The Effectiveness of Powerpoint Presentation in Improving Writing

[1]Mohammad Izuan bin Ismail, [2]Hamidah bt Yamat@Ahmad

Abstract: This pilot study investigated the validity and reliability of research instruments for assessing PowerPoint presentations' effectiveness in improving writing skills among Malaysian lower primary second language learners. Responding to the shift towards technology-integrated learning, the study ensured its self-made questionnaire (10 items, dual-language, four-point smiley Likert scale) possessed acceptable face and content validity through expert review. Distributed to 35 Year 2 students in Gombak, the questionnaire data was analyzed using SPSS for reliability. A high Cronbach's Alpha of 0.833 demonstrated excellent internal consistency. The findings confirm that both the effectiveness instrument and the questionnaire are valid and reliable, establishing a robust foundation for subsequent research on PowerPoint's impact on writing skills in this context.

Keywords: ESL, ICT, PowerPoints Presentation, Writing skills, Questionnaire, Validity.

I. INTRODUCTION

In Learning is a process of accepting knowledge, mastering the knowledge and development of students' attitude assisted by teachers (Ropisa & Rahimah, 2018). Currently, the implementation of student- centered teaching and learning has been the agenda in the transformation of our national education. The education system plays an important role in generating quality human capital as well as contributing to the development of a country (Jacobs, 2011). Teaching and learning practices need to be changed from conventional methods to more creative and dynamic teaching and learning methods (PPPM, 2013-2025).

Education nowadays is constantly changing, the community's changes and the expectations of schools also become higher. Everyone is very concerned with the quality of education, thus it demands the teachers to be effective and provide quality learning. In facing these challenges, teachers need to ensure that they undergo continuous learning to master the various fields of knowledge and be able to absorb all current changes so that they appear flexible, relevant and have the effectiveness of teaching (Shamilati, 2017). Teachers should strive to improve the quality of teaching and learning at school and achieve optimum quality standards by changing the approach that focuses more on student achievement (Mahdzir, 2016). The quality of teaching means teacher capabilities to deliver teaching or concepts or skills that students are easy to understand, easy to remember and enjoy

Transformation in teaching and learning which prioritizes the quality of knowledge rather than pursuing academic excellence purely. The ever changing education will affect the educators. Therefore, the quality level of teachers needs to be improved so that the country's agenda can be fulfilled especially in terms of teaching and learning in the classroom. Thus, the Ministry of Education of Malaysia has designed and come up with a new Malaysian Education Development Plan (PPPM 2013-2025).One of the goal is to harness the potential of ICT to enhance the depth and improve the overall quality of education. The Ministry also seeks to leverage ICT to improve the efficient delivery of quality education and to enhance learning. The use of ICT in the teaching and learning process can improve the efficiency and effectiveness of learning outcomes. This is because teachers can prepare early in carrying out the teaching and learning process. Through this way, teachers can find information better than convey it to students effectively. Through the use of ICT tools as teaching aids, the teaching and learning process will be more attractive and effective, for example using tools such as PowerPoints. By

using tools such as Powerpoint, it can help the teaching and learning process to be carried out more easily, concisely and compactly as students will be exposed to exciting and interactive learning. In order to explore hte effectiveness of power point presentation in improving writing skill, a self made questionnaire was designed.

The purpose of this study is to determine the validity and reliability of a questionnaire assessing the effectiveness of PowerPoint presentations in improving writing skills among Malaysian lower primary second language learners using Alpha Cronbach's data analysis.

The term "validity" refers to the extent to which the data obtained accurately reflect the phenomena under observation or study. Additionally, it refers to the extent to which the test genuinely measures what it is designed to assess. It is a measure of the degree to which a study outcome matches to reality. Validity comes in a variety of forms, including construct validity, content or face validity, empirical validity, external validity, internal validity, and predictive validity (Heriot, 1975; Mischel, 1993). For instance, construct validity entails determining the relevance, meaning, goal, and application of an instrument's scores (Creswell, 2005).

Whereas reliability refers to the degree to which an evaluation may be repeated and produces consistent results. A test must be trustworthy in order to be valid; but, dependability does not guarantee validity (Wong, 2003). Typically, reliability is determined using the Cronbach Alpha test. Alpha coefficients are typically used to assess the internal consistency of a questionnaire or test in its entirety, as well as the internal consistency of the test's pre-determined subscales. Cronbach Alpha can be calculated using an information technology instrument such as the SPSS statistical software.

Altheide and Johnson as stated by Mohanjan (2017) The term "reliability" refers to the stability of findings, whereas "validity" refers to the accuracy of findings. Validity and reliability improve transparency and reduce the possibility of researcher bias being introduced into qualitative research (Singh, 2014).

II. METHODOLOGY

Body This study targeted year 2 primary school students in Gombak district to identify whether the questionnaire of the effectiveness of PowerPoint presentation in improving writing skills in a Malaysian lower primary second language learners has achieved validity and reliability by using face validity, content validity and Cronbach Alpha data analysis. The Cronbach Alpha value is used to determine the internal consistency of a construct. To obtain content validity, the self-made questionnaires for effectiveness of PowerPoint presentation in improving writing skills in a Malaysian lower primary second language learners was made to go through checking by an expert in the education field. The face validity for the effectiveness of PowerPoint presentation in improving writing skills in a Malaysian lower primary second language learner's instrument was checked by the subject-matter professionals before the administration of the test.

This study is a pilot study that employs a quantitative methodology. The questionnaire consists of ten questions that have been written in two languages: the target language and the learner's first language. The questionnaire has been written in both languages. The questionnaire was distributed by the researcher to 35 respondents, all of whom were students at a primary school in the Gombak district. The questionnaire was given to the samples with sufficient time for them to complete it. The construct uses a scale of a four-point smiley Likert scale in response to the statement of the structured questionnaire range from disagree, partly disagree, agree and strongly agree. Smiley Likert scale four points have been used as it can be more accurate and friendlier to level one students assessing the beliefs or opinions. This is shown in Table I.

DISAGREE	PARTLY DISAGREE	AGREE	STRONGLY AGREE
1	2	3	4
🙁	🤭	🙂	🥹

Table I

The data then were analyzed using Statistical Package for The Social Sciences (SPSS version 26) to find reliability. The reliability of the questionnaire item has been tested using the value of Cronbach Alpha coefficient.

III. FINDINGS

The reliability coefficient of questionnaire obtained in this pilot study is been tabulated in the table II below:

Cronbach's Alpha	N of items
0.833	10

Table II

Based on Table II, the reliability value index for this instrument is 0.833. The research instrument has reached a high level of reliability and the item is acceptable. The results of the test in this study show that the reliability value index is between Alpha Cronbach 0.70 (Stability Coefficients) to 0.96 (Very Good Reliability or Acceptable Standardized Test for Internal Consistency) is still at the Degrees of Positive Correlation (Cortina, 1993).

Table III shows the scale of the mean, variance and correlations of the item in the questionnaire.

Item	Scale Mean	Scale Variance	Item Total Correlations
Q1.I feel motivated when the teacher uses PowerPoint in the lesson.	30.9429	16.761	0.753
Q2.I feel interested when the teacher uses PowerPoint in the classroom.	30.9429	18.232	0.356
Q.3 I can understand the learning much more easily, when my teacher use PowerPoint in the lesson.	31.0000	16.765	0.630
Q4.I remember more easily what I've learnt when the teacher uses powerpoint in the lesson.	31.2571	16.550	.556
Q5.I really enjoy looking at the pictures presented on PowerPoint.	31.1429	15.773	0.565
Q6.Power Point draws my attention to the lesson.	31.1143	15.222	0.710
Q7.PowerPoint helps me concentrate on the lesson.	31.0857	15.963	0.613
Q8.PowerPoint helps me to improve my writing skills.	31.3143	15.810	0.623
Q9.PowerPoint helps me to learn new vocabulary.	31.2286	15.946	0.677
Q10.I wish teacher use less PowerPoint in the classroom.	31.6286	17.064	0.173

Table III

Table IV shows the overall scale of the mean, variance and standard deviation.

Mean	Variance	Standard deviation
34.6286	19.887	4.45953

Table IV

Table III and Table IV indicate that the questionnaire is at a high level. Overall, high standard variance and deviation gives an impression that the research question of this study is reliable. The overall mean is 34.6286. The overall variance is 19.887. The overall standard deviation is 4.45953.

IV. CONCLUSION

The foundational strength of this study lies in the rigorous development and validation of its research instruments. The primary instrument, designed to measure the effectiveness of PowerPoint presentations in enhancing writing skills among Malaysian lower primary second language learners, has demonstrated high reliability. This high reliability is paramount, as it assures that the instrument consistently yields stable and dependable results, reducing the likelihood of measurement error. Consequently, researchers can be confident in utilizing this tool to accurately gauge the impact of PowerPoint

presentations on writing skill development, ensuring that any observed changes are attributable to the intervention itself rather than inconsistencies in measurement. The consistent performance of this instrument provides a robust framework for drawing meaningful conclusions about the efficacy of PowerPoint as an instructional aid in this specific educational context.

Furthermore, the self-made questionnaire, crafted to assess the perceived effectiveness of PowerPoint presentations, has successfully undergone scrutiny for both face and content validity. The acceptable face validity indicates that, at a superficial level, the questionnaire appears to measure what it intends to measure, making it intuitive and relevant to both participants and observers. More critically, the acceptable content validity signifies that the questionnaire comprehensively covers all essential aspects pertinent to the effectiveness of PowerPoint presentations, as determined by expert review and alignment with theoretical constructs. This meticulous validation process ensures that the questionnaire is not only perceivably relevant but also systematically representative of the domain it seeks to explore. The combined strength of these instruments—a highly reliable effectiveness measure and a valid self-made questionnaire—establishes a strong methodological basis for the present study, enabling the collection of credible and insightful data on how PowerPoint presentations can serve as an effective pedagogical tool for improving writing proficiency in young second language learners in Malaysia. These validated instruments pave the way for a deeper understanding of this crucial educational intervention.

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