

# Evaluation Of Implementation Of 2013 Curriculum In Learning Outcomes Perspective For Sport And Health Physical Education

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## **Abstract.**

*This research is motivated by the strategic policies of State Senior High School 6 Palembang in implementing the 2013 curriculum within 9 years. Based on this, to find out more about the level of implementation of the 2013 curriculum in terms of the aspect of learning achievement of Physical Education in Sports and Health (PEH) in the context of the 2013 curriculum in an objective and factual manner. This study aims to evaluate the implementation of the 2013 curriculum in terms of learning outcomes for physical education, sports and health. The research method used is mixed research with the CIPP model evaluation method (context, input, process, product). Research data was obtained through observation, interviews, and questionnaires. The data collected were analyzed using descriptive qualitative and percentages. The results showed that the evaluation of the implementation of the 2013 curriculum in terms of PEH learning outcomes was good. This can be seen from the evaluation of the PEH curriculum in the context of the 2013 curriculum in the form of the legal basis for the Regulation of the Minister of Education and Culture Number. 22 of 2016, and has carried out intensive socialization with school residents. The input evaluation shows that the implementation has been supported by a good quality curriculum. Process evaluation shows that the school can organize the implementation of the preparation of teaching preparation by the signs set out in the guidelines for preparing learning plans. While the product evaluation shows qualitatively in detail according to indicators, where knowledge and skills, data findings are also strengthened by observations that the learning outcomes target and graduate qualification criteria. In addition, the results of observations and responses of teachers and students are very high.*

**Keywords:** 2013 Curriculum, Evaluation, Physical Education, Health

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## **I. INTRODUCTION**

The government implements the 2013 Curriculum policy as a way to overcome the problems of the national education system in Indonesia. Implementing the curriculum refers to the process of transforming educational programs for students in the learning process. Fostering the curriculum is intended to maintain that the implementation of the curriculum is by the provisions set out in the ideal/potential curriculum. In other words, seeking conformity of the actual curriculum with the potential curriculum so that there are no gaps. The curriculum development is an advanced stage of curriculum development activities, namely efforts to increase in the form of added value from what has been implemented by the potential curriculum [1]. This effort can be carried out if an assessment of what has been carried out is carried out. By conducting an assessment, it is possible to identify deficiencies in the implementation and development of the curriculum which can be overcome as far as possible, and other better efforts are sought so that more optimal results are obtained [2][3]. So, curriculum changes are a must to adjust to the level of need. In Turkey in 2015 has changed the curriculum is oriented toward achievement [4]. It is very important to evaluate the implementation of the curriculum as a process to obtain information about the implementation of the policy. Thus, the focus of implementation evaluation is on the results, both the results in the form of processes and products. Information on the results of this application is then compared with the criteria for successful implementation of the curriculum that has been set.

If the real results of implementing the curriculum are with the specified results, then the implementation of the curriculum can be said to be effective. On the other hand, if the actual results of implementing the curriculum are not by the established outcome criteria, then the implementation program is said to be less effective. These continuous developments and changes require an improvement in the national education system, including the improvement of the curriculum to create a society that can compete and

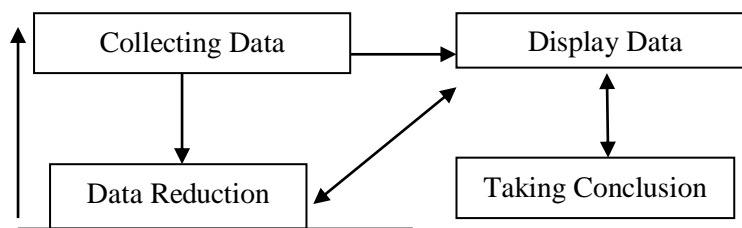
adapt to the times. One of the obstacles in the 2013 curriculum is the addition of study time at school or what is often called full-day school and the unpreparedness of all teachers in implementing the 2013 curriculum. The results of observations at State Senior High School 6 Palembang show that schools have used the 2013 curriculum by the needs of existing educational developments, where all learning processes are more active for students than educators because educators are facilitators and students are objects and have also implemented full day school system in the 2013 curriculum. In the teaching and learning activities, the hours of lessons at school have become longer, namely from 06.45 to 15.30 WIB. Therefore, there are complaints for students where the practice hours of Physical Education and Sports Health lessons have different lesson hours, meaning that not all classes can carry out learning in the morning, some classes carry out Physical Education, Sports and Health lessons in the afternoon. This results in the level of effectiveness of learning also varying as a result students have difficulty carrying out learning practices for Physical Education, Sports and Health [5].

State Senior High School 6 Palembang as the implementer of the 2013 curriculum, has implemented it for more than nine years. Schools have strategic policies in responding to the implementation of the curriculum. Therefore, to find out more about the level of implementation of the 2013 curriculum in terms of learning outcomes for Sports and Health Physical Education lessons, it is necessary to have a study that evaluates the process of implementing the curriculum in related subjects in the context of the 2013 curriculum in an objective and factual manner. This is the underlying reason for carrying out this research. Thus, this research is also a form of assessment of learning achievement, whether it is to the challenges of 21st-century education. Because the 2013 curriculum has been designed very well and systematically to be able to answer global challenges. However, implementation in schools has its differences and difficulties according to the context of the education provider. Several previous researchers have been widely studied to determine the level of effectiveness and success of the 2013 curriculum for physical education and health [6,7,8,9,10], as has been done by Gazali, et.al., who reviewed 106 articles in the Scopus database, Google Scholar and dimensions in the 2013-2020 range [11]. This curriculum not only emphasizes cognitive competence but also affective competence [12], or in other words the 2013 curriculum can be applied using a scientific learning approach [5, 6].

Other studies show that the obstacles to implementing the 2013 curriculum are the lack of an understanding of the overall implementation of the 2013 curriculum, the need for an understanding of learning models, HOTS, and the use of IT [15]. However, research related to the 2013 curriculum assessment that focuses on learning outcomes has not been widely carried out because so far research has assessed the 2013 curriculum on all aspects of the 2013 curriculum standards, so the concept of this research becomes a gap with previous research. This research examines the results of learning outcomes for physical education subjects, sports and health through aspects of context, input, process, and product. Thus, the purpose of this research is to assess the application of the 2013 curriculum from the perspective of learning outcomes for physical education subjects, sports and health. The results of the research are expected to be useful in developing the implementation of the 2013 curriculum for teaching and learning by the development of science, technology and the demands of the quality of human resources for the business world, or industry. In addition, learning outcomes can also increase the value of appropriate skills in 21st-century education

## II. METHODS

The method in this study is a mixed-method, which is a combination of quantitative and qualitative methods [16]. The method used is an evaluation with the CIPP design model (context, input, process, product)[17]. The reason for choosing this model is because it is comprehensive. The research subjects included a vice principal in the field of curriculum, 3 teachers of Physical Education, Sports and Health, and 76 students. Data collection techniques in the form of observation (observations), interviews (interviews), documentation, questionnaires and triangulation (combined). Quantitative data obtained from the questionnaire is presented in the form of percentages and qualitative data is narrated according to the answers of the data sources. The data analysis technique consists of the stages of data collection, data presentation, data reduction and concluding [18].



**Fig 1.**Data Analysis Technique

**III. RESULT AND DISCUSSION**

The result of the analysis is displayed using a table and narration. The result of the questionnaire data is put in table 1. While observation and interview data are described as narration to know the result of learning outcome from the 2013 curriculum implementation.

**Table 1.** Average and Percentage of Questionnaire Data from Students and Teacher

CIPP	Components of Questionnaire	Students		Teacher	
		Average	%	Average	%
Context	1) Government documents and policies	66	87	11	92
	2) Socialization activities for the implementation of the curriculum	67.5	88.7	11.5	88.7
Input	1. Qualifications of Teacher	68	89	11	94
	2. Procedures and regularities for implementing curriculum	68.5	90	10	87
	3. Teaching and learning support capacity	69	91	11,7	98
Process	1. Lesson planning	68	89.5	11	93
	2. Approaches and learning methods	68	89	11	91
	3. Scoring system	65	85	11	88
Product	1. Student learning activity level	61	80	10	83
	2. Student learning motivation	64	84	11,5	96
	3. Dimensions of attitude, knowledge and skills	62	83	11	94
	4. Learning outcomes (achievements)	64	84	12	100

Table 1 shows the data on the average value and the percentage for the results of filling out the questionnaire on learning outcomes through the perspectives of students and teachers. In the context aspect, it is known that the students it is known that they know about the policies for implementing the 2013 curriculum as indicated by the percentage levels of 87% and 89%. The teacher gave the same thing. Moreover, they as educators are the first to be able to understand the implementation of the 2013 curriculum to be able to formulate learning outcomes for sports and health physical education. On the input aspect, it is known that students and teachers show an average percentage of 90% and 93% for the qualifications of teaching staff, procedures for implementing curriculum in learning and teaching and learning facilities. In the process aspect, it is known that the students and teachers show an average percentage of 87% and 90% for lesson plans that have been prepared and delivered to students, teaching and learning approaches and methods, and learning outcomes assessment systems. Meanwhile, in the product aspect, it is known that students and teachers show an average percentage of 83% and 93% for learning and motivational activities in the classroom that have been carried out by students, attainment of attitudes, knowledge and skills as well as student achievements as evidenced by the development of educational value. physical exercise and excellent health.

The results of observations and analysis of teaching and learning documents owned by teachers found several conclusion points related to the learning outcomes of implementing the 2013 curriculum, namely;

1. Sports and health physical education teachers already have a learning implementation plan that has been designed by the 2013 curriculum, so that every learning activity is designed according to the standards set out in the curriculum.
2. The stages of teaching and learning activities that have been carried out in class and practice are considered good and consistent with the learning plans that have been made previously.

While the results of interviews that have been conducted with a vice principal in the field of curriculum, and teachers concluded several points of assessment, namely;

a. Context Aspect

1. There are still physical education and health teachers who do not understand comprehensively the legal basis for school rules in implementing the curriculum. Moreover, this legal basis is always changing every time there is a change in the curriculum.
2. The Deputy Principal for Curriculum at State Senior High School 6 Palembang, provided information that at the school there are two policy programs to socialize the Physical Education and Health curriculum, namely internally through coaching by the school principal, workshops and training, then forwarded to the group. sports teacher work. While the external one is carried out with other schools in cluster groups

b. Input Aspect

1. The teacher has educational qualifications that are by the expertise in the field of sports.
2. The teachers prepare the curriculum in the form of learning tools that are used as guidelines to support the implementation of the Physical Education and Sports Health curriculum in the context of the 2013 curriculum.
3. The school has a program of review-revision and curriculum development at the education unit level.
4. The principal always reminds and provides direction so that the implementation of activities is always guided by the work program, the implementation of learning always refers to the curriculum, and school residents are expected to take advantage of and participate in workshops and training activities to improve competence, and always innovate.
5. Teachers of Physical Education, Sports and Health need to improve administrative order, related to filling out journal books, and assessment results, including student management after the learning process, taking into account the student's cooling down condition and providing adequate rest for the next lesson.
6. The teacher serves as an educator who delivers or teaches material to students. Teaching is the key to student success. Teachers are responsible for using appropriate and effective learning strategies to assist the rest of the objectives, as well as appropriate methods for evaluating student learning.
7. Concerning their support and role as educators, the teachers stated that at first, the teachers had difficulties in implementing the 2013 curriculum, but gradually they could be minimized until they were deemed no difficulties.
8. Supporting the capacity of infrastructure, tools, media, and learning resources towards the implementation of the Physical Education and Sports Health curriculum in the context of the 2013 curriculum, as well as the process of implementing learning.
9. The teacher has tried to use learning media, such as videos, then explained to students by simulating, and then headed to the field for practice.
10. Schools have tried to fulfil other sports facilities, but it is also known that schools have limitations. While the internet network can be used as a hotspot, this internet facility is important so that students can do the tasks given outside the material in the textbook.

c. Process Aspect

In the process evaluation stage, the evaluation results related to the management and management of learning services are obtained as a benchmark in implementing the PJOK curriculum in the context of the 2013 curriculum. The findings of the research results obtained from informants through interviews, including; teachers of Physical Education, Sports and Health need to improve administrative order, related to filling out journal books, assessment results, and including student management after the learning process, taking into account the student's cooling down condition and providing adequate rest for the next lesson.

1. The vice principal in the field of curriculum stated that all parties had understood the 2013 curriculum through socialization, then had prepared infrastructure, learning resources, including textbooks and LCDs, as well as other teaching materials, while the task of subject teachers was to prepare learning tools according to curriculum rules

d. Product Aspect: the measure of success in fostering student behaviour is seen if students do not carry out negative activities, such as smoking, being ignorant, being polite with teachers, doing assignments well, in an orderly manner, and never being late.

Based on the results of interviews with informants, indicators of the availability and utilization of infrastructure, tools, media, and learning resources, the results showed that the quality was not good. The implementation of the PJOK curriculum learning with the 2013 curriculum background requires more infrastructure than the implementation of conventional learning. This is because, in the implementation of PJOK learning with a scientific model, it must meet the information and technology needs, with a problem-solving learning model, then the next process is to find and present it in contextual learning nuances. The context of the curriculum at the Palembang 6 public secondary school has been determined by the applicable legal basis. The school socializes with the school community regarding the legal basis for implementing the K13 curriculum, because this curriculum has been implemented for  $\pm$  9 years. However, the new regulations are in effect for around 6 years. In addition, the school has carried out teacher training through mentoring. Mentoring is carried out with a whole school approach, where assistance is not only given to subject teachers but also all school elements involved in the education process. Through this whole school approach, the implementation of the 2013 curriculum is not only the responsibility of the teacher but is the joint responsibility of all elements of the school.

The process and strategy for mentoring activities go through the stages from preparing companions and training to being asked to make activity reports. Comprehensively, the learning achievement has been assessed as quite good and has achieved the educational goals set by the school. Implementation of the physical education and health curriculum in the context of the 2013 curriculum requires the implementation of active, creative, and innovative learning that will bring challenges in terms of learning facilities and infrastructure. According to (Hidayat, 2017), the application is the ability to use concepts, principles, and procedures in certain situations. The ability to apply is a higher level cognitive goal than knowledge and understanding. In the process evaluation stage, the evaluation results related to the management and management of learning services are obtained as a benchmark in implementing the physical education and health curriculum in the context of the 2013 curriculum. signs regulated in the guidelines for preparing lesson plans. Learning plans prepared by physical education and health teachers include syllabus development, preparation of learning implementation plans and preparation of learning media and resources, learning assessment tools, and learning scenarios. There are different settings for the number of hours per week that are adjusted to school policy. Product evaluation obtained evaluation results related to learning outcomes and graduation competencies as benchmarks in implementing the physical education and health curriculum in the context of the 2013 curriculum.

Set learning outcomes targets and graduate qualification criteria on the attitude dimension in the form of accepting values, responding to values, appreciating values, living values, and practising values through the application of character education activities to strengthen the competence of attitudes and behaviour of students, the teachers have been trying and working hard To implement character-based education in their learning activities, the things that cause the implementation of character education still



does not show a good attitude quality is that teachers still have difficulty monitoring the behaviour of students individually. intensive at school, lost access to monitor the behaviour of students at home and in the community. Students can follow the character education process in the implementation of education in schools but still need guidance and assistance to monitor the implementation of activities so that student behaviour can be observed optimally.

In evaluating the implementation of the 2013 curriculum in terms of learning outcomes for physical education and health at SMP Negeri 6 Palembang, the responses of teachers and students were categorized as very high. Every aspect of context, input, process and product is in line with the standard level in the curriculum[15]. Budiani et al., state that the preliminary stage or implementation readiness includes the readiness of teachers, books, infrastructure, and learning plans are very good (95%), and the process stage which includes learning activities and learning evaluation is very good (90%) and the results of the implementation which include student responses and learning outcomes are also very good (94%)[3]. Further studies by Mustafa & Dwiyoogo, show that the content of the physical education curriculum and health is not only about movement skills and physical health, but students are required to be able to think critically, creatively, and able to collaborate[19]. Also learning physical education and health must be done scientifically[20]. Thus, curriculum transformation as part of a broader critical agenda can change teacher philosophies and practices, and increase student participation in learning[21,22,23,24]. Therefore, there needs to be an increase in competence, one of which is structured guidance[25].

#### IV. CONCLUSION

Based on the results of the research and discussion, it was concluded that the learning achievement in the subjects of physical education, sports and health from the implementation of the 2013 curriculum at the State Senior High School 6 Palembang was good and achieved the educational goals. In every aspect, both context, input, process, and product also show good analysis results. Evaluation of the context of the sports and health physical education curriculum in the form of a legal basis for the Regulation of the Minister of Education and Culture Number 22 of 2016 concerning Process Standards for Primary and Secondary Education Units, and has carried out intensive socialization to school residents as implementers of the 2013 curriculum. observations and responses of teachers and students who show very high.

The input evaluation shows that the implementation has been supported by a good quality curriculum. However, the availability and utilization of infrastructure, tools, media and learning resources in schools for sports practice must be improved. Process evaluation shows that schools as implementers of the physical education, sports and health curriculum in the context of the 2013 curriculum can organize the implementation of the preparation of teaching preparation by the guidelines set out in the guidelines for preparing learning plans. While the product evaluation shows qualitatively in detail according to indicators, where knowledge and skills, data findings are also strengthened by observations that the learning outcomes target and graduate qualification criteria. From the findings of the lack of facilities, the results of this study can be redeveloped by further researchers through an analysis of the need for sports learning facilities. The results of this study have implications for schools related to the development of curriculum implementation that must be adapted to the needs of global developments.

#### V. ACKNOWLEDGMENTS

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#### REFERENCES

- [1] A. U. Dewi, "Curriculum reform in the decentralization of education in indonesia: Effect on students' achievements," *Cakrawala Pendidik.*, vol. 40, no. 1, pp. 158–169, 2021, doi: 10.21831/CP.V40I1.33821.
- [2] A. Hilabi, *Evaluasi Kurikulum*. Pustaka Amanah, 2019.
- [3] S. Budiani, □ Sudarmin, R. Syamwil, and S. Artikel, "Evaluasi Implementasi Kurikulum 2013 di Sekolah Pelaksana Mandiri," *Innov. J. Curric. Educ. Technol.*, vol. 6, no. 1, pp. 45–57, Aug. 2017, doi:

- 10.15294/IJCET.V6I1.15998.
- [4] T. Aytan, "Evaluation of the 2006 and 2015 Turkish Education Program in Secondary School Curriculum in Turkey in Terms of Critical Thinking," *J. Educ. Learn.*, vol. 5, no. 2, p. 38, Mar. 2016, doi: 10.5539/JEL.V5N2P38.
- [5] W. T. Eksanurianto, E. Supriatna, and F. P. Hidasari, "KETERLAKSANAAN KURIKULUM 2013 MATA PELAJARAN PENJASORKES DI SEKOLAH DASAR SE-KECAMATAN MELIAU," *J. Pendidik. Jasm. Kesehatan dan Rekreasi*, vol. 8, no. 1, pp. 19–29, Mar. 2021, doi: 10.46368/JPJKR.V8I1.317.
- [6] M. S. Fauzi, "THE IMPLEMENTATION OF CURRICULUM 2013 FOR PHYSICAL EDUCATION, SPORT AND HEALTH OF JUNIOR HIGHSCHOOL IN SAMARINDA," *ACITYA J. Teach. Educ.*, vol. 1, no. 2, pp. 131–141, Jul. 2019, doi: 10.30650/AJTE.V1I2.249.
- [7] B. Hardiyono, R. Pratama, A. Hidayat, and Hartati, "Physical education teachers' understanding of the 2013 curriculum," *Int. J. Hum. Mov. Sport. Sci.*, vol. 9, no. 5, pp. 841–846, Sep. 2021, doi: 10.13189/SAJ.2021.090502.
- [8] R. Wajdi and J. Jamaluddin, "Studi Tentang Implementasi Kurikulum 2013 Pada Guru Mata Pelajaran Pendidikan Jasmani, Olahraga Dan Kesehatan," *Sport. J. Phys. Educ. Sport Recreat.*, vol. 2, no. 2, p. 79, Jun. 2019, doi: 10.26858/SPORTIVE.V2I2.9504.
- [9] S. A. Wardhana, A. Asim, and H. Widijoto, "EVALUASI PELAKSANAAN KURIKULUM 2013 PADA MATAPELAJARAN PENDIDIKAN JASMANI OLAHRAGA DAN KESEHATAN DI SMPN 6 MALANG DENGAN MENGGUNAKAN ANALISIS SWOT," *Gelangg. Pendidik. Jasm. Indones.*, vol. 1, no. 1, p. 87, Apr. 2017, doi: 10.17977/UM040V1I1P87-102.
- [10] H. Setiadi, "Pelaksanaan penilaian pada Kurikulum 2013," *J. Penelit. dan Eval. Pendidik.*, vol. 20, no. 2, pp. 166–178, Nov. 2016, doi: 10.21831/PEP.V20I2.7173.
- [11] N. Gazali *et al.*, "Implementation of Physical Education Learning Outcomes Assessment in the 2013 Curriculum," *Hal. Olahraga Nusant. (Jurnal Ilmu Keolahragaan)*, vol. 5, no. 1, pp. 275–284, Jan. 2022, doi: 10.31851/HON.V5I1.6352.
- [12] H. N. Adiantika, D. Charisma, F. Aprianti, and E. R. Winarto, "INDONESIAN 2013 CURRICULUM IMPLEMENTATION: TEACHERS' TECHNIQUES, CHALLENGES, AND VOICES TOWARDS STUDENTS' AFFECTIVE COMPETENCE," *Indones. EFL J.*, vol. 7, no. 1, pp. 33–42, Jan. 2021, doi: 10.25134/IEFLJ.V7I1.3988.
- [13] U. Lambung Mangkurat, J. Brigjen Haji Hasan Basri, K. Tangi, D. Oleh, and J. Pendidikan Olahraga Fakultas Ilmu Keolahragaan, "PENDEKATAN SAINTIFIK PADA PENJASORKES DALAM RANGKA MEMBENTUK JATI DIRI PESERTA DIDIK," *J. Pendidik. Jasm. Indones.*, vol. 12, no. 2, pp. 117–124, 2016, doi: 10.21831/JPJI.V12I2.17111.
- [14] - Hartati, H. Yusfi, and - Destriani, "Designing The Scientific Characteristics of Learning Model to Improve The Mastery of Concept on Nutrition Science II of Prospective Teachers of Physical and Health Education," pp. 1–3, Feb. 2018, doi: 10.2991/ICE-17.2018.1.
- [15] D. A. Astuti, S. Haryanto, and Y. Prihatni, "Evaluasi implementasi kurikulum 2013," *Wiyata Dharma J. Penelit. dan Eval. Pendidik.*, vol. 6, no. 1, pp. 7–14, Dec. 2018, doi: 10.30738/WD.V6I1.3353.
- [16] J. W. Creswell, *Research, educational planning, conducting, and evaluating quantitative and qualitative research*. London & New York: **Pearson Education**, 2012.
- [17] D. L. Stufflebeam and C. L. S. Coryn, *Evaluation Theory, Models, and Applications*, Second Edit. United States of America: **Jossey-Bass**, 2014.
- [18] M. Miles, A. Huberman, and J. Saldaña, *Sampling: Bounding the collection of data*. **SAGE**, 2014.
- [19] P. S. Mustafa and W. D. Dwiyoogo, "Kurikulum Pendidikan Jasmani, Olahraga, dan Kesehatan di Indonesia Abad 21," *JARTIKA J. Ris. Teknol. dan Inov. Pendidik.*, vol. 3, no. 2, pp. 422–438, Jul. 2020, doi: 10.36765/JARTIKA.V3I2.268.
- [20] R. Rahmat, S. Suwardi, and I. Suyudi, "Implementasi Pendekatan Saintifik Pada Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan (PJOK) SD Kurikulum 2013 Di Kabupaten Bantaeng," *Sport. J. Phys. Educ. Sport Recreat.*, vol. 2, no. 2, p. 63, Jun. 2019, doi: 10.26858/SPORTIVE.V2I2.9502.
- [21] L. Alfrey and J. O'Connor, "Critical pedagogy and curriculum transformation in Secondary Health and Physical Education," *Phys. Educ. Sport Pedagog.*, vol. 25, no. 3, pp. 288–302, May 2020, doi: 10.1080/17408989.2020.1741536.
- [22] H. Sun, A. Chen, X. Zhu, and C. D. Ennis, "Curriculum matters: Learning science-based fitness knowledge in constructivist physical education," *Elem. Sch. J.*, vol. 113, no. 2, pp. 215–229, Dec. 2012, doi: 10.1086/667405.

- [23] X. Zhu, C. D. Ennis, and A. Chen, "Implementation challenges for a constructivist physical education curriculum," *Phys. Educ. Sport Pedagog.*, vol. 16, no. 1, pp. 83–99, Jan. 2011, doi: 10.1080/17408981003712802.
- [24] S. Chen, X. Zhu, J. Androzzi, and Y. H. Nam, "Evaluation of a concept-based physical education unit for energy balance education," *J. Sport Heal. Sci.*, vol. 7, no. 3, pp. 353–362, Jul. 2018, doi: 10.1016/J.JSHS.2016.06.011.
- [25] M. K. A. W. Mufid, "PELAKSANAAN PENILAIAN RANAH KETERAMPILAN BERDASARKAN KURIKULUM 2013 PADA MATA PELAJARAN IPS SMP," *J. Eval. Pendidik.*, vol. 11, no. 1, pp. 7–16, Jun. 2020, doi: 10.21009/JEP.0111.02.