 1 to 6. They will make a move of the pawn on the board. Then the other player throws the dice and do the same. In this way the game will continue till a player reaches the last square. The player who reaches last square first will be declared as winner. This traditional game can be used to teach vocabulary, grammar and soft skills to students.

Numbers, words and pictures on the board will help to create many games to teach language and soft skills to students in the classroom. Game results can be used for discussion to teach functional language. Different game rules will estimate the memory power of the students. Students can play the game as a team of two to learn teamwork. Some creative concepts to play Vaikuntapali are as follows:

#### Game 1

Player throws the dice with numbers and the board with numbers as well. The number which they will get on the dice, they move the pawn on the board to a reach a square as in the traditional game, but we can include a rule that to move the pawn, the player need to tell synonyms or antonyms of a word given by the teacher. If they fail to tell, they cannot move their pawn. The other player will get the opportunity to play the game.

#### Game 2

In this game, write one word in one square in the bottom line of the board. Then write one word in each square after a gap of two squares vertically and horizontally. The player plays with the dice to get a number will reach a square with a word. The player must tell synonyms or antonyms of the word. Number of words told by the player will be the number to reach a new square. If the player cannot tell the words, they will remain in the same square. If there is no word in that square, the pawn will be there only. Then next player will repeat the same.

#### Game 3

In this game, create a crossword puzzle with Palindromes on the board. The player throws the dice and gets a number which contains an alphabet. They must find Palindrome with that alphabet which is already there in the board. Then the player reaches a new square where the last alphabet ends. Next player repeats the same.

#### **Game 4**

Vaikuntapali board game is useful to teach types of nouns also. In this game pictures will be there on different squares. The player plays with the dice and reaches a square with picture. The player must identify the picture to reveal the type of noun of that picture. If the player unable to answer the next player will get opportunity to throw the dice twice.

#### **Game 5**

In this game, to teach Grammar, different words can be placed on squares. The player gets a number when throw the dice. That number contains a word with which they must tell verb forms of that word or they can identify the part of speech of the word. If the player does not answer correctly, the next will get the opportunity to play two times.

Individually, group of two, group of three or five can play with one pawn on this board game. Group will learn collectively to perform better.

Snakes and Ladders are also placed on the board randomly. The player when gets ladder will move fast on the board to reach the top to win the game. The player who gets snake will move downwards and progress will be slow on the board. It will lead to failure many times. This can be used to teach soft skills.

Functional language teaching, the teacher can use to teach soft skills after playing the game for sometimes. Every player must share their experiences and emotions after some games. This will improve speaking skills also.

### **6. DISCUSSION :**

Students actively participate in the game to learn vocabulary and grammar. They want to prove their memory level. Teacher can use the game after teaching a specific topic as an activity to repeat the topic. Teacher can suggest students to learn that specific topic as pre-learning activity to participate in the game.

Teacher can create healthy competition among students by reward announcement to the winner. A gold star, a badge with winner inscription or leader title will attract students. The winner will try to retain in that place and other students will take it as a challenge to get that reward. This will improve learning environment in the classroom.

They may suggest creative games also. Students when play the game gets snakes and ladders. This will influence their mental status. Continuous victories and failures in the game creates imbalance in the emotional status of the student. Teachers can relate this situation to teach emotional balance, techniques to manage failure, stress management techniques and methods to improve will power to gain confidence to reach their goals. In this way the teacher will teach soft skills also. Teacher can encourage students to express their feelings after playing the game and to speak after listening the soft skills. This improves their speaking skills.

Vaikuntapali game is also known as Paramapada Sopana Patam which means to gain moksha after facing different hard times and pleasures of life. Moksha is victory in the game. Hardships are snakes, pleasures are ladders in the game. At higher level, teacher can even relate this game to teach spirituality to students. In the lifetime of humans, they face different challenges, dealing with them is a lifetime learning, similarly the Vaikuntapali game also creates different opportunities and challenges to the player which is lesson to the player to manage their life in a better way. Group discussion can be conducted to improve speaking skills and to know students views about spirituality. Game elements will help students to share knowledge with others. Informal discussions abouts games will improve social networking. Improvement in memory can be observed at later stage.

## 7. FINDINGS:

Gamification is an effective student centered method of teaching. Motivated students participate actively in the game process. It enhances creativity of the participants. They will learn teamwork. Competitiveness to perform better in the game improves focused attitude to learn effectively. This gives dissatisfaction for teachers and learners who ever involved in the gamification.

## 8. CONCLUSION:

Creative ideas implementation is powerful in teaching & learning. Playing games is a favorite activity for all. So, Gamification can be implemented in the field of education. Vaikuntapali game is only one example. Teachers & students can invent methods & games to teach and learn language and different subjects also.

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## The Use of technology in Exploring English

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**Abstract:** *This research investigates the transformative role of technology in English language teaching. In recent years, the integration of digital tools such as multimedia resources, online platforms, and language learning apps has redefined traditional teaching practices. These technological advancements offer dynamic and interactive learning experiences, allowing students to engage with the content in more personalized ways. As a result, students are more motivated, and their language proficiency improves across various skills, including reading, writing, and speaking. The study explores both the advantages and challenges of using technology in English education. Traditional book teaching methods often rely on face-to-face interactions and printed materials, which can limit interactivity and fail to accommodate diverse learning styles. In contrast, technology provides innovative solutions by offering immediate feedback, tailored learning experiences, and global accessibility to resources. However, the research also highlights challenges such as digital equity, the need for continuous teacher training, and the availability of infrastructure to effectively implement these tools. The findings suggest that, while technology enhances the overall learning process and fosters student engagement, educators must be equipped with the necessary skills to fully utilize these advancements. Addressing these challenges is crucial to maximizing the potential of technology in education. By doing so, English language teaching can become more effective, engaging, and accessible, leading to better academic outcomes for students globally.*

**Keywords:** *Technology, English, Online platforms, Digital Tools, Language proficiency.*

### 1. INTRODUCTION

In today's rapid development, technology has become an important part of language teaching. For example, the integration of technology into the English language classroom (ELT) has ushered in a new era of language learning that has improved the quality of teaching by allowing teachers to explore new, resourceful teaching methods. The purpose of this article is to provide an in-depth exploration of the important role technology plays in enhancing second language (L2) learning, and specifically how technology can enhance L2 skills. This research draws not only from academic research but also from English language teaching and practice to reveal the various ways technology is updating the language learning landscape. Technology tools and resources that are revolutionizing the way languages are taught. Educators are embracing this digital transformation to benefit students, track their progress, and improve overall learning. An important development in recent years is the integration of artificial intelligence (AI); electronic tools that provide personalized information, feedback and guidance adapt and strengthen the use of technology in language learning. Language is an important factor affecting international communication. Students use different English language skills such as listening, speaking, reading and writing to improve their comprehension and communication skills (Grabe and Stoller, 2002). In addition, Ahmadi (2017) states that one of the important elements of education is use of teachers in the classroom to facilitate language learning.

## **2. Review of Literature**

1. Becker (2000) believes that computers are considered important teaching tools in language classes. Teachers can use computers easily, conveniently and freely in the classroom. Many teachers believe that computer technology is an important tool in providing quality education. According to Becker (2000), computers are considered important teaching tools in language classes where teachers can easily use them, be well prepared, and have some freedom in the classroom. Many teachers believe that computer technology is an important tool in providing quality education.
2. Bull and Ma (2001) state that technology provides unlimited resources to language learners.
3. Harmer (2007) says that teachers should encourage their students to find activities using computer technology to achieve language learning.
4. Clements and Sarama (2003) claimed that using appropriate knowledge is beneficial for learners.
5. Pourhosein Gilakjani (2013) says that technology has the potential to change the current language teaching methods. The use of technology in teaching English leads to a better understanding of the processes of modern technology and their connection with other products, which helps students achieve desired results.
6. Mohammad Reza Ahmadi (2018) believes that e-learning programs have become a favourite among teachers because they promote student-teacher relationships and promote English learning as a whole. Most English teachers now use various technology aids designed to facilitate effective teaching.
7. Gibbs (1994) and Mafuraga (2017) added that modern education in the world frequently uses technology in teaching. Since technology has become an important part of the educational process (Eady and Lockyer, 2013), it is necessary to prepare future English teachers through some training on technology integration in the classroom (Habibi et al., 2019).

## **3. Objectives :**

- Create and interact with learners
- Explore the advantages and disadvantages of using this tool
- Giving students a better education

## **4. Importance of Technology in ELT**

Technology plays a significant role in English Language Teaching (ELT) by changing the way learning and teaching takes place. One of the key benefits is the enhancement of education. There are many resources available online, including videos, podcasts, e-books and interactive exercises for all subjects. This variety not only keeps students engaged, but also allows them to explore interesting content, increasing their understanding of the language. Tools such as language learning apps and online tests make the process fun and challenging, which can increase engagement levels. Additionally, these strategies can provide immediate rewards, encourage success, and encourage sustained effort. With the help of technology, students can learn according to their own needs, strengths, and weaknesses. The flexible learning platform assesses student progress and adjusts assignments accordingly, ensuring that each student is challenged appropriately without stress. Online forums, chat apps, and video conferencing tools allow students to interact and engage with speakers from all over the world. This discussion will help create a supportive learning community where students can practice their language skills in a more positive environment. Authentic materials, such as news, media reports, and videos featuring native speakers, provide students with valuable insight into the language used in everyday life. This exposure not only enhances their comprehension, but also helps them understand cultural differences and idiomatic expressions. Learning management systems allow teachers and students to quickly identify improvements by providing questions and assignments that provide instant feedback. The available answers help enhance learning and put students in control of their own success. This is especially helpful for students who have busy schedules or who do not have access to a traditional classroom. Online courses and resources can be accessed from multiple devices, making language learning more accessible. Finally, technology supports teacher professional development. Online discussions, Webinars and collaborative projects help teachers share resources and best practices helping them stay up-to-date on new English language teaching methods and tools. Engaging is personal and accessible. It equips students with the skills they need to navigate a digitally connected world and

prepares them to communicate in English in real- world. There is no doubt that English is an important tool in international communication today. Whether our students are sharing on social media, creating videos on a video- sharing platform or working on international terms, English not only gives them the opportunity to communicate with native English speakers, it's their first language.

## 5. Benefits:

**Access to a variety of resources:** Technology gives teachers and students access to a variety of resources including educational websites, online libraries-books, podcasts, and videos. This variety leads to different learning experiences (visual, auditory, and tactile) and allows students to interact with objects in ways that are relevant to them. For example, visual learners may benefit from info graphics, while auditory learners may enjoy listening to podcasts. Gamification elements like rewards and competitions make learning fun and challenging. This engagement often leads to greater participation in class discussions and activities because students are more motivated to contribute when using technology. These systems measure student performance and adjust difficulty and content accordingly. This self-paced approach enables effective learning by ensuring that students do not become bored with material that is too easy or are pushed through content that is too difficult. Ways to encourage communication. Tools such as forums, chat apps, and video conferencing allow students to interact with their peers and teachers outside of the traditional classroom. This not only fosters a sense of community, but also encourages language practice through informal discussions and collaboration, thus improving speaking and writing and videos featuring speakers to introduce students to real-life vocabulary. This helps students understand cultural background, idioms, and different sounds, increasing their understanding of the language beyond textbook examples. . Immediate feedback is important for improving learning and motivation, as it helps students understand their mistakes and learn from them immediately.

**Learning:** This flexibility is especially beneficial for people balancing work, family or other commitments. Many online platforms also support mobile access, allowing students to learn anytime, anywhere. Digital literacy is becoming increasingly important in education and the profession, and language learners can benefit from this when working with multiple platforms and technologies. Tools such as application management and forums facilitate collaboration. Students work together on projects in a social environment, sharing ideas and advising their peers, collaborating and developing their language skills. Online courses, webinars and communities of practice allow teachers to stay up to date with new methods, tools and models in ELT. This continuous learning is necessary to increase the effectiveness of teaching and to adapt to changing learning environments. These results help to create a more effective, efficient and effective language learning experience by preparing students for real-life English communication.

## 6. Challenges

**Affordability:** Access to quality information can vary, especially in underserved segments. Teachers may have difficulty finding appropriate books, online resources or technology to support their teaching. This inequality can create problems in integrating technology into the classroom, leading to frustration and conflict. Teachers must be aware of the different cultural backgrounds that affect students' communication, learning interests and expectations. Differentiating instruction to meet different needs while maintaining engagement requires creativity and effort. Developing accurate and comprehensive assessment tools that reflect real-world language use can be challenging. Teachers may find it difficult to provide individual attention and support to all students, affecting overall learning. Creating a supportive classroom environment that encourages risk-taking is important, but also challenging. This can inhibit the ability to adapt information to meet student interests and needs.

**Training and professional development:** Teachers will have limited access to regular training in the integration of modern ELT methods and technologies. Work in progress Great training, but can be hard to come by. Trending: Teaching English is constantly changing, with new methods, tools and ideas emerging all the time. Knowing and keeping up with these changes can be quite stressful for teachers. Limitations of English Language Teaching (ELT) research can be limited by a number of factors:

**Access to resources:** Many teachers and girls do not have access to good information, technology or internet connectivity, especially in rural or impoverished areas. This limits opportunities for effective

learning. Incorporating modern ELT methods or technologies into teaching. Lack of professional development opportunities can hinder effective teaching.

**Cultural Resistance:** There can sometimes be cultural resistance to certain teaching methods, particularly those that encourage student learning or collaboration. Skill levels can make it difficult to create lessons that work for all students, which can lead to conflict or frustration. Progress,. This may not fully reflect the students' speaking ability. Motivation and engagement can be difficult, especially if they are frustrated or not interested in the information being taught. Over-reliance on technology for educational opportunities can lead to problems with appropriate equipment.

**Socioeconomic:** Students from low socioeconomic backgrounds may face additional challenges that can affect their language learning, such as job and educational assessments. Innovative solutions and support to enhance teaching and learning. Instead, technology is a tool that supports language learners to use the target language in a culturally focused way to accomplish authentic tasks. In addition, any language learning approach, whether delivered through technology or in the classroom, should be model-centered, teacher-centered, student-centered, and create an interactive, meaningful, and educational experience to develop skills in these areas. Words, essentially this study demonstrates the important role of method choice in learning English, guided by specific learning objectives. The key is to align teaching with the intended learning outcomes. For example, when common sense and culture are important, access becomes a powerful tool because it creates an environment where language becomes an integral part of student interactions every day. Instead, learning works brilliantly when the goal is to develop cognitive processes that go beyond language. Through problem-solving and project-based work, students develop language skills as well as critical thinking, creativity, and collaboration in a collaborative environment that prepares them to use language in the real world. Philosophy teaching, on the other hand, recognizes the individuality of the student and accepts that each student's journey is unique. By regularly evaluating teaching strategies and adapting them to student needs, teachers can ensure that all students are achieving their potential.

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# Perceptions on DepEd's gender-responsive basic policy: A mixed-methods research to the stereotype mindset about transvestism

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**Abstract:** *This mixed-methods study explored the attitudes and comprehension of internal stakeholders towards the Department of Education's (DepEd) Gender-Responsive Basic Policy, specifically concerning transvestism in learners. The research was grounded in DepEd Order No. 32, series of 2017, which sought to integrate gender equality, equity, and non-discrimination in basic education itself. Nevertheless, notwithstanding this existing policy, a state of vagueness and levels of understanding continued to exist among stakeholders, especially regarding transvestism acceptance in contextualized schools (Malay National High School and Manocmanoc National High School). A sequential explanatory mixed-methods design was employed in the research. This study used quantitative data that were first collected to put into measure the perceived levels of comprehension about the Gender-Responsive Basic Policy concerning transvestism among internal stakeholders, including students, teachers, and even those in non-teaching positions. It revealed that parents had the least level of comprehension of the existing policy. Additionally, qualitative data were collected after the quantitative phase through interviews and focus group discussions that explored how internal stakeholders viewed the policy, how transvestism, as either affirmed or negatively accepted, could be embedded into the Gender-Responsive Basic Policy of school premises, and what action plans, advocacy, and dissemination could be employed to inform policymakers of the school's stand on transvestism. By utilizing a thematic analysis, the generated themes that emerged were "Varied Levels Between Awareness and Understanding," "Concerns on Policy Clarity and Implementation," "Need for Explicit Guidelines," "Integration through Education and Training," "Advocacy through Collaborative Dialogues," and "Strategic Dissemination of Information." Hence, the existence of different levels of awareness and understanding among stakeholders regarding the Gender-Responsive Basic Policy, particularly on transvestism, points to a greater need for more clarity in communication and keywords for effective training. There must be clearly defined guidelines as well as comprehensive training programs to properly embed transvestism into the policy to allow for more inclusivity. Furthermore, there must be collaborative dialogues with policymakers and a strategic dissemination of plans to facilitate proper understanding and excellent implementation of the policy.*

**Key Words:** *LGBTQIA+, transvestism, transvestite, DepEd Order No. 32, s. 2017, DepEd's Gender-Responsive Basic Policy, DepEd policymaker.*



## 1. INTRODUCTION:

Way back in 2017, the Department of Education (DepEd) strictly announced to implement the policy allowing LGBTQIA+ learners or teachers to express themselves freely based on their gender preferences without fear of discrimination. This reinforces DepEd Order No. 32 (2017), which states that DepEd will integrate the principles of gender equality, gender equity, gender sensitivity, non-discrimination, and human rights into the provision and administration of basic education. Likewise, it is in line with the DepEd's mandate to ensure that all students have access to a quality basic education, to cultivate an inclusive classroom environment, and to implement an LGBTQIA+ inclusive curriculum to promote gender equality (Mutya et al., 2021). However, it was not explicitly specified in the policy whether or not cross-dressing is permitted for transvestite learners. This claim was confirmed by Dannug (2023), a Principal IV at Caloocan High School, who stated on his YouTube channel that LGBTQIA+ learners received equal treatment and privileges at their institution. But, issues regarding transvestism (cross-dressing) among learners have not yet been raised at their school due to misconceptions about the policy is a concern. As a result, there have been no transvestites at their institution.

Subsequently, in two public secondary schools in Malay, Aklan, transvestism is permitted among learners. In fact, based on estimates, each school had approximately 2% transvestite learners. Even though the D.O. 32 policy protects them, some internal stakeholders still do not in favor transvestites the way they dress in school. According to some transvestites, the following are some of the stereotypical inquiries that individuals have asked them out of curiosity, but which are typically derogatory. *"Are you not ashamed?"*, *"Do your parents permit you to dress like that?"*, *"Are you a boy or a girl? Then, you should act like one."* Possibly some transvestites are immune to these types of derogatory inquiries, but there are some transvestites who are fragile, and they have to carry this tremendous burden for an extended period of time. According to Lee (2017), because restrictions such as trimming their hair to appear like males have no educational value, they may severely harm LGBTQIA+ students' mental health and learning capacity. Similarly, Gorce et al. (2021) found that despite certain policies and laws protecting the well-being of LGBTQIA+, mental health issues, a toxic campus climate, and school victimization were still reported. Thus, this study is conceptualized to investigate the perceptions concerning the gender-responsive basic policy of DepEd, focusing on the internal stakeholders' attitudes toward transvestism of the LGBTQIA+ community wearing cross-dress in school. The researchers believe this study strengthens inclusive learning connected to D.O. 32, s. 2017 policy among transvestites for them to have a supportive learning environment such as quality, equity, and resilient. The supportive learning environment in strengthening inclusive education among transvestites that they may access are the following DepEd's intermediate Outcomes (D.O. 24, s. 2022) as stated below:

In addition, it is essential to note that the study will be conducted in secondary schools, where transvestites' right to learn is frequently violated by internal stakeholders. Consequently, schools and educational institutions should have explicit policies that promote inclusivity and protect transvestites and other gender-diverse individuals from discrimination. Subsequently, when this study will be presented in any national and international research congress, and much more to publish in a reputable national and international journal, maybe this D.O. 32, s. 2017 also known as the Gender-Responsive Basic Policy will be amended to have explicit guidelines for transvestites in school referring to the dress code.

Consequently, the "Gender-Responsive Basic Education Policy" strongly emphasizes advocating to advance equity and gender equality in the educational system. This entails ensuring that everyone, regardless of gender, has equal access to educational resources, opportunities, and rewards. Although DepEd Order No. 32, s. 2017 was a step in the right direction for gender inclusivity; there is still room for more specificity and clarity in this area, particularly for transvestites to guarantee that the rights and needs of all learners are fully addressed and respected. The school and its internal stakeholders would benefit from clearer guidelines on these matters to ensure that they are consistent with the overarching goal of gender equality and diversity.

## 2. LITERATURE REVIEW:

Gender sensitivity, equity, and human rights are embedded into basic education through DepEd Order No. 32, s. 2017. The Philippine Department of Education has a road to travel to tackle gender equality. Giving all learners, regardless of gender identity or expression, equal access to quality education in an inclusive environment, it outlines in its gender and development initiatives under the DepEd the same parameters as in higher-level legislative frameworks, such as the Magna Carta of Women (Republic Act No. 9710) and the Enhanced Basic Education Act of 2013 (Republic Act No. 10533), which are all in a bid to eliminate barriers created through gender inequality in education.

With this policy, a concerted effort is made to ensure that no learner suffers gender-based violence, exploitation, and discrimination. The Commission on Human Rights (2018) mentions that DepEd's Gender-Responsive Basic Education Policy provides a platform through which schools can carry out gender-mainstreaming initiatives to tackle gender-related issues that have traditionally been long-standing. It promotes the creation of non-discriminatory and inclusive educational environments whose target beneficiaries are especially LGBTQIA+ students, who have often been regarded as the greatest risk of bullying and discrimination. The overall ethos of this policy is to create a safe and supportive educational environment where all students can flourish academically and socially, regardless of gender identity or sexual orientation.

This phenomenon of transvestism, or cross-dressing, has been frequently misunderstood and stigmatized in school contexts. In school settings, transvestites encounter heavy stereotyping and discrimination based on their transgender designation, and this hinders their expression of gender identity. According to Lee (2017), grooming standards that require the compulsory upholding of traditional gender norms may harm the mental health of students of sexual and gender minority descent who wish to present cross-dressing as a means to express their identity. Such policies could become justifications for upholding conformity despite their seemingly neutral characters and, hence, have subjected gender nonconformists to emotional distress and other public mental health issues.

Other studies lend credence to this position. Gorce et al. (2021) stated that although inclusive policies exist, like DepEd's D.O. 32, the current situation has it such that LGBTQIA+ students experience mental health issues, hostile conditions, and victimization. Brown (2022) comments on the high level of mockery, marginalization, and misunderstanding encountered by transvestites from their peers and teachers alike. Such discrimination, in even the clearly inclusive spaces, creates contradictions between the formulation of policies and, with them, the practice, signaling the uneasy path that educational institutions have on their journey toward dismantling deeper-seated prejudices in society.

Besides, while society clings to transvestism as a deviant school practice, common gross misconceptions engender the same stigma. According to Human Rights Watch (2017), despite some good standardization of inclusive policies, many schools have failed to offer environments where the gender-nonconforming feel safe and accepted. For instance, transvestite students have to bear bullying and discrimination, which magnifies their sense of alienation. Misguided clichés such as: "How could you not be ashamed of doing this?" and "Are you a boy or a girl?" work to marginalize such students further, consolidating the unhealthy male-female duality that stymies self-expression and personal growth (Human Rights Watch, 2017).

These general societal attitudes towards transvestism in the Philippines have had more lukewarm sentiments. Dimayuga (2017) reproached the partial acceptance of transvestism in the country since its public tolerance is more of a façade, with superficial layers of entertainment value overlooking deeper acceptance and understanding. Not far from what can point towards the complicated needs of transvestite students within schools, this only complicated matters even further, throwing into sharp relief the yawning gap between what policymakers want and what happens on the ground.

The intent behind the Gender-Responsive Basic Education Policy from DepEd is clear: dismantling the challenges faced by gender-diverse learners through the linkage of inclusive education.

Nevertheless, as Duma (2022) pointed out, certain policy implementation gaps still exist, mainly because of insufficient implementation or because such guidelines are constantly misused due to long-existing social prejudices. Jha and Shah (2015) state that the workings of education systems should see that they are gender-responsive by nature, thus wiping out biases and fostering environments where all learners, inclusive of transvestites, feel valued and supported. Even amidst the policies aiming to provide inclusivity, many transvestite learners are still subjected to reports of enabling regimes due to the incompetent execution of policies and prejudices from society.

Moleiro and Pinto (2015) stress that pressures from the broader society often lead LGBTQIA+ individuals to repress their gender identities, with dire psychological consequences. Kirima reflects this finding through the account of Doe v. Yunits, in which a transvestite student was expelled from school for cross-dressing, suggesting the difficulty of establishing genuinely inclusive educational environments in systems that still favor restrictive norms concerning gender. Therefore, schools must succeed beyond policy enactment to establish supportive cultures in which all modes of gender expression are accepted and applauded.

The notion of transvestism as an expression of self goes back to Magnus Hirschfeld's theory of heterosexual transvestism created in 1935. Hirschfeld argued that cross-dressing-as-expression exists outside sexuality; it even violates the masculine and feminine dichotomies that govern it. His theories advocate a fluid framework of gender identity, wherein massa and fema can freely express themselves. It seems more relevant now than ever before since school systems continuously ponder a fine balance between gender-inclusive practices and societal expectations of gender compliance.

On the other hand, Brown (2022) elaborates on Hirschfeld's theory, debt to its essentially mental-health implications for the curtailment of free expression among transvestites. For many, cross-dressing is more than just an external act; it is a central piece in their identity-forming process. Denying these people their freedom to develop that identity can, in these settings, seriously increase their projection to psychological distress, thus impeding their academic development while putting untoward pressure on their well-being.

This sequential explanatory mixed-methods design employs primarily quantitative approaches to investigate internal stakeholders' meaningful perceptions concerning the Department of Education policy on gender-sensitive basic education for transvestism. I first collect and analyze quantitative data, then follow with one or the other qualitative review of the findings that are also human-based, referred to as "to elaborate on," according to Creswell & Creswell (2018). This study contains quantitative data, which has a broader scope to draw the attention of all stakeholders through the use of surveys concerning awareness and attitudes. However, qualitative data, which inform the whole story through an interpretive lens, deal more with portraying a nuanced picture of transvestite learners' lived experiences through interviews.

Researchers stated that the combination of qualitative and quantitative seems to suit best the discourse of sensitive topics such as gender identity. This conjunct reporting allowed them to tell not only truths but also human stories, thereby giving a complete representation of the issues at hand and, in a way, setting the stage for appropriate recommendations for improving policy implementation.

### 3. OBJECTIVES:

This mixed-method study investigated the views on D.O. 32, s. 2017, otherwise known as the Gender Responsive Basic Policy, relative to the internal stakeholders' sentiments concerning transvestism – a transvestite learner who cross-dressed in school. It would further strengthen inclusive education for transvestite learners such that they would have a safe learning environment where they could openly express themselves and thrive academically. This current study was also based on the MATATAG program agenda of DepEd: "TAke care of learners by enhancing learner well-being, inclusive education, and a positive learning environment."

Specifically, this study sought to answer the following research questions:

1. What is the perceived level of comprehension about the Gender-Responsive Basic Policy concerning transvestism among internal stakeholders?
2. What types of internal stakeholders are perceived to have the highest, moderate, and lowest levels of comprehension about the Gender-Responsive Basic Policy concerning transvestism?
3. How do internal stakeholders view the Gender-Responsive Basic Policy concerning transvestism?
4. How can this transvestism (affirmative or negative acceptance) be embedded into the school's Gender-Responsive Basic Policy?
5. What plan of action, advocacy, and dissemination will make to inform the policymakers about the school's Gender-Responsive Basic Policy for transvestism?

#### **4. METHODOLOGY:**

This research used an explanatory sequential mixed-method strategy to combine quantitative and qualitative methods for a more comprehensive understanding of the topic (Kajamaa & Mattick, 2020). An initial data-gathering phase quantitatively focuses on obtaining and analyzing data through descriptive statistics to ascertain stakeholders' perceptions of transvestism within DepEd's Gender-Responsive Basic Policy. Data gathering involved conducting an online Likert-scale survey through Google Forms with a sample of 639 respondents from two selected secondary schools. The sample was implemented with adherence to the Raosoft calculator, ensuring proportionality and reliability (Malang et al., 2012; Olazo, 2018). The quantitative results formed the basis of the subsequent qualitative phase, which aimed to elaborate and contextualize the numerical findings.

The other phase involved purposive sampling in qualitative data collection. Researchers identified respondents with different perceptions-kinds positive, neutral, and negative towards transvestism. Proper selection of the participants was performed according to the opinions they had expressed in the survey to achieve a balanced representation of diverse opinions (Lalor et al., 2013). Data was collected through semi-structured interviews and focus group discussions (FGDs) to clarify the opinions and experiences of participants. Researchers grouped respondents as per their perceptions so that disputes during conversations were eliminated, hence encouraging more focused and honest exchanges of opinions. The qualitative phase deepened understanding of the results found in the initial quantitative phase and provided detailed insights into stakeholders' perceptions and behaviors (Haynes-Brown, 2023).

Concerns for ethics were followed meticulously throughout the research process. The show of purpose, the procedures, and the subjects thereof, along with guarantees of anonymity and free will to withdraw, have also been explained to the subjects. It was only after consent forms had been signed that the study followed ethical protocols (Davies et al., 2020). Efforts were made to address sensitive issues such as gender identity in as respectable a manner as possible to avoid prejudices or biases from intruding on interviews. Also, the pilot testing of research tools and expert validation guarantees the reliability and validity of both quantitative and qualitative data-gathering techniques (Onwuegbuzie & Combs, 2010).

Data analysis was conducted for each of the two phases prior to merging the data. Quantitative data were analyzed using descriptive statistics to include the mean, median, standard deviation, frequency distribution, and percentage to summarize stakeholders' perceptions effectively (Loeb et al., 2017). The qualitative data sets were analyzed thematically, with some of the steps including transcription, coding, and identification of themes representing the emerging themes and comments in programs such as Microsoft Word and Excel. Triangulation was used to ensure the findings were confirmable and robust. The merging of quantitative and qualitative findings offered a clear understanding of the topic, thereby establishing the explanatory sequential mixed-method framework of the study (Understanding Pragmatic Research, n.d.).



## 5. RESULTS & DISCUSSIONS:

In the quantitative phase of the study, the research assessed the awareness of internal stakeholders on the Gender-Responsive Basic Policy (DepEd Order No. 32 s. 2017) pertaining to transvestism. Quantitative data were collected from 639 respondents, including parents, instructors, non-teaching personnel, and students, indicating substantial disparities in their levels of comprehension. The stakeholders' understanding was assessed using the mean as described in Table 1.

**Table 1. Stakeholders' Perceived Comprehension of DepEd's Gender-Responsive Basic Policy**

| Stakeholder's Group | No of Respondents | Mean | SD   | Interpretation         |
|---------------------|-------------------|------|------|------------------------|
| Parents             | 200               | 2.50 | 0.80 | Low Comprehension      |
| Teachers            | 150               | 3.40 | 0.60 | Moderate Comprehension |
| Non-teaching Staff  | 29                | 3.20 | 0.70 | Moderate Comprehension |
| Students            | 260               | 4.10 | 0.50 | High Comprehension     |
| TOTAL               | 639               |      |      |                        |

The lowest comprehension was with parents (Mean = 2.50 and SD =0.80), indicating a constrained understanding of the policy. This could result from little to no exposure to gender diversity discourse in education or from an overwhelming focus on traditional educational issues. Previous works point out that parents sometimes believe they cannot be excluded from gender-inclusive activities; this accentuates the need for focused communication and engagement techniques to close that gap in comprehension.

Educators had a moderate understanding (Mean=3.40, SD=0.60). Their experience is vital as front-liners of policy implementation; yet, deficiencies do persist due to lack of training or unclear policies. Teachers' ability to address gender diversity depends upon if there is organized professional development work to improve the understanding and implementation (Kimmel & Mahler, 2020). Non-teaching personnel had a moderate understanding of (Mean=3.20, SD=0.70). While they interact with students in less formal ways, their contribution to building a school's culture makes it even more imperative that training is provided to these individuals to help gender-diverse learners. Training could also help ensure their inclusion in non-academic educational environments (Yoder & Stasi, 2018). Students demonstrated the highest degree of understanding (Mean=4.10, SD=0.50), probably due to a heightened level of exposure to gender-related subjects throughout their educational and social experiences. The qualitative findings indicated a gap between understanding and accepting transvestism, derived from social norms and peer interaction (Smith & Darwall, 2020).

The qualitative analysis of this research shed light on notable themes regarding internal stakeholders' perceptions of DepEd's Gender-Responsive Basic Policy, more especially in the light of transvestism among learners. Each theme gave rise to a unique set of issues, calls, and misconceptions, depending on which insights they could garner to understand how stakeholders perceive gender diversity and inclusion in the educational system.

### Theme 1. Varied Levels of Awareness and Understanding

A recurrent theme was the differing perspectives held by various respondents regarding the awareness and consciousness of the Gender-Responsive Basic Policy—a fact made more salient by the impact on transvestism. Quantitative data reported significant differences in stakeholder groups' comprehension of policy, with teachers having moderate awareness and parents having the least. To add to that evidence, the qualitative data delve further into the perceived divergency of views derived from an expression of some participants' confusion. To quote one of the teachers, *"I know there is a policy regarding gender diversity, but I honestly do not know how it applies to students who identify as transvestites. Should we allow them to dress however they want, or should we follow the school's dress code? I feel lost because I do not want to do something wrong, but the policy is not clear enough for us."* [Teacher 1] The teachers' lack of clarity about the policy they are expected to implement is



worrying, and it indicates the need for some form of focused in-service training. Specifically, parents did not understand how they could effectively support gender-diverse learners from home. During the focus group discussion, a parent shared the following: *"I have heard about the policy from the school but have not received much information about what it means. How can I explain this to my child if I do not understand it myself? It feels like we're left out of the loop, and it is hard to support my child when I am unsure about what is expected."* [Parent 2]

Consequently, the parents' ambivalence about this policy reveals the gap in their communication across schools and families, limiting their contribution to fostering an inclusive environment. This has been confirmed by research, and Collier (2017) states that parental engagement in gender-inclusive policy to navigate through is generally ignored, and families are left untrained to guide their children in matters about gender. This gap indicates a strong need to improve awareness and elevate the understanding across the different stakeholders through clear and consistent communication about the policy. Mutya et al. (2021) asserted that the same message about policies should be relayed to each stakeholder to guarantee uniformity in implementation. Without concerted efforts to inform and raise awareness, misconceptions about the policy will continue to abound in its way toward inclusivity.

This gap indicates a strong need to improve awareness and elevate the understanding across the different stakeholders through clear and consistent communication about the policy. Mutya et al. (2021) asserted that the same message about policies should be relayed to each stakeholder to guarantee uniformity in implementation. Without concerted efforts to inform and raise awareness, misconceptions about the policy will continue to abound in its way toward inclusivity.

## **Theme 2. Concerns About Policy Clarity and Implementation**

Another issue raised by many respondents was the absence of directives for the specific situation and requirements regarding gender identity and transvestite students. All the stakeholders found it troubling that such directions about what the established dress code presupposes and how various genders are defined were missing. A principal declares in an interview: *"We all want to foster an inclusive environment, but the policy is just too vague. When it comes to students who identify as transvestites, we are left unsure about what is appropriate in terms of dress codes and overall gender expression. We need a little bit of direction from them. Let them do that just for now."* [Principal 1] Some teacher participants feel the same... *"...whether or not we are going to make the kids wear what they feel comfortable or are we going to enforce the uniform limitation,"* a teacher participant said. She continues, *"So, any of it would be hard again; you don't want a student to feel threatened or alienated; that is what we do not want."* [Teacher 2] While it may seem that only teaching staff are confused when the rules are not clear, one of the non-teaching staff is also unclear. As the non-teaching participant said, *"We are always with these students and want to help them. However, when you do not see in black and white, this is what you do when this student wants to come dressed, and they do not fall within what somebody would say is the traditional norm, ... the administration does not know how to handle it".* *Are we supposed to let them or not? It is really unclear."* [Non-teaching Staff 3]

However, adhocism, which Britton (2018) referred to as 'roll out then roll with it,' is a tough way to ensure equity. Additionally, a lack of clear frameworks can exacerbate inconsistency among schools in how they deal with or inadvertently perpetuate harm to gender-diverse students. Gorce et al. (2021) argued that when policies are inadequately prescriptive, students can face exclusion or marginalization based on individual school decisions that vary across schools when providing clearer instructions could bring about more inclusive and supportive directions for schools.

## **Theme 3. Need for Explicit Guidelines**

The absence of specific procedures became a contentious issue for stakeholders, notably teachers and administrators positioned at the policy implementation frontline. Given the dearth of related regulations, there were several concerns about the general assistance for cross-dressers. Perhaps

the most frequently mentioned concern revolved around not knowing how to handle cross-dresser situations. As a teacher, for example, *"I have absolutely no idea what I should do to support them. We want to be helpful, but due to the lack of proper steps to take, it is likely we may damage more than we improve."* [Teacher 3] His discomfort in not knowing the right action to take resonates with other educators. Despite the good intention to be constant in care, the situation may cause imperceptible but significant misunderstanding. He is not alone. The researchers remember an administrator from a school commenting on the issue, saying, *"We want to be an inclusive school and make sure all here feel like they belong, but it is hard when no one presents matter-of-fact information. There is no way that it is not a guessing game. We're left on our own to figure things out, and we know that if we make a wrong move, a student can be irreversibly damaged."* [Principal 2] This admin said that new leadership ultimately faces the fallout of policy handed out unannounced but expects to land gracefully. The lack of clear protocols can easily result in an uneven roll-out, reflected in a fifth teacher. *"If you do not give us anyhow and to, we are making it up. It creates a scenario where some schools will be more supportive than others. That is not good for the students. It should be the same for all."* [Teacher 4]

Such inconsistency can mean that gender-diverse students will have better or worse experiences depending on their schools. The Department of Education should improve the policy by adding overt steps for educators to take to address dress codes, use appropriate pronouns, and prioritize the well-being of its students.

#### **Theme 4. Integration through Education and Training**

One common theme that surfaced was the need for ongoing professional development to overcome the hostile environment created by gender. Almost all informal interviews were with school administrators and other staff members and, not surprisingly, virtually all said the same thing about lacking the skills or needed development when it comes to implementing the Gender-Responsive Basic Policy. *"It is mostly trial and error at this point," one administrator said. "We need more action or application to know how to help gender nonconforming students. Right now, we are flying by the seat of our pants."* [Principal 1] Poorly or untrained school personnel exacerbate and often create school-based climates that are non-productive and unsafe for transgender youth. In addition to allowing this no-student-left-behind policy to be fully enacted, it is important that training programs focused on gender-sensitive and inclusive policies are put in place and supported. As one teacher participant suggested, *"We need to be educated, too. If we are not trained, then we cannot support them"* [Teacher 4]. At the same time, as Davies et al.'s (2020) research indicates throughout the study, ongoing teacher professional development must become a necessity and priority if educators are to be *"educated, too."* To bridge such knowledge gaps, the Department of Education must prioritize training programs that are balanced around gender diversity, the orientations of the Gender-Responsive Basic Policy, and practical strategies for building inclusive classrooms. In such a context, schools must ensure that sensitization and training create safe and supportive learning environments for all pupils, for those who are identified as transvestites.

#### **Theme 5. Advocacy through Collaborative Dialogues**

The importance of a dialogue-centered approach to ensuring inclusiveness and understanding within a school community stood out in the cycle of stakeholders' comments. Many participants believe that, for the effective implementation of the Gender-Responsive Basic Policy, open communication should occur between students, teachers, parents, and administrators and as a daily practice in schools. A teacher said, *"Policies are critical, but they flare up on paper unless discussions are continuous. We need to have real conversations where people share their thoughts, ask their questions, and share their concerns. That is when we can understand each other and really support our gender-diverse students."* [Teacher 5] Another school counselor added, *"I have observed students who feel isolated because they do not think their teachers or parents understand their lives. We must create an environment where these issues can be addressed through policy and genuine, kind conversations."* [Guidance Counselor] This also underscores the importance of developing a tough school culture where inclusivity is put into

practice, first and foremost, through active and continuous dialogue between all community members. At the FGD, the necessity of a more open and continuous dialogue was voiced clearly, where most stakeholders pushed for platforms to share concerns about gender inclusivity. One of the teachers stated, *"We need spaces to talk about these issues without being judged, spaces where everyone can be comfortable enough to share their thoughts."* [Teacher 6] The call for dialogue is consistent with Yin's (2013) argument that successful policy implementation normally requires the continuous participation of the whole school community in ongoing conversations.

Opening dialogues would be a great chance to abolish bias and include school values. Conversations can help ensure that other stakeholders have a say in the policy formulation that affects queer learners. Such a dialogue framework will improve the way policy is implemented and develop a more receptive attitude towards and environments within the teachings of all students.

## 6. SUMMARY:

The study determined how different internal stakeholders-parent, teacher, non-teaching staff, and student-perceived transvestism as illustrated in the DepEd's Gender-Responsive Basic Policy. A total of 639 respondents participated in the study, and significant differences were found between the three means of understanding levels. The parents registered the lowest means score of 2.50, implying that discussions in education regarding gender diversity probably were rare. The low score again implies these parents might be cut off from any gender initiative in schools, implying that active engagement and dissemination of information need to be organized. Teachers and non-teaching staff showed moderate understanding, with scores of 3.40 and 3.20, respectively. Teachers, being at the forefront of effective policy implementation, can be expected to have more proper training or clarification so that they can address gender issues within the classroom accordingly. Likewise, for non-teaching staff who have considerable influence on the school's culture, enhanced technical support should be afforded to provide an inclusive schooling context for gender-diverse students. The students showed high comprehension, adding up to 4.10 in mean value, demonstrating that the younger generations have more understanding and acceptance of gender diversity.

The qualitative data also determined quite a divergence between understanding and acceptance; hence this would lend to the influence exerted by social conventions alongside peer influence toward the opinions on gender expression. Though the students showed an increasing awareness of gender diversity, such increased awareness does not result in equal ground concerning establishing a truly inclusive environment. This examination reflected the views of internal stakeholders on the Gender-Responsive Basic Policy reallocating transvestism, disentangling two emerging themes. Such included varied levels of knowledge and understanding, wherein stakeholders expressed confusion over the application of the policy towards transvestite students. One of the teachers raised the question of whether students were entitled to present themselves in accordance with the gender with which they identify, thus debating the need for policy directives and in-service training. Parents expressed their frustrations about how little they understood the policy, leaving them feeling they were excluded from discussions and unprepared to support their children. The other concern is clarity and implementation. Stakeholders considered the dress code and gender identity vague with respect to the policy, which left the schools in confusion and made them ineffectively nurture an inclusive environment. The findings of this study argue that the success of gender-responsive policy in any school depends on clear communication, adequate professional development, and active parental involvement.

## 7. LIMITATIONS:

Due to limited contexts, the objectives of the study had to be narrowed down to studying DepEd secondary schools located within Malay district, which restricts the outcomes' applicability in the particular context of the sociocultural peculiarities of differing perceptions held by various stakeholders of DepEd's Gender Responsive Basic Education Policy and transvestism as interpreted differently across territories of variegated sociocultural makeups. It also captured perceptions toward the DepEd's Gender Responsive Basic Policy and transvestitism only at a certain point in time, and they would have

changed as social attitudes and cultural norms changed, and educational policies evolved, within the geographical context of the study. Another limitation of the study was that there were limited internal stakeholders under investigation, and hence many of the perspectives were not entirely a part of the analysis. Lastly, one year might have provided adequate background information to be applied in the context, but attributing changes to derive long-term effects and changes will challenge future studies in a different context and over a longer period of time.

## 8. RECOMMENDATIONS:

The findings of this study emphasize the need for urgent interventions aimed at improving the understanding of and acceptance of DepEd's Gender-Responsive Basic Policy concerning transvestism. First, communication strategies have to be implemented to educate parents, found to be the least informed about it. Revisions have to take place, particularly for those related to guidelines on how to deal with gender expression in schools, so that there is clarity and uniformity across educational institutions. Gender-sensitive professional development should be prioritized to provide teachers and staff with the requisite tools to help transvestite learners. Continuous dialogue is necessary between teachers, students, and parents to address misconceptions and foster a welcoming atmosphere. These dialogues could challenge stereotypes and promote accepting gender diversity within the school community. Establish gender-sensitivity committees in schools to monitor and supervise the implementation of such policies. Advocacy must go beyond schools to pressure policymakers to create legislative reforms conducive to the protection of transvestite learners' rights. That makes the accomplishing of these actions propitious for the creation of a school environment safer and more accepting of any member of the community, depending solely on the gender identity of the student.

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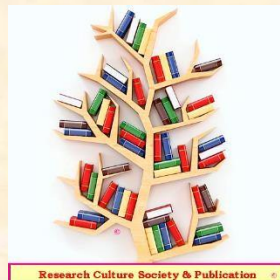
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