



Implementation study of authentic assessment in physical education in Indonesia and Malaysia

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ABSTRACT

Authentic assessment is essential in physical education, sports, and health, encompassing cognitive, affective, and psychomotor dimensions. Despite the existence of assessment tools for fundamental movements, their widespread adoption remains limited. This study aims to assess the viability of the Instrument for Authentic Assessment in Physical Education (IPOPJ) within Indonesian and Malaysian elementary schools, offering a comparative analysis of the educational systems in both countries. The research objectives encompass understanding the implementation process of IPOPJ, identifying obstacles, and evaluating adherence to predefined standards. Employing concurrent triangulation, the study gathers quantitative data through questionnaires and qualitative data through observations and interviews. Analysis is focused on communication, resource availability, disposition, and bureaucratic structures. Findings from statistical analyses using Z-tests and concurrent triangulation reveal the absence of significant differences in responses from physical education teachers in Indonesia and Malaysia, indicating a high chance of IPOPJ implementation success in both countries. This study underscores the important role of effective communication, adequate resources, positive disposition, and streamlined bureaucratic structures in facilitating successful assessment implementation.

Keywords: authentic assessment, physical education, elementary school, concurrent triangulation

Article history

Received:

26 March 2024

Revised:

20 May 2024

Accepted:

14 August 2024

Published:

22 January 2025

Citation (APA Style): Hariadi, H., Valianto, B., Akhmad, I., & bin Syed Ali, K. S. (2025). Implementation study of authentic assessment in physical education in Indonesia and Malaysia. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, 44(1), 102-115. DOI: <https://doi.org/10.21831/cp.v44i1.71485>

INTRODUCTION

Physical education is one of the mandatory subjects in the elementary and secondary education curricula applied in both Indonesia and Malaysia. Similar to Indonesia, physical education is compulsory for all students in Malaysia, spanning from pre-school levels to higher education. This is evident as students must choose one of the sports disciplines outlined in the curriculum. The similarities in elementary schools' physical education between Indonesia and Malaysia consist of the length of study (6 years) and the definition of an educational process that utilizes physical activities to generate holistic changes in individual qualities, encompassing physical, mental, and emotional aspects.

Assessment of learning outcomes is an activity aimed at evaluating the extent to which learning objectives have been achieved or mastered by learners in the form of learning outcomes. Following discussions with several lecturers at the Faculty of Education of the University of Malaya, it is evident that physical education teachers in Indonesia and Malaysia face similar challenges in conducting authentic assessments of learners' abilities and skills.

Authentic assessment is intended to measure and acknowledge an individual's abilities that truly reflect their mastery (BNSP, 2007). It assesses, monitors, and evaluates all aspects of learning outcomes, covering cognitive, affective, and psychomotor domains, whether manifested

as the result of a learning process or as changes and developments in activities and learning acquisition during both in-class and out-of-class learning.

While the implementation of authentic assessment is crucial for the 2013 curriculum, practical challenges persist. Teachers tend to focus solely on the cognitive domain in authentic assessment (Soebarna et al., 2017). Additionally, they encounter issues due to the detailed assessment criteria of the K13 curriculum (Safitri & Oktavia, 2017). A prior study was conducted involving the development of an authentic assessment instrument for basic manipulative movement skills in the subject of Physical Education, Sports, and Health (Pendidikan Jasmani, Olahraga, dan Kesehatan—PJOK) for fourth-grade students in elementary schools. It demonstrated commendable validity, reliability, and effectiveness. An Instrument for Authentic Assessment in Physical Education (Instrumen Penilaian Otentik Pendidikan Jasmani—IPOPJ) for basic manipulative movement skills in elementary schools has been developed, considering attitudes, cognitive, and skills aspects (Hariadi, 2016). However, this assessment tool has not been widely adopted by physical education teachers.

To understand the implementation process, provide feedback on policy execution, assess adherence to predefined standards, and identify obstacles, an implementation study is necessary (Mulyadi, 2015). Implementation studies are essential to determine how teachers and schools can facilitate authentic assessment using IPOPJ. A mixed-methods implementation study with triangulation is a comprehensive approach to assessing physical education quantitatively and qualitatively.

Implementation studies on IPOPJ can be conducted in Indonesia and Malaysia, given the similarities in their education systems. The research aims to offer solutions to educational issues, particularly in the realm of assessment, in both Indonesia and Malaysia. The study's implementation will utilize the concurrent triangulation method in the form of mixed-method research with the following objectives: Firstly, to discern the implementation process of the IPOPJ within the context of physical education evaluation in elementary schools in Indonesia and Malaysia. Secondly, the investigation aims to identify obstacles and issues that arise during the implementation of IPOPJ. Lastly, the study seeks to determine whether the execution of the IPOPJ implementation aligns with the established plans or standards.

Previous studies have researched authentic assessment in PJOK in Indonesia. One research study concluded that the implementation percentage result was 89.02%, indicating that the assessment system and execution had been effectively carried out (Sofyan & Kuntjoro, 2021). In the authentic assessment, teachers have successfully articulated the cognitive domain, but the implementation of the affective domain has not been fully realized (Soebarna et al., 2017). Teachers continue to face challenges in implementing authentic assessment, indicating persistent obstacles in executing this evaluation method (Widodo, 2018). Moreover, the implementation of authentic assessment appears to lack a significant influence on students' learning motivation.

This research aims to contribute significantly to physical education in Indonesia and Malaysia, particularly by: (1) enhancing the governance of physical education assessment at the elementary education level; (2) providing a potential solution to the challenges faced by elementary school physical education teachers in both countries, particularly in the realm of authentic assessment; (3) offering valuable insights for further studies related to assessment, implementation processes, and issues pertinent to implementation, encompassing policy implementation and other educational facets; and (4) fostering collaboration between Universitas Negeri Medan and Universiti Malaya in the realms of teaching, research, and community engagement.

METHOD

The primary objective of this research is to provide scientific evidence concerning the implementation of authentic assessment in PJOK at the elementary school level in Indonesia and Malaysia. The chosen methodology for this investigation is a mixed method, employing a concurrent triangulation design. This phase encompassed a literature review on the implementation of authentic assessment, conducting a focus group discussion (FGD) with the

research team members and several physical education teachers at elementary schools, duplicating the IPOPJ, preparing the instruments, and designing the research implementation plan. The preparation phase was scheduled to take place from March to June 2023.

During this preparation phase, the validity and reliability of IPOPJ were checked based on Hariadi (2016). Instruments were prepared consisting of observation sheets to observe teachers while assessing using IPOPJ, questionnaires, and interview guidelines. The results of the validity and reliability tests for these research instruments can be found in Table 1.

Table 1. Validity and reliability test results

Instrument	Validity	Reliability
Observation sheet	0.863	0.955
Questionnaire	0.872	0.927
Interview guidelines	0.793	0.934

Source: Hariadi (2016)

The results of the instrument validation indicate that all items have content validity values above 0.7 (within the range of 0.793 - 0.872), suggesting that the items substantially measure the intended constructs. The instrument's reliability is also quite high, with values above 0.7 (within the range of 0.927 – 0.955), indicating consistency in the intended measurements.

The first FGD occurred on Tuesday, April 25, 2023, and was attended by the research team and 30 physical education teachers from elementary schools in Medan. The teachers are members of the Ikatan Guru Olahraga Nasional (IGORNAS). During this preparation phase, teachers were given a questionnaire to gauge their understanding and perspectives on authentic assessment. FGD with the research team in Malaysia was conducted on July 27, 2023, at the University of Malaya, Kuala Lumpur.

The research was implemented by concurrently collecting quantitative and qualitative data. When teachers serving as respondents assessed using the authentic assessment instrument previously developed in a prior study, their behavior was observed using an observation sheet. Following the assessment, teachers were requested to complete a questionnaire (quantitative data source) and underwent an interview as informants. The interview results and observations constituted qualitative data sources. Data collection was carried out simultaneously in both Indonesia and Malaysia.

Moreover, the questionnaire responses were analyzed to obtain quantitative results regarding implementing the authentic assessment instrument in this study. Subsequently, the quantitative results were validated using observation and interview outcomes, thus yielding qualitative findings related to the implementation of IPOPJ in Indonesia and Malaysia. An FGD was conducted among research team members and relevant experts to obtain qualitative results in the final stage. The findings from Indonesia and Malaysia were considered distinct outcomes of this research, without direct comparison between the two.

Selected schools in Medan, Indonesia, and Kuala Lumpur, Malaysia, served as the research samples for this study. The population of this study comprises all teachers in public elementary schools in Medan, Indonesia, and national schools in Kuala Lumpur, Malaysia. The sample for this research consists of 70 public elementary schools in Medan and 55 national schools in Kuala Lumpur. According to Edward III, implementing a policy requires four factors: communication, disposition, resources, and bureaucratic structure (Mubarok et al., 2020). Thus, the variables measured in this research were communication, disposition, resources and bureaucratic structure.

Communication is the process of conveying information from the communicator to the communicatee (Edward III in Mubarok et al., 2020). Therefore, in this study, communication refers to the information contained in the IPOPJ and the delivery of information from the researcher to the physical education teachers who will be using this authentic assessment instrument. The conveyed information pertains to the usage and the process of filling out the IPOPJ in the assessment procedures at elementary schools in Indonesia and primary schools in Malaysia. Several factors were included in the communication, namely, sender, message,

receiver, channel, feedback, and context. In the channel, efficiency was assessed based on how efficient IPOPJ was in communication.

Disposition is related to policy implementers' willingness, desire, and tendencies to carry out specific programs in implementation, such as commitment, honesty, and a sense of democracy (Putra & Khaidir, 2019). Based on the findings of previous research, the teachers involved in the research "Development of Authentic Assessment Instruments for Basic Manipulative Movement in Physical Education" can use the structured assessment instrument and have a strong willingness to incorporate the instrument into their physical education lessons at their respective institutions (Hariadi, 2016). The disposition included Several factors: intention, skill, trust, and commitment. The intention was specified as the intention to use IPOPJ, trust as relevance, and commitment as the willingness to participate in implementing IPOPJ.

Resources encompass human, budgetary, equipment, and authority resources in implementation. In this research, human resources consist of physical education teachers at elementary schools, who generally hold a bachelor's degree (S-1) and possess teaching certificates as competency standards for professional teachers. Equipment resources include the IPOPJ instrument, and the authority resource is the jurisdiction of physical education teachers in conducting lessons as regulated in the curriculum. Equipment resources are associated with the assessment instrument presented in the form of an assessment book, containing assessment instructions, assessment rubrics, questions, observation sheets, and assessment forms. Time and technology were also part of the resources.

Bureaucratic structure pertains to the division of authority and relationships between organizational units (Edward III in Mubarak et al., 2020). In this study, bureaucratic structure refers to the duties and authorities of physical education teachers as outlined in the current curriculum used in Indonesia and Malaysia.

The respondents in this study also serve as research informants. They were physical education teachers who were assigned to 70 public elementary schools in Medan and 55 national primary schools in Kuala Lumpur. Respondents will utilize the IPOPJ in their respective schools. As respondents, physical education teachers will complete a questionnaire to serve as a quantitative data source. Additionally, as informants, these teachers will be observed while using the IPOPJ and interviewed to obtain qualitative data for this study.

A two-sample Proportion Z-Test was used to analyze whether the two groups' proportions differed significantly. In this study, the test was applied for efficiency, intention to use, relevance, and willingness to participate in IPOPJ for respondents who answered "Very Efficient", "Very Intent", "Very Relevant", and "Very Willing" in Indonesia and Malaysia. The null hypothesis was $H_0: p_1 = p_2$, which shows there is no significant difference between the proportion of respondents in both countries. The alternative hypothesis was $H_0: p_1 \neq p_2$, which shows there is a significant difference between the proportion of respondents in both countries. The z-test was calculated based on the formula (1)

$$Z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}(1-\hat{p})\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} \dots\dots\dots (1)$$

- \hat{p}_1 = proportion in Indonesia
- \hat{p}_2 = proportion in Malaysia
- p = average proportion in both countries
- n_1 = total respondents in Indonesia
- n_2 = total respondents in Malaysia

The significant value was set to $\alpha=0,05$ with a confidence level of 95%. H_0 is accepted when Z obtained $-1,96 \leq Z \leq 1,96$.

The concurrent triangulation method was employed to obtain quantitative and qualitative data concurrently. In this study, concurrent was done by integrating FGD, observation, and questionnaire in data collection. Document review of the curriculum in Malaysia and Indonesia was also part of the triangulation to analyze the similarity between the two countries, which was

then analyzed with statistical results to determine a conclusion. This mixed-method research uses a concurrent triangulation design, as shown in Figure 1.

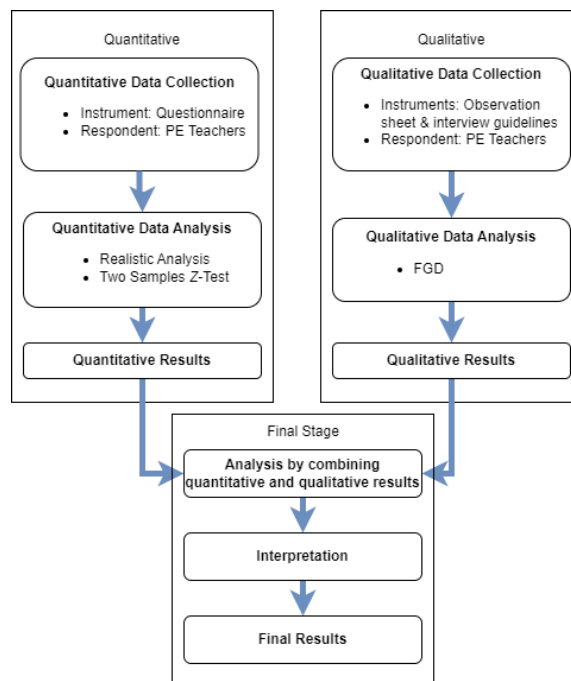


Figure 1. Research design

FINDINGS AND DISCUSSION

Findings

Focus group discussion (FGD) results

This stage encompasses a literature review related to the implementation of authentic assessment, FGD with the research team members and several physical education teachers in elementary schools, production of the IPOPJ, development of instruments, and preparation of the research implementation plan.

During the FGD held on April 24, 2023, a briefing on the IPOPJ was provided to the teachers. In addition to the briefing, a questionnaire was distributed to the teachers to assess their understanding and utilization of authentic assessment in physical education lessons. The analysis of the questionnaire results indicated that only 14.29% of the responding teachers always implement authentic assessment, 30.05% do so frequently, 35.71% occasionally, and 19.05% rarely or never engage in this form of assessment.

The data indicates that less than 50% of teachers implement authentic assessments. The times at which teachers conduct assessments include daily quizzes, mid-term and final exams (100%), the end of the learning period (83.33%), and during the learning process (11.90%). The questionnaire results also reveal that only 11.90% of teachers use observation sheets during assessing students' skills, 35.71% occasionally use them, and 52.38% of teachers never utilize observation sheets for assessing students' skills.

In conducting assessments, the questionnaire results indicate that teachers assess based on both outcome and process elements. For skill assessments, 59.52% of the teachers have an outcome-oriented orientation, 23.81% have a process-oriented orientation, and 16.67% conduct assessments with an orientation toward both outcome and process of skills development.

Implementation of the research

The research was conducted by simultaneously collecting quantitative and qualitative data. Based on the FGD with teachers and the research team in Malaysia, it was agreed to commence data collection in the third week of August 2023. This decision was made with several

considerations; one of them was that IPOPJ specifically assesses small ball games (Kasti) taught in the odd semester of fourth-grade elementary school. Authentic assessment within the IPOPJ was used as a form of formative assessment (to provide feedback and aid learning) carried out by teachers during that time frame. In addition, the timing was chosen to align with the curriculum and the readiness of the research team in Malaysia, aiming for more accurate and meaningful results. The variables measured and/or investigated in this research include factors in the implementation, such as communication, disposition, resources, and bureaucratic structure.

Various elements of communication were involved in this research. “The sender” in this research is the physical education curriculum used in Indonesia and Malaysia, which shares common goals in physical education. The Indonesian curriculum states that physical education is essentially an educational process that utilizes physical activities to bring holistic changes in an individual's physical, mental, and emotional qualities (Ministry of National Education, 2013). Document and literature review from the Ministry of Education Malaysia (1999) shows that the curriculum used in Malaysia emphasizes three main concepts in physical education: fitness (intelligence), which focuses on students' ability to engage in physical activities; skills, emphasizing basic skills in games; and enthusiasm (sports), emphasizing the knowledge of implementing values in physical education. From the result, both countries have similar points of view in determining the concept of physical education.

The message or information to be conveyed in this implementation process is using IPOPJ in physical education at the elementary education level. IPOPJ has undergone validity and reliability testing, establishing it as a valid and reliable assessment instrument. In this implementation process, IPOPJ is utilized as a set of assessment instruments for physical education, focusing on small ball games (Kasti) in fourth-grade elementary school. The instruments include attitude assessment, skill assessment, and knowledge assessment. From Hariadi (2016), the content validity coefficient was obtained using Aiken's V formula. The attitude assessment instrument has an average of 91.6 (excellent category), the knowledge assessment has a content validity of 93.2 (excellent category), and the skill assessment has a content validity of 91.8 (excellent category). For the reliability of the attitude assessment instrument, the average is 0.85 (high category), the skill assessment instrument has a reliability of 0.858 (high category), and the knowledge assessment instrument has a reliability of 0.843 (high category).

Table 2 Number of respondents (teachers) based on work time

No	Length	Numbers
1.	Less than 5 years	12
2.	5 to 10 years	27
3.	10 to 15 years	36
4.	15 to 20 years	25
5.	20 to 25 years	19
6.	More than 25 years	6

Source: Data Collection

The message recipients in this implementation process are physical education teachers at the elementary level in Indonesia and Malaysia, who are expected to utilize IPOPJ in physical education lessons at elementary and primary schools. The teachers involved in this research are also one of the elements in the resource factor, namely human resources. The human resources involved in the implementation of IPOPJ are physical education teachers. All teachers involved in this implementation hold a bachelor's degree from Teacher Education Institutions (LPTK) in Indonesia and Teacher Education Institutes (IPG) in Malaysia. The length of service for all teachers can be seen in Table 2. The medium used in this implementation process consisted of printed IPOPJ, a questionnaire, and guidelines for using IPOPJ in physical education. The implementation process also involves the socialization of IPOPJ to physical education teachers. To assess the efficiency of using IPOPJ, a questionnaire was distributed containing statements related to the ease of instrument use, time required for usage, equipment or materials needed, ease

of assessment, objectivity, and the impact of using IPOPJ in teaching. The efficiency of IPOPJ in Indonesia was assessed through the questionnaire, and the results can be seen in Figure 2.

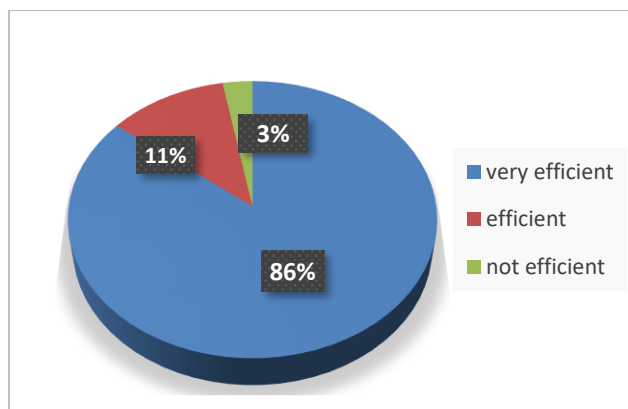


Figure 2. Efficiency of IPOPJ in Indonesia

From Figure 2, it can be observed that approximately 86% (60 individuals) of the respondents expressed that IPOPJ is highly efficient for utilization in physical education at the elementary school level. About 11% (8 individuals) stated that IPOPJ is efficient for use, while around 3% (2 individuals) expressed uncertainty regarding the efficiency of IPOPJ in elementary school physical education. Furthermore, the results obtained from the questionnaire distributed to teachers in Malaysia are presented in Figure 3.

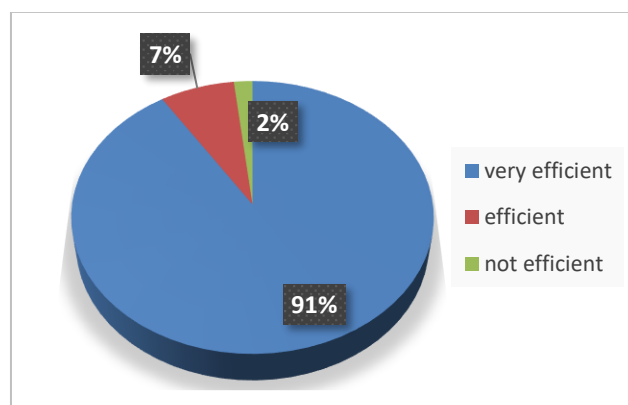


Figure 3. Efficiency of IPOPJ in Malaysia

From Figure 3, it can be observed that approximately 91% (50 individuals) of the respondents stated that IPOPJ is highly efficient for use in physical education at the elementary school level. About 7% (4 individuals) expressed that IPOPJ is efficient for use, while around 1% (1 individual) indicated uncertainty regarding the efficiency of IPOPJ in elementary school physical education.

A two-sample proportion test was conducted with a significance level (α) set at 0.05 to determine whether there is a difference among physical education teachers in Indonesia and Malaysia. The null hypothesis (H_0) posited that there is no disparity in survey outcomes regarding the efficiency of IPOPJ between Indonesia and Malaysia. The result shows that the null hypothesis (H_0) is accepted, leading to the conclusion that there is no significant difference regarding the efficiency of IPOPJ between physical education teachers in Indonesia (86%) and Malaysia (91%) ($Z = 0.89$, $p = 0.375$).

The recipient's response to the conveyed message is examined through observation and interviews with physical education teachers. Most teachers expressed that implementing authentic assessment instruments in the domain of physical education skills at the elementary school level has the potential to enhance the quality of the assessment process.

The situational context in this research pertains to physical education, signifying the direct integration of the IPOPJ implementation within the physical education instruction conducted by the participating teachers. In this study, the utilization of IPOPJ is simultaneous for assessing both attitudes and skills. At the same time, the assessment of knowledge is conducted after the instructional period, as knowledge assessment is related to student learning outcomes.

The dispositional factor encompasses several elements investigated in this study, including intention, skill, and trust. Intention: The intention or desire to undertake an action or assume responsibility. The implementation of IPOPJ relies heavily on teachers' intention to incorporate it into their teaching practices. In the questionnaire provided, statements related to teachers' self-confidence in using IPOPJ, ease of use, accessibility of instruments, instrument benefits, school support, and feedback quality were assessed. To ascertain the intention of the respondent teachers to use IPOPJ, a questionnaire was administered to physical education teachers participating in this research. The results of the questionnaire, distributed to 70 respondents in Indonesia, are presented in Figure 4.

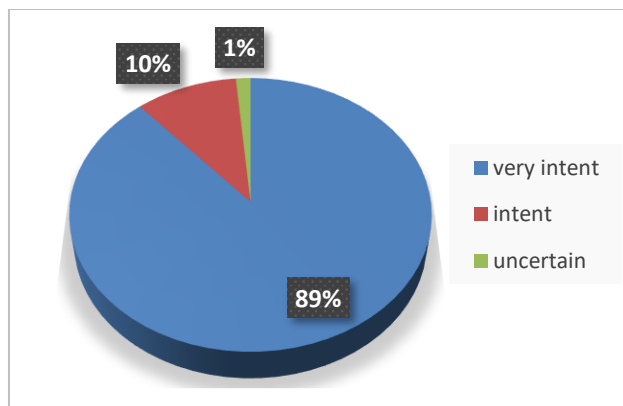


Figure 4. Intention to use IPOPJ in Indonesia

On average, 89% (50 individuals) of the respondents expressed a high intention to use IPOPJ in their elementary school physical education instruction. Additionally, 10% (7 individuals) indicated an intention to use IPOPJ, while 1% (1 individual) expressed uncertainty about incorporating IPOPJ into elementary school physical education instruction.

Figure 5 shows the survey results provided to schoolteachers in Malaysia. On average, 89% (49 individuals) of the respondents expressed a high intention to utilize IPOPJ in their elementary school physical education instruction. Approximately 9% (5 individuals) indicated a willingness to use IPOPJ, while around 2% (1 individual) expressed uncertainty about incorporating IPOPJ into elementary school physical education instruction.

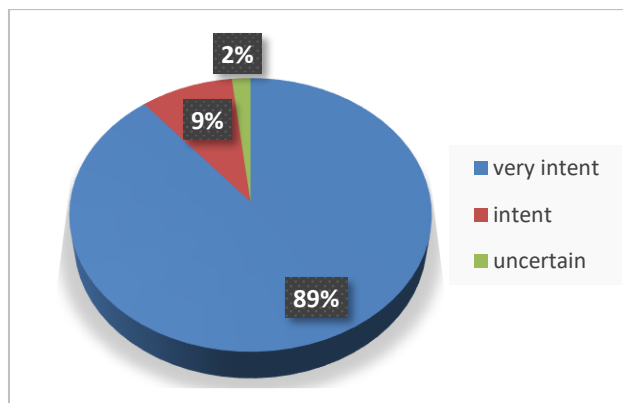


Figure 5. Intention to use IPOPJ in Malaysia

To obtain the presence of differences in survey results among physical education teachers in Indonesia and Malaysia, a two-sample proportion test was conducted with a significance level

(α) set at 0.05. The null hypothesis (H_0) posited that there is no disparity in survey outcomes regarding the intention to utilize IPOPJ between Indonesia and Malaysia. The result shows that the null hypothesis (H_0) is accepted, leading to the conclusion that there is no significant difference regarding the intention to use IPOPJ between physical education teachers in Indonesia (89%) and Malaysia (89%) ($Z = 0.091$, $p = 0.927$).

Skill: The ability or proficiency required to accomplish a task or achieve a goal. To assess the skills of the respondents in implementing IPOPJ, observations and interviews were conducted. The outcomes of the interviews were conducted in Indonesia and Malaysia. The results show that. In Indonesia, 96% of participants (67 individuals) have correctly and appropriately utilized IPOPJ according to the instructions; 94% of participants (66 individuals) have comprehended the assessed skills and can identify the level of achievement for each student; 90% of participants (63 individuals) maintained communication with students during assessments to provide feedback or additional guidance if necessary; 88% of participants (62 individuals) effectively managed assessment time to align with the lesson schedule and avoid excessive duration; 95% of participants (66 individuals) accurately recorded assessment results; 93% of participants (65 individuals) conducted assessments fairly and objectively, showing no bias or special treatment toward specific students.

In Malaysia, the results are 96.4% of participants (53 individuals) have correctly and appropriately utilized IPOPJ according to the instructions; 94.5% of participants (52 individuals) have comprehended the assessed skills and can identify the level of achievement for each student; 91% of participants (50 individuals) maintained communication with students during assessments to provide feedback or additional guidance if necessary; 85.4% of participants (47 individuals) effectively managed assessment time to align with the lesson schedule and avoid excessive duration; 92.7% of participants (51 individuals) accurately recorded assessment results; 94.5% of participants (52 individuals) conducted assessments fairly and objectively, showing no bias or special treatment toward specific students.

Trust: The belief that individuals or groups can be relied upon and trusted. The trust of educators in an assessment instrument is crucial to ensure its effective utilization and provision of accurate information regarding students' progress. Various factors contributing to teachers' trust in the IPOPJ include its validity, reliability, relevance, and consistency within the curriculum. The content validity of this instrument averages 0.93, indicating a very high level of validity, while its reliability averages 0.87 (Hariadi, 2016), signifying a highly valid and reliable instrument.

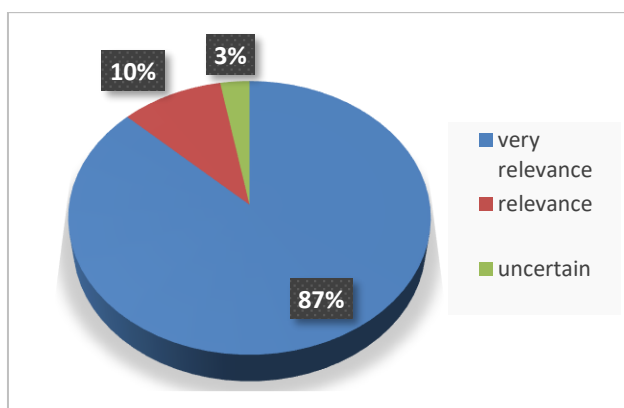


Figure 6. Relevance of IPOPJ in Indonesia

A questionnaire was administered to participating teachers to assess the relevance of the IPOPJ to the curriculum. The statements in the questionnaire pertained to whether the IPOPJ aligns with the curriculum's taught content, is administered at appropriate times within the curriculum and learning objectives, aligns with established learning goals, is valid (measuring what it should), is reliable (providing consistent results), can offer feedback to curriculum

developers, and can identify strengths and weaknesses in the learning process. The responses from physical education teachers in Indonesia are presented in Figure 6.

From Figure 6, it can be observed that an average of 87% (approximately 61 individuals) of respondents expressed strong agreement with statements supporting the relevance of IPOPJ to the elementary school curriculum and physical education learning objectives. Meanwhile, an average of 17% (7 individuals) agreed with these statements, and an average of 3% (2 individuals) indicated a neutral stance.

In Malaysia (Figure 7), approximately 89% (49 individuals) of the respondents affirmed strong agreement with statements supporting the relevance of IPOPJ to the elementary school curriculum and physical education learning objectives. About 9% (5 individuals) agreed with the relevance, and approximately 2% (1 individual) indicated a sense of uncertainty or hesitation.

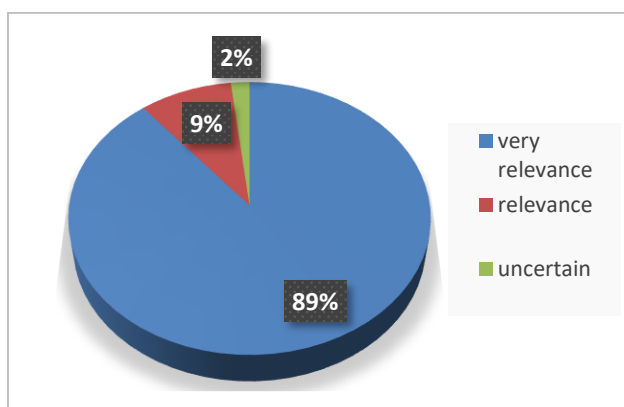


Figure 7. Relevance of IPOPJ in Indonesia

To obtain the presence of differences in survey results among physical education teachers in Indonesia and Malaysia, a two-sample proportion test was conducted with a significance level (α) set at 0.05. The null hypothesis (H_0) posited that there is no disparity in survey outcomes regarding the relevance of IPOPJ between Indonesia and Malaysia. The result shows that the null hypothesis (H_0) is accepted, leading to the conclusion that there is no significant difference regarding the relevance of IPOPJ between physical education teachers in Indonesia (87%) and Malaysia (89%) ($Z = 0.33, p = 0.739$).

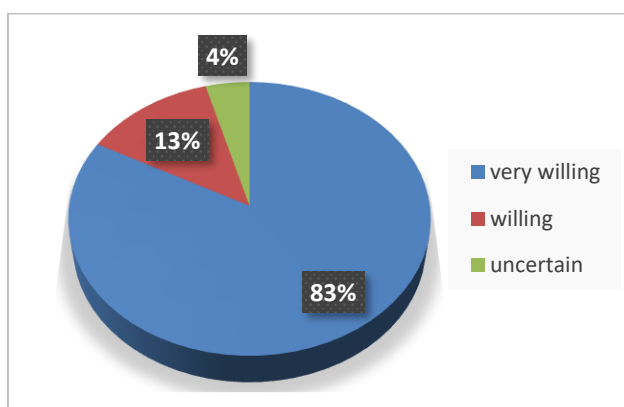


Figure 8. Willingness to participate in IPOPJ in Indonesia

Commitment is identified as the willingness to participate actively and assume responsibility for specific tasks or objectives (Figure 8). A questionnaire concerning their readiness to implement IPOPJ is administered to ascertain the willingness of physical education teachers to actively participate in this implementation. Figure 8 shows results in Indonesia, where approximately 83% (58 individuals) expressed a high willingness, around 13% (9 individuals) indicated a willingness, and 4% (approximately 3 individuals) stated uncertainty regarding their

involvement in the utilization of IPOPJ in physical education. In Malaysia (Figure 9), approximately 87% (around 48 individuals) indicated strong willingness, approximately % (about 6 individuals) expressed willingness, and 2% (only 1 individual) conveyed uncertainty regarding their involvement in the implementation of IPOPJ in physical education.

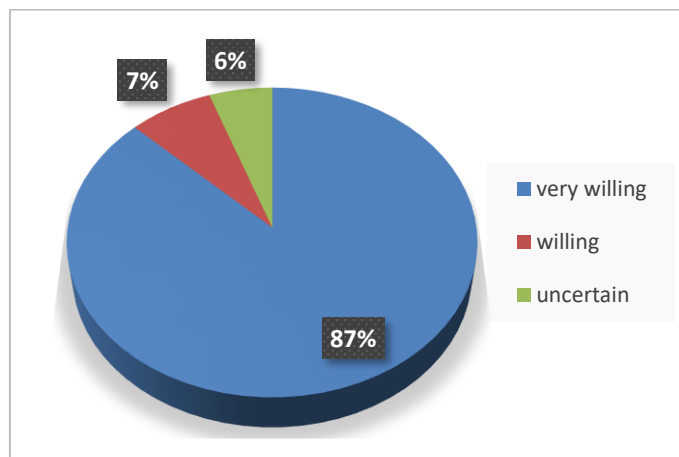


Figure 9. Willingness to participate in IPOPJ in Malaysia

To ascertain the existence of any differences in the survey results from physical education teachers in Indonesia and Malaysia, a Z-test was conducted with $\alpha = 0.025$. The null hypothesis (H_0) posited that there is no difference in the survey results regarding the willingness to participate in the implementation of IPOPJ between Indonesia and Malaysia. The calculated statistical result, -1.025, was found to be less than Z-table (critical Z-value) = 1.960. Consequently, H_0 is accepted, leading to the conclusion that there is no significant difference in the survey results related to the willingness to be involved in the implementation of IPOPJ between Indonesia and Malaysia.

To obtain the presence of differences in survey results among physical education teachers in Indonesia and Malaysia, a two-sample proportion test was conducted with a significance level (α) set at 0.05. The null hypothesis (H_0) posited that there is no disparity in survey outcomes regarding the willingness to participate in IPOPJ between Indonesia and Malaysia. The result shows that the null hypothesis (H_0) is accepted, leading to the conclusion that there is no significant difference regarding the willingness to participate in IPOPJ between physical education teachers in Indonesia (83%) and Malaysia (87%) ($Z = 0.68$, $p = 0.495$).

The elements of resources under consideration in this research include time, technology, and bureaucratic structure. The duration or period employed for the implementation activities was integrated with the ongoing physical education learning in both countries. The time required by the respondent teachers to comprehend and implement the IPOPJ was not lengthy, as the IPOPJ provides clear instructions, and its readability test indicates its ease of understanding.

The technology employed in this research pertained to the manner in which technology facilitates the dissemination of IPOPJ. To augment efficiency and effectiveness, the soft copy of the IPOPJ was disseminated to respondent teachers during the socialization phase. Distributing the soft copy file via technology can bolster the assessment process. Nevertheless, during the observation phase, printed copies of the IPOPJ were also utilized to facilitate teachers' ease of use.

Aligned with the education systems in Indonesia and Malaysia, the bureaucratic structure for the implementation of the IPOPJ is directly delegated to physical education teachers, who serve as subject matter experts. In addition, it is also related to school principals, who act as leaders in the respective educational units. The assessment implementation was adjusted to the situations and conditions in each school sampled in this research. However, control mechanisms (supervision) were consistently applied to ensure smooth implementation across all schools.

Discussion

Teachers as human resources in the implementation process

All teachers who took part in this study are graduates of Teacher Training and Education Institutes (LPTK) in Indonesia and Institutes of Teacher Education (IPG) in Malaysia. As a result, they all hold qualifications as physical education teachers in primary or lower-level schools. Moreover, 90.4% of these teachers have more than 5 years of teaching experience. There's a common belief that the quality of teaching improves as teachers gain more experience (Brandenburg, McDonough, Burke, & White, 2016). However, research suggests that teaching quality is influenced by various factors, with experience being just one of them (Brandenburg et al., 2016; Klassen & Chiu, 2010). Studies have shown that both teaching experience and educational level positively affect teacher performance (Asnawati et al., 2021). According to Araujo et al. (2016), "novice" teachers have 0–3 years of experience, while "experienced" teachers have more than three years of experience. In the context of this study, the teachers involved are considered "experienced" as they have more than three years of teaching experience. Most of these experienced teachers who evaluated the IPOPJ had positive feedback, with no significant difference observed between the two countries.

Situational context or culture in the implementation of IPOPJ

The implementation of IPOPJ in physical education took place in Medan, Indonesia, and Kuala Lumpur, Malaysia. Both countries share several similarities in terms of situational context and culture. In the realm of education, they have similar structures with primary education (SD/MI) and secondary education (SMP/MTs and SMA/MA). Additionally, both countries have higher education systems. Malaysia's education system consists of six years of primary education, a comprehensive three-year secondary school, a three-year upper secondary school, and finally two years of either academic or technical education (Syakhrani et al., 2022).

Both countries have national curricula established by the government to ensure consistency in primary and secondary education. Indonesia has implemented the Merdeka Curriculum, while Kuala Lumpur uses the Standard Primary School Curriculum (KSSR) in primary education. Physical education is an essential component of the curriculum in both countries at the primary education level, with students required to take this subject throughout their primary and secondary education. In Indonesia, physical education focuses on using physical activities to promote holistic changes in individuals' physical, mental, and emotional qualities (Ministry of National Education, 2013). Meanwhile, in Malaysia, physical education emphasizes three main concepts: fitness (intelligence), skills (basic skills in games), and enjoyment (sports), with an emphasis on implementing values in physical education (Ministry of Education Malaysia, 1999).

At the primary school level, physical education in Indonesia consists of four lessons per week (4x35 minutes), while in Malaysia, it is conducted for two lessons per week (2x40 minutes). The goals of physical education in both countries include aspects of health and physical fitness, aiming to teach students the importance of an active lifestyle, sports, and fitness. The curriculum for physical education in both countries includes various physical activities such as sports, gymnastics, and games, which can be performed individually or in groups. While both countries have specialized programs supporting students excelling in sports, Malaysia's education system places more emphasis on developing sports talents through specialized programs than Indonesia does.

The IPOPJ instrument includes assessments for small ball game material, particularly for "Kasti," which is part of the cultural heritage in both Indonesia and Malaysia and is often played during traditional celebrations or festivals. Although not as popular as modern sports, Kasti is frequently played as a recreational game among the Malaysian community, typically in parks or open areas. Similarly, Kasti can be taught as part of the physical education curriculum in Malaysian schools, along with various traditional games to promote fitness values and physical engagement. Kasti is included in the small ball game material taught in Grade IV as part of Indonesia's primary school physical education curriculum.

Feedback: Research findings and positive responses to IPOPJ implementation

According to interviews with physical education teachers, the research findings show that they have a favorable opinion of IPOPJ. Most teachers expressed that integrating authentic assessment instruments into physical education skills at the elementary school level can potentially improve the quality of the assessment process. They believe that this instrument enables them to assess students' progress in a more authentic and relevant manner, ultimately motivating students to participate in physical activities actively and enhancing their overall motivation. Teachers generally noted that the instrument helps them better understand individual students' abilities in real-life scenarios, aiding them in tailoring lessons to meet each student's needs better.

These favorable responses from teachers are pivotal for the successful implementation of IPOPJ in physical education. It is assumed that a positive attitude towards a policy will foster supportive attitudes, thus influencing the success of policy implementation. Conversely, negative attitudes in the environment may lead to conflicts and jeopardize the implementation process (Akib, 2010).

The positive responses are substantiated by questionnaire results, indicating a high percentage of agreement regarding the relevance of IPOPJ to physical education learning. Effective program communication is crucial for successful implementation, requiring clarity, consistency, and the delivery of information (Akib, 2010). Observations and interviews revealed that teachers, as the primary implementers of IPOPJ, clearly understood its contents when assessing their students. They systematically followed the instructions outlined in IPOPJ and conducted assessments impartially for all students. Based on the compliance approach and the factual approach, it can be inferred that the success of a policy greatly hinges on the implementation stage, which, in turn, depends on the abilities of the implementers, including their compliance with superiors' instructions and their capacity to make appropriate decisions in response to external influences and non-organizational factors (Akib, 2010).

Furthermore, in addition to compliance, teachers' awareness of the benefits and efficacy is another supporting factor for the successful implementation of IPOPJ in physical education learning (Anwar et al., 2020). This is evident from the high approval rate in the questionnaire, which directly influences teachers' willingness to utilize IPOPJ in physical education learning at their respective schools. The positive feedback, high compliance among physical education teachers in adhering to IPOPJ instructions, and their willingness to employ IPOPJ in teaching collectively indicate the successful implementation of IPOPJ in physical education learning in elementary schools in Indonesia and primary schools in Malaysia.

CONCLUSION

This study concludes that implementing IPOPJ as an authentic assessment in Physical Education is applicable in both Indonesia and Malaysia. Statistical analysis of the data reveals no significant difference in the proportion of teachers who assessed this instrument as relevant and significant for assessment. Additionally, many teachers demonstrate a high intention to use and willingness to participate in further implementations of IPOPJ.

Triangulation results, in conjunction with quantitative analysis, show significant outcomes. Most teachers recognize the importance of authentic assessment instruments in evaluating students' skills across various subjects. They acknowledge that authentic instruments are more relevant for measuring practical abilities and applying knowledge in real-life situations. Most teachers assert that integrating authentic assessment instruments into the domain of physical education skills at the elementary school level can enhance the quality of the assessment process. They perceive these instruments as enabling them to evaluate students' progress in a more realistic and pertinent context, thereby fostering increased student participation in physical activities and elevating their motivation.

In general, teachers express that these instruments enable them better to understand individual students' abilities in real-world situations. This understanding aids teachers in planning learning experiences more tailored to each student's specific needs. The majority of most of the

teachers state that authentic assessment instruments also encourage students to engage in physical education lessons actively. Students are eager to participate fully since they understand that their evaluations are based on their actual performance

ACKNOWLEDGMENT

We gratefully acknowledge the contributions and support of the State University of Medan (UNIMED) through the Institute for Research and Community Services for the research fund in 2023. We would also like to thank the reviewers for their valuable feedback and suggestions during the preparation of this research. Additionally, we extend our gratitude to the University of Malaya for their cooperative support in carrying out this study. Finally, we thank all participants who contributed their time and insights to this research.

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