

Outcome-Based Education in the Physical Education Learning Strategy Course Incorporating Local Wisdom

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Abstract. The aim of this study is to effectively implement Outcome-Based Education (OBE) through the Learning Strategy course, characterized by local wisdom. The further objective is to enhance the quality of education through creative innovation and the development of learning models and methods that elevate cultural values and help students achieve the necessary competencies upon graduation. The research procedure follows the Research and Development (RnD) method using the Richey and Klein design at level 4. This involves executing research and development steps including product design, design validation, design revision, product creation, limited trials, product revision 1, main trials, product revision 2, operational field trials, product revision 3, and finally, dissemination and implementation. The research outcomes are: (1) 85% for lecture materials; (2) 87% for case method achievement; (3) 83% for team-based project achievement; and (4) 86% for outcome achievement. Overall, the study concludes that with an average score of 85.25%, the OBE assessment achievements fall into the "very good" category, making the approach suitable for dissemination and implementation.

Keywords: Grand Design; OBE; Learning strategies; Local wisdom

1 Introduction

The implementation of Outcome-Based Education is comprehensively applied to study programs through University policies based on Permendikbud Number 3 of 2020. The achievement of Outcome-Based Education or results-based education is a learning approach that focuses on the desired results or achievements of an education program. OBE implementation standards can vary depending on the context, level of education, and program objectives (Tohir, 2020).

General components related to the implementation standards for Outcome-Based Education: (1) setting learning objectives; (2) curriculum design; (3) assessment and evaluation; (4)

flexibility and differentiation; (5) stakeholder involvement; (6) resources and facilities; (7) teacher training; (8) evaluation cycle and continuous improvement; (9) use evaluation findings to make continuous improvements and improvements; and (10) communication and openness, namely communicating the goals and expectations of Outcome-Based Education to all stakeholders. Ensure that there are open communication channels between students, parents, and teachers (Purwaningsih, 2020).

The application of Outcome-Based Education (OBE) serves as a key performance indicator, emphasizing the achievement of a student-centered learning process. This approach is crucial for fostering innovation, creativity, capacity, and personality development, aligning with the needs of stakeholders. The National Standards for Higher Education, as detailed in Ministry of Education, Culture, Research, and Higher Education Regulation Number 3 of 2020, provide guidance for measuring Outcome-Based Education (OBE) achievement indicators. The primary goal of Outcome-Based Education (OBE) is to maximize learning outcomes by focusing on the desired outputs of the educational process and equipping students to navigate social, cultural, and professional challenges, as well as rapidly advancing technological developments. Students' competencies must be cultivated to ensure they are adaptable and responsive to the demands of the modern era (Harahap et al., 2023).

The OBE achievement obtained by each study program at the Faculty of Sports Science, Universitas Negeri Medan does not yet have the completion criteria as evidenced by the results of the Quality Assurance Cluster assessment which includes Lecture Planning according to Permendikbud number 3 of 2020 article 12 paragraph 3 is 80.95%, the formulation of learning achievement indicators is 61.90%, there is a relationship between Learning Achievement and Course Achievement is 28.57%. Based on the assessment submitted, it is concluded that OBE activities in the document section have a good category, but in implementation it has an average of 45.24% which is still very low. The Physical Education, Health, and Recreation study program has the highest number of students at FIK, and the analysis of OBE achievements at the Faculty of Sports Science is primarily focused on this program, highlighting its role as a key producer of sports teachers for schools. The implementation of the concept of lectures based on Outcome Based Education in the PJKR Study Program is a basic need that must be implemented optimally and become the grand design of OBE in the Faculty with a role model of one of the courses determined by the Study Program (Harahap et al., 2023; Irfan et al., 2021; Safiudin et al., 2020).

The core course in the Physical Education Study Program that characterizes graduate competency is learning strategies. The learning strategy course is focused on physical education (PE) which has a Learning Outcome structure, namely producing graduates who master the management of elementary and secondary physical education classes, and have Course Outcomes, namely being able to create innovative learning models and methods in schools.

Local wisdom of North Sumatra covers various aspects of culture, traditions, beliefs, and values of the people in the region. North Sumatra, as part of Indonesia, has a rich ethnic and cultural diversity. The implementation of local wisdom is based on the customs of a region that reflects the potential of learning resources and sources of cultural preservation covering various perspectives. Some components of local wisdom are customs and traditions such as ceremonial activities, then traditional dances such as the Tor-tor Dance and the Sigale-gale Dance are important parts of Batak culture in North Sumatra (Siregar, 2011).

Other local wisdom that supports the strengthening of cultural values is language, traditional architecture, traditional food and drinks obtained from local ingredients and special cooking techniques. Local arts are also elements of local wisdom such as carving, weaving, and also

customary law such as the Batak people have a customary legal system held by traditional institutions such as kings or queens. (Astuti & Ula, 2020).

The implementation of learning strategy lectures is also very necessary using the concept of local wisdom as a characteristic of study programs at the regional level, namely North Sumatra by raising 8 ethnic cultures. Bringing up 8 ethnic cultures that are special characteristics of the implementation of lectures are Batak Toba, Batak Karo, Batak Simalungun, Malay, Nias, Angkola / Mandailing, Karo Pakpak, and Batak Alas-Kluet packaged as a form of developing OBE-based courses in accordance with the competencies of study program graduates, namely becoming physical education educators who can raise cultural values in the school environment.

The implementation of Outcome-Based Education (OBE) is essential in the local wisdom-based learning approach course within the Faculty of Sport Science's Physical Education, Health, and Recreation (PJKR) Study Program. It serves as a key factor in achieving the Study Program's performance targets and acts as a model encapsulated in the course's grand design. This includes updates to the course materials, such as the strengthening of the Faculty of Sport Science's OBE curriculum through local wisdom-based learning plans and lecture contracts, as well as Case Method and Team-Based Project Worksheets grounded in local wisdom. Additionally, the implementation of OBE involves setting specific outcome achievement targets in schools, which use local wisdom as a medium for learning. Finally, authentic assessment is carried out, measuring the final lecture evaluations—encompassing knowledge, skills, and attitudes—that align with the competencies required of Study Program graduates and are rooted in local wisdom. The outcome of this grand design is that graduates of the learning strategy course will be well-equipped to manage physical education classes in schools and develop learning strategies through the creation of learning media.

The continued advancement of Outcome-Based Education (OBE) in the local wisdom-based learning strategy course aims to enhance the quality of educational delivery through creative innovation and the development of learning models and methods that reinforce cultural values and ensure students achieve the necessary competencies upon graduation. By implementing OBE, the achievement of the Collaborative and Participatory Class Key Performance Indicators (KPIs), specifically those outlined in KPI number 7, can be realized through lectures that focus on the outcomes for graduates of the local wisdom-based learning strategy course.

2 Method

This research employs the Research and Development (R&D) method to develop a grand design for Outcome-Based Education (OBE) within the Local Wisdom-Based Learning Strategy Course. The development aims to create a demonstration model for OBE implementation at the Faculty of Sport Science, Universitas Negeri Medan. The research procedure follows the Richey and Klein design at level 4, which involves the following steps: designing products, validating designs, revising designs, producing products, conducting limited trials, revising products (Phase 1), conducting main trials, revising products (Phase 2), conducting operational field trials, revising products (Phase 3), and finally, dissemination and implementation (Sugiyono, 2017).

The research process is detailed by noting that design and development research primarily concentrates on analytical issues, involving the following development steps:

1. **Potential and Problems:** Identifying student needs and curriculum concepts for learning strategies as the foundation for implementing OBE based on local wisdom.

2. **Literature Review and Data Gathering:** Developing study materials using supporting documentation for the implementation of a local wisdom-based OBE curriculum.
3. **Design Creation and Validation:** Reviewing designs through a Forum Group Discussion (FGD) involving OBE experts and curriculum quality assurance professionals.
4. **Design Improvement:** Enhancing the product based on insights gained from the FGD, specifically refining the grand design concept for the learning strategy course.
5. **Limited and Main Trials:** Main experiments with participants are conducted to assess the effectiveness of lectures utilizing local wisdom-based learning strategies.
6. **Trial Revision:** Making improvements based on the results of the main field trial, preparing the product for operational use based on collected and analyzed data.
7. **Operational Trial and Final Revisions:** Performing operational tests and final refinements on a larger sample concerning local wisdom-based learning strategies.
8. **Dissemination and Implementation:** Disseminating the product, implementing it in practice, and publishing research findings in academic journals.

The data analysis technique in this study involves reducing and thoroughly detailing the data collected from various sources.

3 Results and Discussion

Research related to the implementation of lectures based on Outcome Based Education through learning strategy courses that integrate local wisdom. The method used is research and development (R&D) with a design that follows the Richey and Klein model (Sugiyono, 2016). In this development, the R&D approach is applied to design and validate the Outcome-Based Education concept, ensuring the feasibility of the product for implementation and dissemination. The research process involves analysis, design, production, and evaluation, with the aim of obtaining valid and feasible results to be applied in the context of OBE-based lectures. The results of the research based on the research procedure are as follows:

1. Results of Potential and Problems

To optimize Outcome-Based Education (OBE) through lectures on physical education learning strategies, it is essential to develop the concept of local wisdom within the Physical Education, Health, and Recreation Study Program. This can be achieved by identifying emerging potentials related to the current context. The following information regarding the implementation of Outcome-Based Education (OBE) in the Physical Education, Health, and Recreation Study Program was gathered from the Quality Assurance Group survey conducted by the Faculty of Sports Science:

- a) According to Article 12, paragraph 3 of Minister of Education and Culture Regulation Number 3 of 2020, the lecture plan is set at 80.95%.
- b) formulation of learning achievement indicators 61.90%
- c) there is a relationship between graduate achievement and course achievement which is 28.57%

Based on the assessment submitted, it is concluded that the Outcome-Based Education activity in the document section has a good category, but in implementation it has an average of 45.24% which is still very low. The potential and issues identified within the Physical Education, Health, and Recreation Study Program concerning the implementation of Outcome-Based Education reveal that the program has not yet achieved satisfactory results in integrating Outcome-Based Education through case method processes and theme-based

projects. Based on this, the implementation of Outcome-Based Education has not met the target of delivering tangible projects. The lecture process utilizes concepts such as exploration, analysis, synthesis, assessment, investigation, and collaboration, yet it has not resulted in producing authentic and contextual work.

2. Results of Literature Study and Information Collection

A literature study is conducted to gather information from books, journals, and scientific research relevant to the development of Outcome-Based Education (OBE) for the local wisdom-based physical education learning strategy course. The findings indicate that the effective application of OBE serves as a model for integrating local wisdom, which is a key indicator of academic excellence in the lecture system at the Study Program level. This can serve as a reference for curriculum implementation. The benchmarks for OBE success in the physical education learning strategy course include: (1) the development of the curriculum, including the Learning Plan, teaching materials, and assessment and evaluation tools; (2) the interactive process among lecturers, students, and learning resources; and (3) the assessment and evaluation methods used to achieve Course Learning Outcomes (CLOs) and enhance the quality of continuous learning. The three key indicators for achieving OBE in the local wisdom-based physical education learning strategy course are centered on "supporting transdisciplinary learning as a collaborative approach."

3. Product Design and Design Validation

a. Product Design

To identify the product design for the Physical Education Learning Strategy course, the product design plan is developed based on indicators of product feasibility. These indicators include:

1. The Learning Plan for the Physical Education Learning Strategy course is integrated with a collective approach and is related to achieving the Learning Achievements for the Physical Education, Health and Recreation study program that have been and are currently taking place in the semester the Physical Education Learning Strategy course is being implemented, namely having elements of appropriateness of lecture achievements in the course:
 - a. Pedagogy
 - b. Learning Evaluation
 - c. All Sports Subjects
2. Implementing the concept of case method-based assignments and task/team-based projects in the execution of physical education learning strategy lectures involves meeting the following criteria for completion:
 - a. Addressing the Diverse Learning Needs of Students
 - b. Tackling Issues Related to Students' Motor Development
 - c. Resolving Challenges in Learning Activities at School
 - d. Enhancing Students' Motor Skills and Characteristics
 - e. Creating Programs to Boost Students' Physical Abilities
 - f. Designing Programs to Improve Movement Technique Skills
3. Establish lecture assessments as a means to evaluate the enhancement of student competencies, focusing on achieving the following skills:
 - a. Educational Science
 - b. Social
 - c. Personality
 - d. Professionalism

The design of the Outcome-Based Education (OBE) product for the physical education learning strategy course within the PJKR Study Program will be presented as a lecture plan, incorporating case method assignments, task/team-based projects, and final course achievement assessments.

b. Design Validation

Product design validation is conducted through ongoing validity and construct validity, specifically via Focus Group Discussions with the Lecturer Group Team of Expertise (KDBK) in Sports and Physical Education, as well as the Quality Assurance Task Force Team. The results of this ongoing validity are as follows:

"The Physical Education Learning Strategy Course is designed to provide students with understanding and skills in planning, implementing, and evaluating Physical Education learning at various levels of education. The main focus of this course is on the application of theory and practice of effective, innovative, and contextual learning strategies according to the characteristics of students and the local environment". The objectives of implementing the physical education learning strategy are:

1. Understand the basic concepts and theories of Physical Education learning strategies.
2. Master various models and learning methods that can be applied in Physical Education learning.
3. Have the ability to create lesson plans for physical education that consider the needs of the students and the curriculum.
4. Develop skills in managing classes and learning environments that support physical activity.
5. Be able to evaluate the effectiveness of Physical Education learning and reflect for continuous improvement.
6. Integrate local wisdom and cultural values into Physical Education learning strategies.

Additionally, construct validity or arrangement outcomes were achieved.

1. Course Plan Cover Design
2. Initial content including course identity and outlining graduate achievements in Attitude, Knowledge, General Skills, and Special Skills
3. Description of Course Achievements following graduate achievements
4. Mapping of graduate achievements to course achievements
5. Brief Course Description
6. Study Materials (Learning Resources)
7. Assessment Methods
8. Citations that support the lecturer's work and the topics addressed in the course include:
9. Lecturer Information
10. Prerequisite Courses
11. A comprehensive overview of the course covers meetings 1 through 16 and includes details such as the number of assignments, subcourse objectives, study materials, instructional format and methods, learning load, student experiences, learning media, assessment indicators, skills evaluated, and assessment weighting.
12. Student Assignment Design
13. Assignment Format
14. Assignment Evaluation
15. Final Assessment

4. Product Testing and Revision

Product testing and revisions are conducted on the local wisdom concept of the PJKR Study Program within the physical education learning strategy course, based on Outcome-Based Education (OBE). Validation involves the evaluation of (1) lecture materials, including the

RPS (Lesson Plan); (2) achievements in the case method; (3) achievements in team-based projects (with points 2 and 3 focusing on assignment concepts); and (4) outcome achievements, represented by final course assessment (Usman et al., 2024). The OBE concept is developed and integrated into the lecture process through observation and the use of assessment tools. Some of the assessment tools utilized include:

Table 1. Assessment Instrument *Outcome-Based Education*

No	A list of questions	Likert Scale			
		1	2	3	4
1.	The lecture starts with the delivery of the learning plan				
2.	Learning objectives, course results, and sub-course outcomes are all included in the lecture plan's contents				
3.	Editorials and narratives on course, graduate, and sub-course accomplishments emphasize the ideas of analysis, evaluation, and development (creation), which are high-level thinking concepts				
4.	The materials used in the lecture are included in the lecture plan				
5.	The aim of the lecture plan is to facilitate assignments and lectures through the use of the Case Method and Team-Based Projects.				
6.	The lecture schedule provides a detailed explanation of the content				
7.	Resources suited to the requirements of the profession of primary school teachers (class teachers)				
8.	The content can be used in lectures and accessed on its own				
9.	The resources are in line with the Team Based Project and Case Method implementation concepts				
10.	The phases of Plan, Action, Observation, and Reflection make up the systematic lecture process				
11.	When lectures are implemented, the idea of project-based learning—which is the same as team-based project—emphasizes student independence				
12.	Problem solving in scenarios that arise during the elementary school learning process is given priority when assigning the material to each student study group (Case Method)				
13.	Based on graduate and course successes, the lecture process can acquire learning abilities, such as comprehending problem discoveries and creating learning materials in accordance with the needs of physical education learning techniques				
14.	During lectures, instructors give out books that serve as study and practice guides in line with the established learning objectives				

No	A list of questions	Likert Scale			
		1	2	3	4
15.	Lecturers use digital media to give students examples of learning activities in addition to books. These examples can be found on the lecturer's website or YouTube channel as videos or audio-visual materials				
16.	Instructors give evaluations based on students' ability using impartial, equitable, and open standards				
17.	By the end of the lecture, you, the students, will have developed your competences in a way that meets the expectations of elementary school teachers and feels natural to you				
18.	Attendance, assignments, learning activity procedures, and course exams are among the learning activities and lecture achievements that are the basis of the transparent and methodical assessment used during the lecture process				

An explanation of the instrument table 1. is a statement that use a Likert scale, where 4 represents extremely good, and 1 represents a very poor evaluation. The evaluation category is visible according to the degree of product importance, specifically :

Table 2. Assessment Category

No	Category	Range of results
1.	Very good	86 – 100
2.	Good	71 – 85
3.	Enough	61 – 70
4.	Not good	51 – 60
5.	Very Poor	>51

Twenty students participated in the main product test assessment, which yielded an average score of sixty; thirty students participated in the main product test assessment, which yielded an average score of seventy-one; and forty students participated in the operational product test, which produced an average score of eighty.

The outcome-based education concept of the physical education learning strategy course incorporates a strong RPS framework that aligns with both the course objectives and the achievements of its alumni. It includes distinct phases for Planning, Action, Observation, and Reflection, along with an effective teaching format. Initially, in the effectiveness assessment section, evaluations are conducted fairly and transparently, adhering to the assessment criteria outlined in the lecture RPS. These conclusions are derived from the analysis of product evaluation findings, which demonstrate that the final product effectively addresses the Learning Objectives for Competency content in the lectures.

The results of the revision analysis and product evaluation indicated that the OBE development product for the Physical Education Learning Strategy course effectively provided users with an engaging experience, whether they were utilizing study materials at home or participating in lecture activities. Subsequent analysis revealed that the product was highly

effective in bolstering the components of IKU 7 achievement, specifically group discussions and cooperative learning through the use of elementary school theme materials, assignments, and methodical material arrangement and development of learning media that foster higher order thinking skills. The last analysis's findings related to the effectiveness assessment. The product demonstrated that the material's content was extremely comprehensive and in line with the lecture's competency content's learning objectives, enabling students to apply lectures that used case studies and group projects.

5. Product Manufacturing Results

The goal of the product creation process is to build a lecture for the Physical Education Learning Strategy based on OBE in the PJKR study program. Following that, focus groups will discuss the idea of cultivating local wisdom. The validation assessment yielded the following results: (1) lecture devices at 80%; (2) case method at 81%; (3) team-based project at 70%; and (4) outcome at 80%. The overall research results support a conclusion of 77.8%, which has an adequate category. The findings of the product evaluation achievement can then be shared and put into practice.

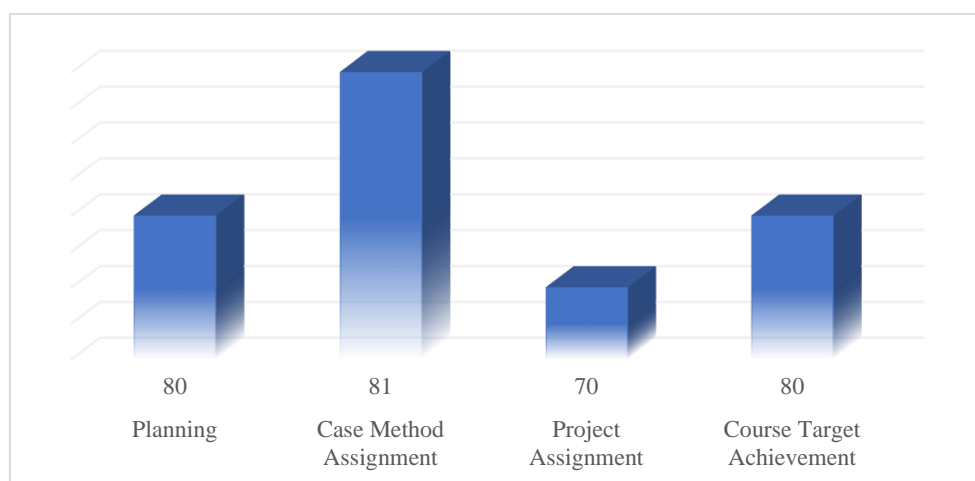


Figure 1. OBE Achievement Assessment

With an average score of 77.75%, the achievement based on the research findings falls into the good category. According to these findings, physical education learning strategy lectures can be used to demonstrate outcome-based education products for courses centered around local wisdom, which cater to eight different ethnic groups: Toba Batak, Karo Batak, Simalungun Batak, Malay/Javanese, Nias, Mandailing, Karo Pakpak, and Alas Kluet Batak.

Product development in the physical education learning strategy course based on local wisdom in achieving the OBE concept is carried out through the following stages:

- 1) Lecture Preparation and Lecture Implementation Stages
 During the preparatory phase, the learning strategy, textbooks, case method assignment topics, and team-based projects are developed. The implementation stage of the lecture materials encompasses large ball activities, small ball activities, games, physical fitness, outdoor activities, healthy lifestyles, field trips, school cleanliness, physical activity-based learning resources, and school sports programs.
- 2) Assignment Stage
Case Method

1. Visit the school in person, ideally accompanied by a Letter of Activity Permit from the Study Program.
2. Document suggestions and infrastructure at the school related to the needs of Physical Education learning strategy activities
3. Conduct interviews with instructors, principals, and students regarding the school's physical education policies and programs.
4. Conduct observations of sports activities carried out at the school
5. Jointly analyze sports activities at the school by:
 - a. Basic Movement Concepts
 - b. School Stretching and Child Development Games
 - c. Traditional Elementary School Sports

Task/Team Base Project

1. Conduct a visit to the school which can be accompanied by a Letter of Activity Permit from the Study Program
 2. Develop learning media or activity media to support student learning facilities and infrastructure at school related to the needs of Physical Education Learning Strategy activities.
 3. Document (record) the media creation process consisting of:
 - a. Materials needed (preferably practical and economical)
 - b. Manufacturing process
 - c. Benefits of the developed media
 - d. The method of incorporating created media into the process of teaching students about physical activity
 4. At the end, make a conclusion of the activity starting from the material developed, the manufacturing process, and the use of media applied to students.
- 3) Assessment Stage

Table 3. Assessment of Case Method

Work method	Assessment Score	Score
1.	School Visit	20
2.	Documentation	20
3.	Interview	20
4.	Observation	20
5.	Analysis	20
	Total Score	100

Table 4. Assessment of Task/Team Based Project

Work method	Assessment Score	Score
1.	School Visit	10
2.	Media Creation Process	30
3.	Use of Media for Students	20
4.	Video Quality	20
5.	Report Results	20
	Total Score	100

6. Dissemination and Implementation Results

Dissemination is the dissemination and application, namely the developed product can be implemented and applied to the Faculty of Sports Science (FIK) environment. The results of the validation assessment show that the designed lecture devices have a validity level of 80%. This shows that the materials and methods applied are sufficient to meet the quality standards expected in the learning process. In addition, learning outcomes through the case study method reached 81%, which shows that students have good abilities in analyzing and solving problems presented through case studies. However, learning outcomes through team-based projects only reached 70%, which indicates a need to strengthen aspects of collaboration and teamwork in the learning process. The outcome achievement with a value of 80% shows that most of the learning objectives can be achieved, which indicates that the OBE approach in this lecture has succeeded in providing the expected results. However, when viewed as a whole, the average value of the results of this study is 77.8%, which is included in the "sufficient" category. This shows that although the lecture devices have been well designed, there is still room for further improvement and refinement. In the context of developing local wisdom, the implementation of this Outcome-Based Education product includes the integration of cultural values from various ethnic groups in North Sumatra, including Batak Toba, Batak Karo, Batak Simalungun, Malay/Javanese, Nias, Mandailing, Karo Pakpak, and Batak Alas Kluet. By combining these elements of local wisdom, the physical education learning strategy lectures not only function as a tool to achieve educational goals, but also as a medium to preserve and develop existing cultural values. This implementation is expected to make a significant contribution in forming graduates who are not only academically competent, but also have a deep understanding of diverse local wisdom. The results of this study, with an average value of 77.75%, indicate that the implementation of OBE-based lectures that integrate local wisdom has good potential to be implemented more widely.

4 Conclusion

According to conventional knowledge, the development of lecture design in the Physical Education Learning Strategy course, in conjunction with Outcome-Based Education, demonstrates a high level of practicality. The assessment falls into the adequate category, exemplifying preparatory design that aligns with the course's learning objectives and integrates the RPS concept with a collaborative approach, namely having elements of suitability of achievements in the courses: (1) Pedagogy; (2) Learning Evaluation; and (3) All Sports Branch Courses. The Physical Education Learning Strategy lecture is developed by utilizing the idea of case method-based assignments and task/team-based projects, specifically by meeting the following completion criteria: First, addressing the diversity of learning needs; second, addressing student motor development; third, addressing learning activities at school; fourth, developing student motor character; fifth, creating a program to enhance students' physical ability; and sixth, creating a program to enhance movement technique ability. The study program's physical education learning strategy course will include an OBE product design that will be packaged as a study plan, case method assignments, task/team-based projects, and an evaluation of the final lecture outcomes. In the PJKR study program, the goal of product creation is to design a lecture for physical education students that incorporates local wisdom. This will be followed by a focus group discussion centered around the idea of cultivating local wisdom. The validation assessment yielded the following results: (1) lecture devices at 80%; (2) case method at 81%; (3) team-based project at 70%; and (4) outcome at

80%. The overall research results support a conclusion of 77.8%, which has an adequate category. The findings of the product evaluation achievement can then be shared and put into practice.

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