

Validation of sport education as a reference curriculum model in higher education supporting the MBKM curriculum

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ABSTRACT

Background Problems: In Indonesia, sports study programmes must adapt to the Merdeka Belajar Kampus Merdeka (MBKM) curriculum, which is based on outcome-based education (OBE). In OBE, Learning Outcomes of Graduates (LOG) are carried out through the implementation of learning, or outcome-based learning and teaching (OBLT), using a pedagogical model that is in accordance with the development of the MBKM curriculum, and the pedagogical model associated with the OBE-based MKBM curriculum is Sport Education (SE). SE is a pedagogical model that is consistent with OBE principles and is considered relevant for implementing the MBKM curriculum. However, there is no empirical evidence to support the reliability of SE as a curriculum model in sport study programmes at the higher education (HE) level, hence the need for a validation study. **Research Objectives:** This study aims to validate and empirically test the reliability of SE as a curriculum model for sports study programmes at the higher education level. **Methods:** This study used the 4-D R&D methodology, which involved small-scale (56 students) and large-scale (147 students) trials. Reliability was assessed using the intraclass correlation coefficient with SPSS. **Findings and Results:** Results suggest that SE works well with OBE principles within the MBKM framework, providing sports studies programmes with a powerful way to teach new things that are useful in the real world. Further research is recommended to validate SE in sport-specific contexts such as martial arts. **Conclusion:** The study concluded that SE is a reliable reference curriculum model for sport studies programmes at the HE level, which is aligned with OBE principles as required by the MBKM curriculum. The findings advocate wider adoption of SE in HE learning, particularly for sport studies programmes, subject to further validation in a range of sport disciplines using SE.

Keywords: Validation; sports education; sports study programme; MBKM curriculum

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INTRODUCTION

In Indonesia, the Merdeka Belajar Kampus Merdeka (MBKM) curriculum emphasises autonomy and flexibility to foster an innovative learning environment that meets student needs (Dirjendikti Kemdikbud RI,

2020), in line with the principles of Outcome-Based Education (OBE). OBE focuses on designing educational experiences with clear learning outcomes and assessments (Spady, 1988). Furthermore, OBE is based on the Outcome-Based Curriculum (OBC) or Learning Outcomes of Graduates (LOG) based on the principle of Outcome-Based Learning and Teaching (OBLT) or how LOG is achieved using learning methods and Outcome-Based Assessment and Evaluation (OBAE) or how assessment and evaluation of LOG (Junaidi et al., 2020).

Regarding OBLT, Sport Education (SE) as a curriculum model that can identify strong alignment with the principled MBKM framework to OBE. SE is said to have a solid connection to OBE, which underlies the MBKM curriculum (Ginanjar et al., 2022). SE encourages students' engagement through structured roles in the learning process, which can foster skills essential for personal and professional development. SE is carried out through six characteristics: season, affiliation, formal competition, culminating event, keeping records, and festivity (Ginanjar, 2019a; Siedentop, 1994; Siedentop et al., 2011), through six structured roles such as: coach, player, manager (in the team roles (ITR)) and referee, match recorder, and publication (out the team roles (OTR)) which is in line with the development of the sports industry (Ginanjar et al., 2021; Ginanjar et al., 2021b).

Coaches are tasked with leading warm-ups, training, helping make decisions about lineups, changing lineups, and generally providing leadership for their teams. The manager is tasked with assisting the coach during training activities and matches, preparing the team's needs during training activities and matches, making team role contracts, and creating team profiles. Like a professional athlete, players are tasked with training and competing according to the coach's directions. The referee is tasked with managing the match, making decisions on match rules, coordinating with the match recorder to create a match system, conducting technical meetings, and refereeing during the match. The match recorder is responsible for creating match sheets, recording match scores, and keeping archives of all data while the competition progresses. The publication can be a journalist, correspondent, or reporter while the team is training and competing, taking archives and data on match results compiled for publication, and as a commentator. News can be published through weekly sports sheets, campus newspapers, posters, or specially created SE bulletins. These roles align with the sports industry, which continues to develop and can be made into a professional profession (Ginanjar et al., 2021; Ginanjar et al., 2021b).

Regarding the MBKM curriculum, which is filled with *Indikator Kinerja Utama* in Indonesian and in English called Key Performance Indicators (KPI). One of the KPI targets is to improve the quality of learning and relevance of HE with eight KPIs being targeted (Dirjendikti Kemdikbud, 2021). SE can facilitate KPI 7 with descriptions: 1) courses that use case method learning; 2) courses that use team-based projects; 3) courses that have 50% of the weight of the final grade based on the quality of class discussion participation (case method) and the final project-based learning presentation (Dirjendikti Kemdikbud, 2021). SE at the planning stage all students are given roles and must carry out their duties according to these roles. This is a case method that is in accordance with KPI 7 points 1. SE which has a competition at the end of the learning season which is carried out with student roles What is involved is a project that must be completed. Furthermore, SE is project-based learning (Corbin, 2021), this is in accordance with KPI 7 points 2. The SE assessment is obtained as long as students carry out and report tasks according to the role using portfolio assessment, this is in accordance with KPI 7 points 3 and has also been confirmed in the reference book (Agustin et al., 2023).

The results of several studies suggest that SE has been successfully used in HE level learning in terms of motivation (Ginanjar et al., 2021a; Kharisma et al., 2024; Ramadhan et al., 2024), leadership (Agustin et al., 2024; Slamet et al., 2021), sports orientation (Effendy & Ramadhan, 2021; Ginanjar et al., 2023), students' perception (Ginanjar et al., 2024; Solihin et al., 2022), and the creation of student character values (Purwanto et al., 2014). However, there is still a void regarding the validation of SE at HE level. Most of the research that has been done still uses SE for junior secondary schools which is seen from two points on planning at 0.94 and on implementation at 0.73 (Ginanjar, 2019a, 2019b). Therefore, validation related to HE-specific SEs needs to be conducted. Thus, HE-specific SE has model fidelity. In line with the opinion, we need to ask the extent of students' response to learning that is attributed model fidelity by the teacher (Casey et al., 2015) and need to be scrutinised in empirical studies of model-based practice (MBP) (Hastie & Casey, 2014).

Overall, based on what has been presented, there is a void of research related to the validation of SE at the HE level using junior high schools. Coupled with the fact that SE is run with the involvement of the role of students in accordance with the development of the sports industry, it can facilitate one of the objectives of the KPIs as demanded by the MBKM curriculum based on OBE principles where the learning process using OBLT principles can fulfill LOG with empirical evidence. Thus, this study aims to validate and empirically test the reliability of SE as a curriculum model for sports study programs at the HE level.

METHOD

Research Approach

This study used the R&D research method with the 4 D model. The 4 D model has four stages: define, design, develop, and disseminate (Winaryati et al., 2021). 4 D model can be used to develop learning materials (Winaryati et al., 2021). Furthermore, define as a needs analysis stage, design selects the format and media of learning devices, develop there are two tests, namely: expert appraisal and developmental testing, disseminate after the evaluation is completed for empirical validation (Winaryati et al., 2021). The research steps can be seen in Figure 1.

Research Participants and Samples

The participants involved in the small-scale trial were 56 students and the large-scale was 147 students who were taken using purposive sampling. Purposive sampling is used if the researcher selects subjects based on certain criteria and determines whether they are suitable for the study (Portney & Watkins, 2015).

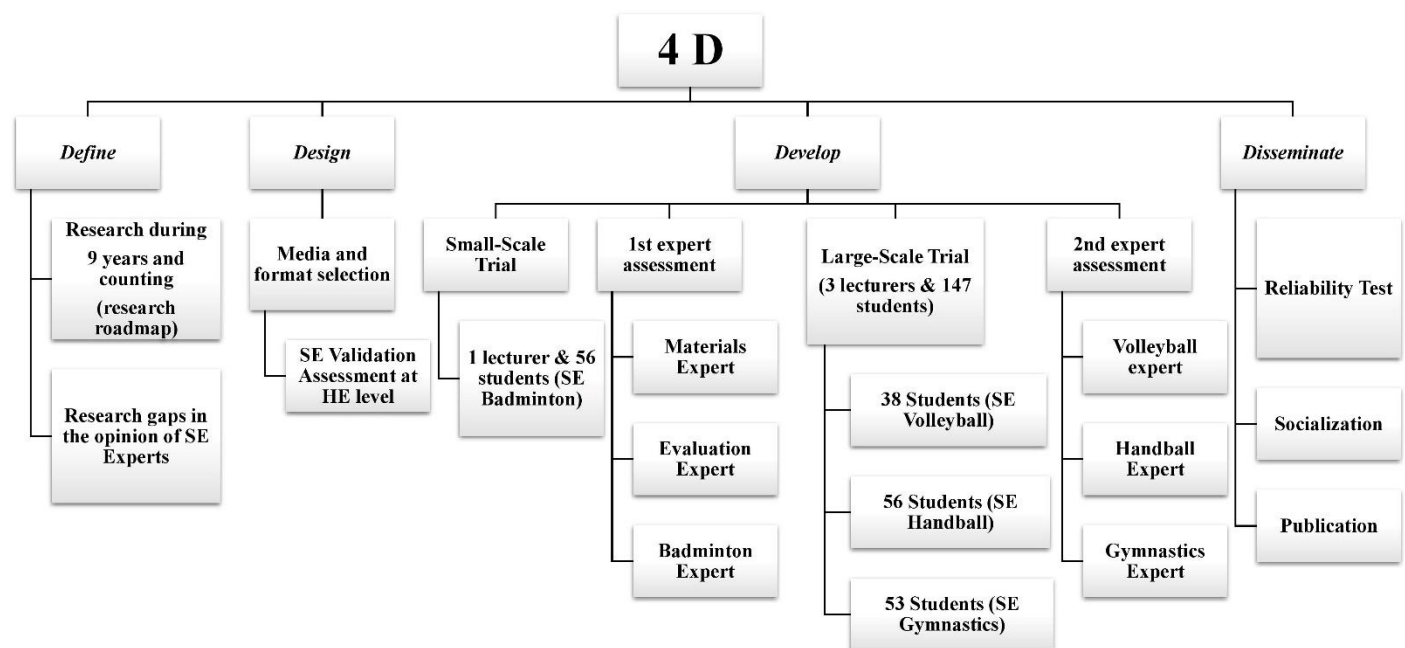


Figure 1. Research Procedures

Define Stage

The define stage, based on SE R&D from one of the sports study programmes in Indramayu district over the past nine years and continuing. This started with one of the lecturers in the sports study programme as dissertation material which was compiled starting in 2015 and ended in 2019 (Ginanjari, 2019a, 2019b). In 2019 SE was approved by the head of the sports study programme based on the agreement of all lecturers in the sports study programme to become a reference curriculum model in all practical courses which resulted in many SE publications from all lecturers in the sports study programme. In addition, there is a lack of research related to SE validation at the HE level because it still uses SE validation for junior high school as explained in the introduction.

Design Stage

The SE implemented in this study uses a three-phase SE consisting of skill/tactical development, inter/intra team games with practices, from postseason 15 lessons with each phase consisting of five lessons (Ginanjar, 2019a, 2019b) adapted from the work of (Perlman, 2011). Development of media forms and formats to be used which will be seen from planning and implementation so as to produce an initial product of SE validation assessment for HE level which is adapted based on the results of Ginanjar's research which is based on the six characteristics of SE and the responsibilities of teachers during implementing SE (Ginanjar, 2019a, 2019b) which was adapted from the work of (Perlman, 2010). To give an assessment of each assessment criterion both in the planning which is seen from the SE programme plan planned by the lecturer and the implementation which is seen from when the lecturer implements SE, 1 point is given for each appropriate assessment criterion and if it is not appropriate, 0 points are given. For more details, the initial form of SE validation for the HEI level can be seen in Table 1 which is used at the develop stage.

Table 1. Initial Product SE Validation Assessment

Assessment criteria	Sub-aspect of assessment	P	I
Season	Introduction and selection of sports		
	Role selection		
	Team selection and team name		
	Skill/tactical development phase		
	Phase Inter/intra team games with practices		
	Postseason phase		
Affiliation	Role as coach		
	Role as manager		
	Role as a player		
	Role as referee		
	Role as match recorder		
Formal Competition	Role as a publication		
	The official schedule of competitions		
Culminating event	Technical meeting		
	There is a final		
Keeping records	Award		
	Match sheet		
	Competition rules		
	Match system		
Festivity	Match results		
	There is news every week during the season		
	There is a distribution of awards at the end of the season		
Responsibility	Teachers adopt a facilitator approach during interactions with groups of students.		
	The teacher encourages students to resolve conflicts in groups.		
Total Score			
P = Planning and I = Implementation			

Development Stage

In the development stage, the HE level SE validation assessment sheet was tested, or called a small-scale trial, on one class in the badminton course involving 56 students, who were assessed using three expert judgments. One person is a material expert, one is an evaluation expert, and one is a badminton expert. Material experts are lecturers who are SE experts and have doctoral degrees with experience using SE and conducting research using SE for nine years. Expert evaluation by an evaluation expert lecturer with a master's degree and experience teaching evaluation courses for five years to look at the design of the HE-level SE validation assessment observation sheet. Badminton expert lecturers with master's degrees with experience teaching badminton courses for three years to see the suitability of badminton characteristics using SE. For information, the three expert judgments have also published research using SE. The selection of these three experts was adjusted to the needs of research on small-scale trials using badminton which is a racket sport, more individual, no body contact between players, and limited to the playing area with a net. This is associated with previous

research that is more team-based, invasion-based, there is body contact between players using basketball (Ginanjar, 2019a, 2019b) and futsal (Ginanjar et al., 2021b). At this stage, the three expert judgments after the SE badminton ended they dived to make the final version that would be used for the final product used in the large-scale trial.

After the small-scale trial, the assessment results, suggestions, and input from the three expert judgments on the HE level SE validation assessment sheet were updated. Then, a large-scale trial was carried out with three classes in the subject: volleyball involving 38 students, handball involving 56 students, and gymnastics involving 53 students, so a total of 147 students were involved in the large-scale trial. Three expert judgments, namely volleyball experts, used a volleyball expert lecturer with a master's degree with experience teaching volleyball courses for seven years. For handball, we used a lecturer who is an expert in handball and has a doctorate with experience teaching handball courses for seven years. For gymnastics, we used a lecturer who is an expert in gymnastics and has a doctorate with experience teaching gymnastics courses for eight years. The results of this large-scale trial were used to determine reliability. As additional information, all expert judgments in this research have been published research using SE. The selection of these three experts is adjusted to the needs of research on large-scale trials using volleyball which has slightly different characteristics such as badminton, where volleyball is a team, there is no body contact between players, and is limited to the playing area with a net. In this handball as a validation of the results of previous research which still uses validation at the junior high school level with sports characteristics that are more team-based, invasive, and there is body contact between players. Gymnastics has more individual characteristics and there is no body contact between players.

Dissemination Stage

In the dissemination stage, the reliability test used three classes after using SE in volleyball, handball and gymnastics subjects. The assessment used the final version of the SE validation sheet resulting from the expert judgments discussion on the small-scale trial.

Data Analysis

The results of the assessment of three expert judgment on large-scale trials were analysed using the Intraclass Correlation Coefficient (ICC) to determine inter-rater reliability using SPSS assistance according to the calculation procedure according to (Portney & Watkins, 2015). ICC can reflect correlation and agreement and can be used to assess reliability among two or more raters (Portney & Watkins, 2015). To determine the level of ICC, Table 2 can be seen in accordance with (Portney & Watkins, 2015)s.

Table 2. Interpretation of Correlation Coefficient

Correlation Coefficient	Relationship Level
0.00 – 0.25	Little
0.25 – 0.50	Fair
0.50 – 0.75	Moderate to Good
Above 0.75	Good to Excellent

RESULTS AND DISCUSSION

Small-Scale Trials Results

The results of small-scale trials in badminton courses involving 56 students who were assessed by three expert judgment, namely: material experts by SE expert lecturers, evaluation experts by evaluation expert lecturers, and badminton experts by badminton expert lecturers using the SE validation assessment in Table 1. The results of discussions from the three experts resulted in the addition of several sub-aspects of assessment and also the coding used as the final version of the SE validation assessment which can be seen in Table 3. SE validation is used to determine model fidelity and also as empirical evidence of MBP.

Table 3. Results of Small-Scale Trials for Assessing SE Validation

Assessment criteria	Code	Sub-aspect of assessment	P	I
Season	S_1	Introduction and selection of sports		
	S_2	Role selection		
	S_3	Team selection and team name		
	S_4	Students are involved in the role-selection process		
	S_5	Students are involved in the team selection process		
	S_6	Skill/tactical development phase		
	S_7	Phase inter/intra team games with practices		
	S_8	Postseason phase		
Affiliation	A_1	Each student gets a role.		
	A_2	Students stay during the final season with their team (coaches, managers, players (in the team roles) and referees, match recorders, publications (out the team roles))		
	A_3	Students continue to carry out their roles until the season ends		
	A_4	Coaches, managers and players (in the team roles) coordinate with each other		
	A_5	Referees, match recorders, and publications (out the team roles) coordinate with each other		
Formal Competition	FC_1	The competition schedule has been set before the match will start		
	FC_2	Technical meeting		
	FC_3	Match results are recorded well		
	FC_4	There is news about every match result		
Culminating event	C_1	There is a final		
	C_2	Team ranking awards		
	C_3	The best/fairest team		
	C_4	Best player		
	C_5	Top scorer/points if any		
Keeping records	K_1	Coaches create training programmes		
	K_2	Coaches provide training programmes to players		
	K_3	Managers create team contracts		
	K_4	Managers create team profiles		
	K_5	Referees make the rules and system of the match		
	K_6	Match recorders create match sheets and match systems		
	K_7	Referees and match recorders make technical meeting reports		
	K_8	Publications record all activities until the season ends		
	K_9	Publications provide news of all activities until the season ends		
	K_10	Combine all records from all roles as part of the record-keeping process		
Festivity	F_1	Each team profile has been published on social media		
	F_2	There is news every week during the season		
	F_3	The competition was lively		
	F_4	There is a distribution of awards at the end of the season		
Responsibility	R_1	The lecturer adopts a facilitator approach during interactions with all students involved in his role.		
	R_2	Lecturers encourage students to resolve conflicts within their teams if they occur.		
Total Score				
P = Planning and I = Implementation				

In season criteria related to the introduction and selection of sports that used in the learning process using SE can be adjusted to the needs and expertise of lecturers in the selected sport. Role selection with six roles involved, team selection, and team name are also related to whether students are involved in the selection of roles and teams. Keep in mind we need to first do role selection before doing team selection. As for the three phases, in the skill/tactical development phase with material restrictions in the form of technical and tactical training, in the inter/intra team games with practices with material restrictions in the form of team training and team trials to face competition, and in the postseason phase adjusted to what was delivered at the technical meeting in lesson 11.

In the affiliation criteria related to all students getting a role, ITR is always in one team and cannot move to another team or change the role obtained which is related to ITR coordinating during the lesson both in training and competing, OTR is the same as ITR cannot change the role obtained which is related to OTR coordinating with each other so that the competition runs smoothly until the end of the lesson.

In the formal competition criteria, the match schedule has been set which is the task of the referee and match recorder. Technical meetings are related to the preparation for the competition which is useful so that all participants involved know the rules of the sport used, the competition system used, and other rules that may be modified according to the chosen sport and the uniqueness of each chosen sport rule. The results of the matches are recorded properly, which is the job of the match recorder, who reports the results to the publicity role for the news.

In the culminating event criteria, it relates to the finals and as much as possible avoid competition formats that do not use finals because it affects the results of the excitement of the competition. This is characterized by the presence of several awards according to the characteristics of the sport used and as much as possible this is made as lively as possible with the distribution of trophies to all predetermined award criteria. In the keeping records criterion, it relates to the duties of each role involved in accordance with the development of the sports industry like a professional.

In the festivity criterion, it relates to the excitement of a sports competition, but it is not limited to the competition event, every time the team travels to do training and matches, news is also made by the publication role and given every week until the learning using SE is complete. While the lively competition and the distribution of awards at the end of the lesson marked by the final is related to what is described in the formal competition criteria section. In the responsibility criteria, it relates to the responsibility of the teacher during the implementation of SE which is seen from the interaction between lecturers and students.

Result of Large-Scale Trials and Inter-Rater Reliability tests

Large-scale trials were carried out with three classes in the subject: volleyball involving 38 students, handball involving 56 students, and gymnastics involving 53 students, so a total of 147 students were involved in the large-scale trials. Assessment sheet using the SE validation assessment sheet resulting from small-scale trials of Table 3. Three expert judgments for volleyball are made using a volleyball expert lecturer. For handball, use a handball expert lecturer. For gymnastics, use an expert gymnastics lecturer. The assessment results of the three expert judgments can be seen in Table 4. The inter-rater reliability can be determined in Table 5. To determine the correlation coefficient of the three sports used in both planning and implementation can be seen in Table 6.

Table 4. Assessment Results from the Three Expert Judgments

Code	Planning			Implementation		
	Volleyball	Handball	Gymnastics	Volleyball	Handball	Gymnastics
S_1	1	1	1	1	1	1
S_2	1	1	1	1	1	1
S_3	1	1	1	1	1	1
S_4	1	1	1	1	1	1
S_5	1	1	1	1	1	1
S_6	1	1	1	1	1	1
S_7	1	1	1	1	1	1
S_8	1	1	1	1	1	1
A_1	1	1	1	1	1	1
A_2	1	1	1	0	0	1
A_3	1	1	1	1	1	1
A_4	1	1	1	1	1	1
A_5	1	1	1	1	1	1
FC_1	1	1	1	1	1	1
FC_2	1	1	1	1	1	1
FC_3	1	1	1	1	1	1
FC_4	1	1	1	1	1	1

Code	Planning			Implementation		
	Volleyball	Handball	Gymnastics	Volleyball	Handball	Gymnastics
C_1	1	1	1	1	1	1
C_2	1	1	1	1	1	1
C_3	0	0	0	0	0	0
C_4	0	0	0	0	0	0
C_5	1	0	0	1	0	0
K_1	1	1	1	1	1	1
K_2	1	1	1	1	1	1
K_3	1	1	1	1	1	1
K_4	1	1	1	1	1	1
K_5	1	1	1	1	1	1
K_6	1	1	1	1	1	1
K_7	1	1	1	1	1	1
K_8	1	1	1	0	0	1
K_9	1	1	1	0	0	0
K_10	1	1	1	1	1	1
F_1	1	1	1	1	1	1
F_2	1	1	1	1	1	1
F_3	1	1	1	1	1	1
F_4	1	1	1	1	1	1
R_1	1	1	1	1	1	1
R_2	0	0	0	1	1	1

Table 5. Inter-Rater Reliability Results

Intraclass Correlation Coefficient	Planning	Implementation
Inter-rater reliability	0.965	0.912

Table 6. Correlation Coefficient of the Three Sports Used in the Large-Scale Trial

Inter Item Correlation	Planning	Implementation
Volleyball - Handball	0.854	0.899
Volleyball - Gymnastics	0.854	0.628
Handball - Gymnastics	0.854	0.792

From the results in Table 5, the inter-rater reliability at the implementation stage was 0.965, which was at a good to excellent coefficient. The planning assessment stage was seen in the first lesson between lecturers and students in planning the learning season using SE. At the implementation stage, the inter-rater reliability was 0.912, which was at a good to excellent coefficient. Table 6 is to see the correlation coefficient of the three sports used. In the planning of the three sports used is 0.854 which is in the good to excellent coefficient. Whereas the implementation between volleyball and handball is 0.899 and handball and gymnastics is 0.792 which is at a good to excellent coefficient. The difference between volleyball and gymnastics is 0.628 which is at a moderate to good coefficient.

The implementation assessment stage is seen from each lesson as many as 15 lessons. For the form of activities for each lesson that uses SE, especially the three-phase SE, it can be seen in Table 7 which has also been confirmed in the SE reference book at the HE level (Agustin et al., 2023; Ginanjar et al., 2021; Ginanjar et al., 2021b), which was later confirmed in research by Ginanjar, et al. (Ginanjar et al., 2023; Ginanjar et al., 2021a) with a combination of learning models such as Direct Instruction (DI), Student Team Achievement Division (STAD), and Teams Games Tournaments (TGT). However, in the development of research and use of SE, especially three-phase SE, which uses a learning model, it is not very practical because students who act as trainers have difficulty providing training using three-phase SE, which combines DI, STAD, and TGT learning models related to understanding using this learning model. From the results of these findings, in the three-phase SE in this research, the role of the coach is given the freedom to provide forms of training at each meeting with limitations in the skill/tactical development phase, material in the form of technical and tactical exercises, in the inter/intra team games with practices phase, the material is in the form of training. Team and trials within the team to face the competition, and in the postseason phase, it remains adjusted to what was

conveyed at the technical meeting. The results obtained have had a positive impact by giving students the freedom to act as coaches to express themselves according to their team's needs, and this has become an SE program that continues to develop and continues to be used in research and the use of SE in further learning processes. This change is also based on a three-phase SE learning assessment form that uses documentation portfolio assessment (Agustin et al., 2023). Thus, this three-phase SE can confirm changes in the shape of the three-phase SE resulting from the work of Ginanjar, et al. (Ginanjar et al., 2023; Ginanjar et al., 2021a).

Table 7. Three-Phase SE for HE in Sports Study Programmes

Fase	Lesson	Programme
Skill/tactical development	1	• Introduction • Too wordy, less relevant • Introduction and selection of sports • Role selection (ITR and OTR) • Team selection and team name • Role rules and role contracts
		ITR
		OTR
	2	• Technical training or tactical training • Coach = reports on training programmes and provides training programmes to players • Manager = role contract reports, prepares team needs, assists coaches, and is absent for the entire team • Players = train according to the coach's instructions
		ITR
		OTR
Skill/tactical development	3	• Technical training or tactical training • Coach = reports on training programmes and provides training programmes to players. • Manager = team profile reports, preparing team needs, assisting the coach, and absences for the entire team. • Players = train according to the coach's instructions
		ITR
		OTR
	4	• Repeating the findings and discussion • Technical training or tactical training • Coach = reports on training programmes and provides training programmes to players. • Manager = preparing team needs, assisting the coach, and absences for the entire team • Players = train according to the coach's instructions
		ITR
		OTR
Inter/intra team games with practices	5	• Referee = report on the preparation of match rules • Match recorder = match sheet preparation report • Publications = reporters of team training activities and news reports on social media
		ITR
		OTR
	6	• Referee = coordinates with the match recorder to prepare the match system • Match recorder = coordinates with the referee to prepare the match system • Publications = reporters of team training activities and news reports on social media
		ITR
		OTR

Fase	Lesson	Programme
	7	• Players = train according to the coach's instructions ITR Team training and trials between players in the team • Coach = reports on training programmes and provides training programmes to players • Manager = preparing team needs, assisting the coach, and absences for the entire team • Players = train according to the coach's instructions OTR • Referee = match system report • Match recorder = match system report • Publications = reporters of team training activities and news reports on social media
	8	ITR Team training and trials between players in the team • Coach = reports on training programmes and provides training programmes to players • Manager = preparing team needs, assisting the coach, and absences for the entire team • Players = train according to the coach's instructions OTR • Referee = coordinates with the match recorder for the preparation of technical meetings • Match recorder = coordinates with the referee to arrange technical meetings • Publications = reporters of team training activities and news reports on social media
	9	ITR Team training and trials between players in the team • Coach = reports on training programmes and provides training programmes to players • Manager = preparing team needs, assisting the coach, and absences for the entire team • Players = train according to the coach's instructions OTR • Referee = continuation of preparation of technical meetings • Match recorder = continuation of preparation of technical meetings • Publications = reporters of team training activities and news reports on social media
	10	ITR Team training and trials between players in the team • Coach = reports on training programmes and provides training programmes to players • Manager = preparing team needs, assisting the coach, and absences for the entire team • Players = train according to the coach's instructions OTR • Referee = technical meeting report • Match recorder = technical meeting report • Publications = reporters of team training activities and news reports on social media
Postseason	11	Technical meeting ITR • Coach = competition participant • Manager = competition participant and absences for the entire team • Players = competition participant OTR • Referee = competition committee • Match recorder = competition committee • Publications = reporters and news reports on social media
	12, 13, 14	Postseason tournament ITR • Coach = prepare the team to compete • Manager = preparing team needs, assisting the coach, and absences for the entire team • Players = compete OTR • Referee = officiating the match • Match recorder = record match results • Publications = reporters, commentators, and news reports on social media
	15	Final - Celebrations and awards ITR • Coach = prepare the team to compete • Manager = preparing team needs, assisting the coach, and absences for the entire team • Players = compete OTR • Referee = officiating the match • Match recorder = record match results • Publications = reporters, commentators, and news reports on social media

From the results obtained, this research provides new findings related to the reliability of SE at the HE level. Thus, this research supports the results of research that has used three-phase SE at the junior high school level (Ginanjari, 2019a, 2019b; Perlman, 2012). Validation needs to be carried out to avoid doubts about the three-phase SE at the HE level, which is often used in various research and as a pedagogical model used in the learning process. In accordance with the statement that it is necessary to ask to what extent students respond to learning associated with the model fidelity by teachers (Casey et al., 2015) and it is necessary to be thorough in empirical studies of MBP (Hastie & Casey, 2014).

In the culminating event assessment criteria in the reference book, it is recommended to use five sub-aspects of assessment to maintain effectiveness in using SE, which have also been validated and confirmed in small-scale trials by SE experts, evaluation experts and badminton experts. However, from the planning stage, handball only uses three sub-aspects of assessment without including sub-aspects of assessment C_3 and C_4. Confirmation results from lecturers who taught using SE volleyball in this study stated that these three sub-aspects were felt to be the most needed, and it was also confirmed that at the implementation stage, only three awards were distributed. The same thing happens in volleyball and gymnastics, which only use two sub-aspects of assessment. The confirmation results from two people who taught using SE stated that the two sub-aspects used were the most important and confirmed at the implementation stage. The lecturer who teaches gymnastics stated that C_5 is not suitable for gymnastics. This can be seen in every student who plays the role of the player winning the championship in each gymnastics branch in the competition. In volleyball, sub-aspect C_5 is not used. This was an agreement between lecturers and students at the planning stage that this sub-aspect should be removed because it was too complicated to record. While the similarities between C_3 and C_4 were not included, they reasoned that little work could be done. However, the culminating event can be adjusted to what is contained in various forms of sports. The culminating event is an integral part that provides a lively experience of various sports for all students (Siedentop et al., 2011). Furthermore, modifications to the culminating event are important and more important than model fidelity if the modifications are based on student needs (Harvey et al., 2020).

Apart from that, at the planning stage in the responsibility assessment criteria in R_2, all lecturers who teach do not provide understanding to students and each team if a conflict occurs to resolve the conflict. The results at the implementation stage, even though it is not a significant conflict, lecturers still provide warnings and suggestions; they must be able to resolve the conflict, such as the role of a coach who is unable to attend can be replaced by the role of manager or team captain who replaces the role of coach. This is in line with the statement that it is the teacher's responsibility to ensure that all necessary materials are available to help the season run smoothly (Siedentop et al., 2011). Furthermore, do not assume that teachers do not teach in SE because they actually teach more, such as: when students take on roles, teachers need to learn what the role requires and get the opportunity to play the role and teachers are responsible for creating an environment in which students can learn according to their roles (Siedentop et al., 2011). In line with this, SE is considered to be of great importance for teachers who are responsible for choosing better pedagogical approaches for learning (Rocamora et al., 2019).

Apart from that, the results at the implementation stage show that the publication role can still not carry out its duties, such as fulfilling the criteria for assessing and keeping records in K_8 and K_9. Not all publication roles can maintain their duties, such as recording all activities throughout the season and making news on social media that has been prepared using WhatsApp groups. But they still do over 80% of what needs to be done. This is also not without reason because the publication role has many assessment points to fulfil, which are assessed using an assessment of the documentation portfolio from the reference books used (Agustin et al., 2023). Furthermore, one of the industries that has grown strongly in sports is the rise of sports journalism, not only reporting scores and game highlights, but also offering detailed explanations of sporting events (Siedentop et al., 2011).

The large correlation coefficient values were obtained at the planning and implementation stages using three-phase SE at the HE level, which is in the powerful category. This can prove that SE is indeed linked to OBE, which has the principle of OBLT as the basis of the MBKM curriculum and can also confirm that SE can indeed fulfil KPI 7 points 1, 2 and 3, where SE at this planning stage is case method learning, competition

at the end of the season as a project that must be implemented with all roles involved in it, and an assessment that uses a documentation portfolio assessment with a final score weight of 50% based on case method and project learning participation. In this way, it can create innovative learning. With the roles involved in this research. This is in accordance with the development of the sports industry as a profession that can become professional. For example in soccer, soccer players in Indonesia who can reach billions of rupiah such as the opinion that the salaries of Indonesian soccer players reach billions of rupiah (Nugroho, 2022), as well as the coach (Hartono & Kusuma, 2023), and referees in one match can provide more than enough income and even in the current year will be increased (Kristianto, 2022; Ramadhan, 2022). This is in line with the hopes of the MBKM curriculum, which wants the learning process to be able to facilitate the challenges of the *Dunia Usaha dan Dunia Industri* in Indonesian (DUDI) (Junaidi et al, 2020), in English, which means the business world and the industrial world. This is due to social, cultural, scientific, technological and world-of-work changes, which are increasingly developing rapidly in the era of Industrial Revolution 4.0 (Junaidi et al, 2020; Direktorat Pembelajaran dan Kemahasiswaan, 2024).

Validation related to SE for HE in sports study programmes in this study still has a lack of validation in martial arts sports. Martial arts sports have characteristics that are very different from the sports that have been carried out in this study which allow full body contact. Therefore, for further research, it is recommended to complete the validation of SE in HE with martial arts sports or sports that have not been confirmed in this study. Regarding OBLT, SE identifies strong alignment with the principled OBE framework of MBKM. SE encourages students' engagement through structured roles in the learning process, which can foster skills that are important for personal and professional development with the roles involved as described earlier. Further research is recommended to use the three-phase SE which can be seen in Table 7 as a guideline for the SE program for HE in sports study programmes and use validation instruments to determine the inter-rater reliability of each expert judgment in Table 3.

CONCLUSION

This research concludes that SE, as a reference model for the HE-level curriculum in sports study programs, is very reliable in planning and implementation. The roles involved in SE are by the development of the sports industry, which is in line with DUDI's challenges in realising the MBKM curriculum, which was created in an innovative learning situation using case method and project learning. This research suggests that sports study programmes in Indonesia use SE as a pedagogical model in the learning process, strongly emphasising OBE based on OBLT principles as the basis of the MBKM curriculum. Further validation and research need to be carried out on SE, especially in martial arts sports, because research has yet to be carried out using martial arts sports.

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CONFLICT OF INTEREST

All researchers stated that they had no conflict of interest.

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