# Alternative Pedagogy Approaches in Physical Education and Health Education

**Mohd Izwan Shahril**
**Sultan Idris Education University**

**Guntur**
**Universitas Negeri Yogyakarta**

**Tang Tsiao Yin**
**Sultan Idris Education University**

**Lily Muliana Mustafa**
**Sultan Idris Education University**

*This study aims to develop alternative pedagogical approaches to Physical Education and Health Education. The development of the alternative pedagogical approaches is based on 21st-century learning, Constructivism Theory, Higher Order Thinking Skills (HOTS), and Revised Bloom's Taxonomy. The research design used the pre-experimental one-shot case study method A sample of 65 Physical Education teachers was obtained through purposive sampling. The data were analyzed descriptively using mean and percentage. Subsequently, the effectiveness of the alternative pedagogical approaches and the interobserver agreement was evaluated using a questionnaire. The 8 alternative pedagogical approaches that have been developed include Music (95%), Commentary Review (85%), Plotter Sketch (95%), Body Metaphor (85%), Ideaspora (90%), Extrapolation (85%), Stage Play (85%), and Skimps (95%). The percentage of an interobserver agreement to use the alternative pedagogical approaches developed exceeds 70% agreement between the testers, and the value shows that it can be used. Overall, the developed alternative pedagogy approaches can be used as a guide for teachers to choose appropriate teaching methods during the teaching and learning process.*

*Keywords: alternative pedagogy, physical education, health education, teaching methods*

## INTRODUCTION

21st-century learning has become a trending issue in education because it is seen to be able to meet the needs of education today. This shows a new revolutionary change in the world of education. 21st-century learning is believed to be a student-centered learning process. Several elements are applied, namely communication, collaboration, critical thinking, creativity, and the application of moral values and ethics. These elements are also referred to as basic standards in 21st-century learning.

Based on the Education Development Plan 2013-2025 (Ministry of Education Malaysia, 2013), the teaching profession is dignified by focusing on programs and activities to strengthen the quality of teaching and learning. Among the focus given is the aspect of pedagogy where teachers need to master the skills of collaborating, being creative and critical, as well as thinking critically in planning lessons for students. The ability to communicate effectively during the teaching and learning process can boost the teacher's confidence in delivering content and have a holistic effect on students.

To realize the plan, the teacher's pedagogical approach needs to be given attention. This is because pedagogy is the basis for the quality of teaching and learning carried out by teachers, covering the aspects of principles, techniques, and the teaching process (Ariffin & Yunus, 2017). According to Salehudin, et.al. (2015), a systematic, engaging, and appropriate teaching and learning process can motivate students to involve actively and maintain their motivation throughout the learning activity.

Therefore, the teacher must diversify their pedagogical approaches to meet the current needs in today's world of education. The main thing that needs to be applied in pedagogy is creativity to ensure that the teaching content can be delivered well and readily accepted by the students.

## Research Objectives

The objectives of the study are as follows:
  i.   To develop alternative pedagogical approaches in teaching and learning for Physical Education and Health Education teachers.
  ii.  To identify the reliability value of the interobserver agreement for alternative pedagogical approaches in teaching and learning for Physical Education and Health Education teachers.

## Research Theories

The Transformation of the Malaysian Education Development Plan 2013–2025 emphasizes the concept of HOTS to generate a generation with critical thinking skills. Teachers play a significant role in incorporating HOTS elements in their teaching to develop students' higher-order thinking skills from an early age. Therefore, it is necessary for a teacher to be prepared and have a basic knowledge of HOTS in order to apply it during the teaching and learning process. Teachers' knowledge, skills, and attitudes are decisive for the successful implementation of HOTS elements in early childhood education. The diversity of teachers' teaching methodologies is crucial to produce excellent students from various fields and professions, especially in learning and soft skills. The students will experience boredom if the teacher employs monotonous instructional strategies. Accordingly, the knowledge of 21st-century skills is essential for teachers and students to plan teaching and learning activities in a non-boring and enjoyable atmosphere.

### *21st-Century Learning*

Our society puts great hope in teachers' ability to educate and develop students' potential in line with the objectives of the Ministry of Education. According to Idris (2013), teachers are deemed to possess certain competencies to develop students' diverse skills, talents, potential, and knowledge.

To attain the nation's educational aspirations, one of the most recent transformative shifts has centered on teachers' performance. According to Mahamod & Embi (2005), teaching and learning in the 21st century is still teacher-centered. However, teachers play a crucial role in actively involving students in learning activities. Teaching and learning via 21st-century skills substantially assist teachers and students in achieving the nation's educational aspirations.

### *Constructivism Theory (Vygotsky, 1978)*

Constructivist teaching is a strategy for fostering students' understanding via collaboration, discovery, problem-solving, and play (Topolovčan & Matijević, 2016). However, to enhance students' understanding, teachers must first master learning theory. This statement is supported by Gunduz and Hursena (2015), who argue that teachers must understand the theory, principles, and concepts of constructivism pedagogy to provide more effective teaching sessions.

According to the Curriculum Development Division (2016), a key component of constructivism theory is that teachers must take into account the level of students' prior knowledge, and learning is considered to have happened when students can make a connection between prior knowledge and new knowledge.

The teaching and learning sessions may employ a variety of instructional strategies. According to Algahtani (2017), for students to successfully master a concept, teachers must identify the student's strengths and weaknesses. He proposed that teachers could use teaching strategies based on constructivism theory. The teacher's ability to adapt teaching strategies is salient for enhancing student achievement.

*Higher-Order Thinking Skills (HOTS)*

The Ministry of Education has emphasized Higher-Order Thinking Skills (HOTS) in the educational system. The implementation of HOTS in the school system employs a comprehensive and systemic approach that includes seven elements. It comprises three main elements, namely curriculum, pedagogy, and assessment, as well as four supporting elements, namely co-curriculum, community and private support, resources, and capacity building (Ministry of Education Malaysia, 2013). HOTS is implemented in the school system so that students not only practice rote learning by memorizing but also understand and know what they learn and use their minds at a high level by mastering the skills of evaluating, applying, analyzing, and creating.

*Revised Bloom's Taxonomy (Anderson & Krathwohl, 2001)*

The Revised Bloom's Taxonomy is an update to Bloom's Taxonomy that makes it more relevant for use in the 21st century (Teacher Education Institute Malaysia, 2019). The Revised Bloom's Taxonomy includes six levels: remembering, understanding, applying, analyzing, evaluating, and creating. According to Radmehr and Drake (2019), the Revised Bloom's Taxonomy offers more significant potential than previous taxonomies for analyzing teaching, learning, and assessment.

Teachers may use this taxonomy to construct learning objectives by defining the student's skills and abilities to be acquired. Consideration should be given to the use of appropriate teaching and learning methods for the subject being taught.

**METHODOLOGY**

The design of this study is the pre-experimental one-shot case study method. It involves two phases, namely, the phase of developing the alternative pedagogical approaches and the phase of an agreement to use the alternative pedagogical approaches.

**TABLE 1**
**PRE-EXPERIMENTAL DESIGN – ONE SHOT CASE STUDY**

| Non-Dependent Variables | Post Test |
|---|---|
| X | O |

The design of the pre-experimental study is a one-shot case study, which excludes the use of a control group in the study (Gay, et.al., 2006). Only one study group was subjected to treatment (X) and post-test (O) in this design. The purpose was to determine the effect and changes on the dependent variable. Idris (2013) further claimed that the pre-experimental - one-shot case study comprises only one group receiving treatment and measuring the dependent variable to evaluate the effects of the treatment. This design is compatible with the research method used by Shahril, et.al. (2018) and Salimin, et.al. (2014).

*Development Phase of Alternative Pedagogical Approaches*

In this phase, a library study was conducted using several primary sources, including 21st-Century Learning, Constructivism Theory (Vygotsky, 1978), Higher Order Thinking Skills (HOTS), Revised Bloom's Taxonomy (Anderson & Krathwohl, 2001), learning theories, the Education Development Plan

2013-2025, and literature review. As a result of the findings of the library study, the researcher devised the appropriate alternate pedagogy.

*Agreement Phase for the Use of Alternative Pedagogical Approaches*

The process of obtaining an interobserver agreement was carried out on 65 Physical Education teachers. All research samples viewed the instructional videos for all alternative pedagogical approaches developed. Next, the assessment was carried out using a questionnaire to determine the level of teacher agreement for using alternative pedagogical approaches (systematic observation).

## RESULTS AND DISCUSSION

### The Alternative Pedagogical Approaches in Teaching and Learning for Physical Education and Health Education Teachers

Based on the results of the library study, Alternative Pedagogy can be defined as a range of teaching approaches with content that emphasizes delivery and focuses on learning effects to enhance the growth and development of student's cognitive, psychomotor, and affective learning domains. There are eight effective alternative pedagogy approaches, including the Music approach, Commentary Review, Plotter Sketch, Body Metaphor, Ideaspora, Extrapolation, Stage Play, and Skimps. Table 1 summarizes the details for each alternative pedagogy approach developed.

### Interobserver Agreement for Alternative Pedagogical Approaches in Teaching and Learning for Physical Education and Health Education Teachers

The interobserver reliability values for all proposed alternative pedagogical approaches were derived from instructional video screenings (Tee, et.al., 2022). The sample assessed the level of teacher agreement on using alternative pedagogy approaches based on the video shown using a questionnaire. Four criteria were evaluated, namely teaching strategy, classroom control, appropriateness of the topic, and ease of implementation.

According to Shahril, et.al. (2018), Salimin, et.al. (2014), and Hausman, et.al. (2022), there are two methods for obtaining interobserver agreement, namely the percentage agreement method, and the Kappa method. The Kappa method is used for the data collection on a nominal scale. According to Shahril & Salimin (2015), Salimin, et.al. (2014), and Rink (2002), the percentage agreement method should be used when there is more than one tester for a test item. The percentage formula for interobserver agreement is as follows:

$$Interobserver\ agreement = \frac{number\ of\ agree}{number\ (agree+disagree)} \times 100 \qquad (1)$$

The interobserver agreement for all eight alternative pedagogical approaches developed is detailed in Table 2. According to Shahril, et.al. (2017), Salimin, et.al. (2014), and Rink (2002), the reliability value adopted is at least 70% agreement between testers.

**TABLE 2**
**LEVEL OF TEACHER AGREEMENT FOR THE USE OF ALTERNATIVE PEDAGOGICAL APPROACHES**

| Alternative Pedagogical Approaches | Assessment criteria (mean agreement level, N=65) | | | | | |
|---|---|---|---|---|---|---|
| | Teaching Strategy | Classroom Control | Topic Appropriateness | Ease of implementation | Total score | % Agreement level |
| Music | 5 | 5 | 4 | 5 | 19 | 95% |
| Commentary Review | 4 | 4 | 5 | 4 | 17 | 85% |
| Plotter Sketch | 5 | 5 | 4 | 5 | 19 | 95% |
| Body Metaphor | 4 | 4 | 5 | 4 | 17 | 85% |
| Ideaspora | 5 | 4 | 5 | 4 | 18 | 90% |
| Extrapolation | 4 | 4 | 5 | 4 | 17 | 85% |
| Stage Play | 4 | 4 | 5 | 4 | 17 | 85% |
| Skimps | 5 | 5 | 5 | 4 | 19 | 95% |

**Agreement Level Scale: 1-Strongly Disagree     2-Disagree     3-Uncertain     4-Agree     5-Strongly Agree**

**TABLE 3**
**ALTERNATIVE PEDAGOGICAL APPROACHES**

| Alternative Pedagogical Approaches | Definition | Principles of implementation | Element of Assessment |
|---|---|---|---|
| Music | Teaching approach by applying musical elements as a medium of content delivery to students | • Music as a medium in producing learning content<br>• Modify the lyrics by incorporating learning content in existing songs (selection of songs that are easy to follow or use songs) folk | • Music selection (Tempo and Suitability)<br>• The lyrics must be in line with the teaching content<br>• The use of language is clear and easy to understand Need repetition (chorus) |
| Commentary Review | Teaching approaches using review, comment, and analysis techniques through video viewing or voice recording based on specific topics | • Learning content for a particular topic is conveyed through video or voice recording | • The presentation of learning information presented is clear and easy to understand<br>• The tone of voice / body language is appropriate to the information presented<br>• The use of language is clear and easy to understand |

| | | | • Sound or video recording quality is good quality<br>• The background song used is appropriate for teaching |
|---|---|---|---|
| Plotter Sketch | Teaching approaches by engaging in acting and demonstration activities that can provide information reinforcement effectively based on a given specific situation | • Learning content is presented by acting, demonstration, and re-enacting situations based on specific topics | • Acting / demonstration / demonstration coincides with the instructions or topics that have been set<br>• Acting / demonstration / demonstration is clear and easy to understand<br>• The use of apparatus or teaching aids is used in the reinforcement of learning |
| Ideaspora | Teaching approach by using acronym techniques for the systematic proliferation of information | • Content in learning is summarized using acronyms and clues to ensure that information can be added more widely and systematically | • Acronyms / clues related to the topic of teaching<br>• Form interrelated sentences between acronyms<br>• Expansion of teaching facts openly and extensively |
| Extrapolation | Teaching approach through the discovery of the first information that can be expanded to further information through systematic review | • Through the main learning content can produce further information thus producing more meaningful learning information | • Key information should be the basis for subsequent information expansion<br>• The organization of information is in order of priority<br>• The information compiled should be clear and easy to understand |
| Stage Play | Teaching approaches by engaging in acting and demonstration activities | • Learning content is presented by acting, demonstration, and re- | • Acting / demonstration / demonstration |

| | | | |
|---|---|---|---|
| | that can provide information reinforcement effectively based on a given specific situation | enacting situations based on specific topics | coincides with the instructions or topics that have been set <br>• Acting / demonstration / demonstration is clear and easy to understand <br>• The use of apparatus or teaching aids is used in the reinforcement of learning |
| Skimps | Teaching approaches using concrete materials as a source and replacement of original instruments in conveying learning content | • The use of teaching aids modified from the original tools in conveying learning content | • The use of the original replacement instrument should be the same as the main function <br>• Provision of low-cost and high-impact instruments <br>• Modified instruments should be user friendly |

## CONCLUSION

The findings of this study can assist Physical Education and Health Education teachers in evaluating and incorporating alternative pedagogical approaches into the teaching and learning process. This study could also be utilized as a reference and indicator for all teachers to be more creative when selecting teaching methods that are appropriate to teach topics following 21st-century learning. It is believed that the creative alternative pedagogical approaches developed can also produce teachers relevant to the digital age's global development. This will replace conventional teaching with alternative pedagogical approaches, which is a more practical method for producing global citizens in line with the development of information networks in the era of globalization. This study will serve as a basis for further pedagogy-related research by other scholars. The study of teachers' perceptions of appropriate pedagogy selection and the factors and challenges teachers faces in implementing 21st-century learning may be expanded by other researchers.

## REFERENCES

Algahtani, F. (2017). Teaching students with intellectual disabilities: Constructivism or behaviorism? *Educational Research and Reviews*, *12*(21), 1031–1035.

Anderson, L.W., & Krathwohl, D.R. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Longman.

Ariffin, N.A., & Yunus, F. (2017). Kesediaan guru prasekolah dalam melaksanakan KBAT dalam pengajaran dan pembelajaran. *Simposium Pendidikan diperibadikan: Perspektif Risalah An-Nur*.

Curriculum Development Division. (2016). *Standard curriculum of special education high school, physical education and health education.* Curriculum standard document and assessment level 2. Putrajaya. Malaysia Education Ministry.

Gay, L.R., Mills, G.E., & Airasian, P. (2006). *Educational Research: Competencies for Analysis and Applications*. Columbus: Merrill Greenwood.

Gunduz, N., & Hursena, C. (2015). Constructivism in teaching and learning: Content analysis Evaluation. *Procedia - Social and Behavioral Sciences*, *191*, 526–533.

Hausman, N.L., Javed, N., Bednar, M.K., Guell, M., Schaller, E., Nevill, R.E., & Kahng, S. (2022). Interobserver agreement: A preliminary investigation into how much is enough? *Journal of Applied Behavior Analysis*, *55*(2), 357–368.

Idris, N. (2013). *Penyelidikan dalam pendidikan*. McGraw-Hill Education.

Mahamod, Z., & Embi, M.A. (2005). Penggunaan strategi pembelajaran bahasa untuk menguasai kemahiran membaca. *Sains Humanika*, *42*(1).

Malaysia Education Ministry. (2013). *Higher Level Thinking Skills (KBAT) for School Guidance.* Putrajaya, Malaysia.

Ministry of Education Malaysia. (2013). *Malaysian education development plan 2013–2025*. Putrajaya: Curriculum Development Division.

Radmehr, F., & Drake, M. (2019). Revised Bloom's taxonomy and major theories and frameworks that influence the teaching, learning, and assessment of mathematics: A comparison. *International Journal of Mathematical Education in Science and Technology*, *50*(6), 895–920.

Rink, J. (2010). *Teaching physical education for learning* (pp. 350–370). Boston, MA: McGraw-Hill Higher Education.

Saad, L. (2017). *Pentaksiran pembelajaran kemahiran asas bagi permainan kategori serangan dalam Pendidikan Jasmani tahun 4*. [Doctoral dissertation, Universiti Pendidikan Sultan Idris].

Salehudin, N.N., Hassan, N.H., & Hamid, N.A.A. (2015). Matematik Dan Kemahiran Abad Ke-21: Perspektif Pelajar (Mathematics and the 21st Century Skills: Students' Perspective). *Jurnal Pendidikan Matematik*, *3*(1), 24–36.

Salimin, N., Jani, J., Ishak, N.A., Hassan, S., Elumalai, G., Boon, O.K., & Shahril, M.I. (2014). Validity and Reliability of Comprehensive Assessment Instruments for Professional Skills in Field and Court Sport Among Major Students Coaching Based on Model K. *International Journal of Humanities, Arts, Medicine and Sciences (BEST: IJHAMS) ISSN (E)*, pp. 2348–0521.

Shahril, M.I., Salimin, N., Aziz, S.A., & Saryono, M. (2018, December). The Effectiveness of Task Assessment Standard (TASk) in the Teaching and Learning Process of Physical and Health Education Teachers. In *2nd Yogyakarta International Seminar on Health, Physical Education, and Sport Science (YISHPESS 2018) and 1st Conference on Interdisciplinary Approach in Sports (CoIS 2018)* (pp. 105–108). Atlantis Press.

Shahril, M.I.B., & Salimin, N.B. (2015). The validity and reliability of iso test towards the performance assessment of future physical education teachers in teaching and learning process. *Procedia-Social and Behavioral Sciences*, *195*, 814–820.

Teacher Education Institute Malaysia. (2019). *Assessment handbook 2019 edition*. Cyberjaya.

Tee, T.K., Ramlan, A., Azman, M.N.A., Bagus., N.R.P.A., Sukardi, Risfendra, & Abd Hamid, R.I. (2022). Mastery Issues and Teaching Approaches for the Electrical Technology Certificate Programme at Community Colleges on the Topic of Measuring Instruments. *Asian Pendidikan*, *2*(1), 1–7. https://doi.org/10.53797/aspen.v2i1.1.2022

Topolovčan, T., & Matijević, M. (2016). Constructivist Learning and Digital Media. In *International conference on knowledge, innovation and enterprise. Research papers on knowledge, innovation and enterprise* (pp. 78–98).

Vygotsky, L.S. (1978). *Mind in society*. Cambridge: Harvard University Press.