Physical Education Teacher Perspectives on *Kurikulum Merdeka* and Sport Education Model: A Rasch Model Analysis

Lutfi Nur*[1], Teten Hidayat[2], Arief Abul Malik[3]

[1]PGSD Kampus Tasikmalaya, Universitas Pendidikan Indonesia, Indonesia
[2]Physical Education and Recreation Studi Program, Universitas Pendidikan Indonesia, Indonesia
[3]Physical Education Studi Program, Universitas Siliwangi, Indonesia

Article Info	Abstract
	Changes and implementations of the new curriculum require a careful preparation and information about the Independent Curriculum, known as Kurikulum Merdeka. The learning model used needs to be explored as an illustration of teacher understanding. This study aimed to examine teacher perspectives regarding their understanding of the Kurikulum Merdeka and the Sport Education Learning Model. The cross-sectional survey method was used to collect data. Data were collected using Google Form filled by 74 teachers. The research instrument was in a Likert scale form and consisted of 30 questions focused on exploring teacher understanding of the Kurikulum Merdeka, the Sport Education (SEM) Learning Model, the SEM Phases/Syntax, the roles existing in the implementation of the SEM Model, and the importance of understanding curriculum and learning models in school. Then, 15 open-ended questions related to models often used by teachers, training expectations to follow, and obstacles experienced during learning at school were given. The research data were processed using Winsteps 5.2.3 software. The Rasch Model analysis was used to analyze the instruments made and the results of the teacher understanding perspective. The results showed that the instrument was valid for use. Related to the results of the teacher perspective, 48.6% of Physical Education teachers had an understanding and belief in the importance of the Kurikulum Merdeka and the SEM model in elementary schools at a high level. Meanwhile, 12. 2% were at the moderate level and 39.2% were at the low level. These findings can be used as a reflection related to the teacher understanding of the Kurikulum Merdeka and the Sport Education Learning Model and as a reference in arranging training needed for Physical Education teachers in the field.

✉ Correspondence Address : Jl. Dadaha No.18, Kab. Tasikmalaya, Jawa Barat 46115   *https://ejournal.upi.edu/index.php/penjas/index*
E-mail   : lutfinur@upi.edu

INTRODUCTION

This research was aimed at exploring teacher understanding regarding the implementation of the Independent Curriculum, known as Kurikulum Merdeka, and the Sport Education Learning Model (SEM). This study was motivated by the education curriculum development occurred in Indonesia (Putwain & von der Embse, 2019) and the need to explore teacher understanding regarding the Sport Education Learning Model, which has been used in many countries and has a positive impact on learning (Pill et al., 2023). However, research related to the SEM model is still limited in Indonesia, especially related to the syntax of the SEM model. The syntax of the SEM model can be applied in the Kurikulum Merdeka, especially for Strengthening the Profile of Pancasila Student (P5), known as Pelajar Pancasila, because it has a festival characteristic at the end of the syntax which is in line with P5 Project presentation at school. The education curriculum in Indonesia has undergone many changes, starting from the 1947 Curriculum (the Rentjana Pelajaran 1947) to the latest term, the Kurikulum Merdeka (Muth'im, 2014). The Kurikulum Merdeka is one of the government programs to restore learning due to the learning loss, known as the decrease of student learning outcomes due to gaps in access and quality of learning, especially when learning was carried out during the Covid-19 pandemic (Heryahya et al., 2022). Apart from that, other studies state that the impact of learning loss from distance learning become the basis for the Kurikulum Merdeka (Rachmawati et al., 2022). Of course, teachers must respond to the changes in the curriculum wisely and must be able to adapt appropriate learning models to apply the existing curriculum development so that the predetermined learning outcomes can be achieved optimally.

In connection with curriculum changes, previous research in various countries had studied and reflected on the views of teachers and academics regarding curriculum changes occuring in their countries, such as research conducted in Korea by Lee & Cho (2014) revealling that 1) Physical Education was still considered a minor subject compared to other subjects, such as mathematics or science; 2) the philosophy and main principles used to build the framework of movement activities were mostly based on Western concepts and approaches; and 3) many students were still physically unfit and passive in their daily lives, indicating that the curriculum had not been effective so that further changes were needed to refocus Physical Education curriculum. Another study was conducted in China by Jin (2013), identifying how PE teachers understand, interpret, and respond to curriculum reform and examining key barriers that might prevent PE teachers from actively implementing the new Physical Education and Health (HPE) curriculum. The study revealed that, in general, teachers strongly supported the broad direction of the new HPE curriculum. However, the data revealed a number of structural, personal, and cultural factors that might have prevented PE teachers from actively implementing the new HPE curriculum. Another study was conducted by Thorburn, Jess, & Atencio, (2011), analyzing the potential contribution of Physical Education as part of 'health and wellbeing' during the revised curriculum period in Scotland. The study found that although there were challenges in its implementation, Physical Education teachers had to be able to continue actively taking advantage of existing policy opportunities. Therefore, as a teacher, a Physical Education teacher must be able to understand and integrate learning models that are appropriate to the characteristics of the students and the curriculum used.

In the learning process, a teacher will use a learning model that they feel appropriate to use according to the characteristics of their students (Casey & MacPhail, 2018). In Physical Education Learning, Metzler (2000) states that there are seven commonly used learning models, one of them is the Sport Education Model (SEM). SEM is a student-centered and team-based learning model where each team has the responsibility to choose strategies, carry out games independently, and involve all team members in every stage of the activity (O'Neil & Krause, 2016). SEM was first introduced by Siedentop's in 1994. The original conceptualization stemmed from his desire to help students develop theirselves, in Physical Education, as players in the fullest sense and to help them become competent, educated, and enthusiastic sportsmen (Harvey, 2020). SEM integrates six main characteristics of sports into its model, including seasons, affiliations, formal competitions, record keeping, celebrations, and peak events (Hastie et al., 2011). In connection with the Kurikulum Merdeka, the curriculum includes the Program for Strengthening the Profile of Pancasila Students (P5). SEM is considered the right model to be integrated in

the project because one of the characteristics of SEM, the peak event or festival, is in line with P5 activities, namely displaying the results of the project at the end of the activity.

The SEM learning model has been implemented in many countries (Pill et al., 2023) in various sports and has a positive impact in improving physical skills, social learning, attitudes, and social values of students from various educational levels and types of sports (Hastie et al., 2011). Other research reinforces that SEM is an appropriate teaching model for promoting a cooperative, participatory, and holistic learning in Physsical Education and sports (Ayvazo, 2009; Manninen & Campbell, 2022; Wallhead et al., 2014). However, in Indonesia, there has not been many research related to SEM, although other countries have implemented it and studied the perspectives of academics and Physical Education teachers regarding the application of SEM, such as research of Wallhead et al., (2021) related to academics perspectives on the future of SEM, concluding that academics highlighted the need for research that maps teacher use of models, including the features they use consistently and why they stick with them to drive student learning outcomes. Future empirical efforts need to address the model contribution to broader curriculum outcomes and a potential agent of change in contemporary Physical Education curriculum design. Another study was conducted by Harvey et al., (2020) regarding Physical Education teacher perceptions of various dilemmas when integrating SEM into their curriculum. The study revealed that a conceptual shift is needed to embrace student-centered instructional modalities, despite contextual challenges, such as existing curricular structures and available resources that often lead to modified versions of SEM in instructional practices, student learning outcomes associated with this shift seem positive. Further studies are recommended to broadly understand the views and understanding of teachers in implementing SEM in schools, especially the conceptual issues such as understanding of models, pedagogical planning, the SE season management, and so on. The Rasch analysis model is applied to validate the instrument used and present a comprehensive analysis. Therefore, further research related to teacher perceptions regarding the curriculum and the application of learning models, especially the SEM learning model, needs to be carried out to obtain more comprehensive information data.

This research is an initial study of a series of research to develop a Sport Education learning model based on local cultural wisdom material to strengthen the Pancasila Student Profile in supporting the Kurikulum Merdeka in Elementary Schools. The aim of writing this article was to examine teacher perspectives regarding the Kurikulum Merdeka and the Sport Education Learning Model in Elementary Schools.

METHODS

The research was conducted using a cross-sectional survey method, a survey where data are collected at one point of time from a certain population (Ary et l., 2018). Researchers measured the results of respondent exposure at the same time to record or describe teacher perspectives regarding the Kurikulum Merdeka and Sports Education learning models in elementary schools. Participants of this research were Physical Education teachers in elementary schools, consisting of 74 people from different regions in West Java, Indonesia, (age mean of 33.12 with an SD of 6.87; mean of teaching experience of 8.20 with an SD of 5.94; range of teaching experience from 1 to 20 years).

Data collection was carried out using an online questionnaire (Google Form) to map teacher perspectives regarding the Kurikulum Merdeka and the Sport Education learning model in elementary schools. In this case, the researcher collaborated with the Sports Teachers Association (named IGORA) to distribute the questionnaire and used the identity data of the respondents to ensure the questionnaire was right on target. The research instrument consisted of 45 questions, including 30 Likert scale questions focused on exploring teacher understanding of the Kurikulum Merdeka, Sport Education (SEM) Learning Model, SEM Phases/Syntax, the roles existing in implementing the SEM Model, and the Importance of Understanding Curriculum and Learning Models in schools, 9 questions related to their interests in further training adapted from previous research (Bruijns et al., 2022), and 6 open questions related to models they often used, expectations of the training they would like to participate, and obstacles experienced during learning process at school. The grid of the instrument of this research is presented in Table 1.

The questionnaire instrument was adapted from previous research (Burgueño et al., 2022; Nur et al.,

Table 1. Questionnaire Instrument Grid

No	Indicators	No. Item
1	Understanding of the *Kurikulum Merdeka*	1-7
2	Understanding of the Sport Education	8-11
3	Understanding of the Phase/Sintax of Sport Education Model	12-15
4	Understanding of the Roles in Sport Education Model	16-22
5	The Importance of understanding the curriculum and learning models	23-30

Table 2. Questionnaire Instrument Validation Results

No. Item	MNSQ	ZSTD	Pt. MC	Description
1	1.44	2.52	0.42	Valid
2	1.18	1.12	0.62	Valid
3	0.82	-1.19	0.66	Valid
4	0.81	-1.23	0.70	Valid
5	0.96	-0.21	0.67	Valid
6	1.01	0.10	0.63	Valid
7	0.93	-0.38	0.67	Valid
8	0.90	-0.60	0.66	Valid
9	0.89	-0.68	0.79	Valid
10	0.77	-1.50	0.82	Valid
11	0.60	-2.94	0.84	Valid
12	0.62	-2.70	0.85	Valid
13	0.60	-2.88	0.84	Valid
14	0.57	-3.09	0.87	Valid
15	0.63	-2.61	0.84	Valid
16	0.71	-2.03	0.85	Valid
17	0.85	-0.97	0.82	Valid
18	0.75	-1.71	0.84	Valid
19	0.88	-0.74	0.81	Valid
20	1.08	0.56	0.71	Valid
21	0.96	-0.20	0.77	Valid
22	0.91	-0.53	0.81	Valid
23	1.35	1.35	0.61	Valid
24	1.32	1.16	0.57	Valid
25	1.16	.64	0.63	Valid
26	1.34	1.44	0.55	Valid
27	1.77	3.66	0.47	Valid
28	1.51	1.98	0.54	Valid
29	1.29	1.06	0.57	Valid
30	1.46	1.55	0.51	Valid

2022; Wallhead et al., 2021) and had been validated and analyzed using the item fit order procedure through Rasch modeling as shown in Table 2.

Table 2 presents the results of the validation calculations for each questionnaire instrument item by referring to the criteria used to measure item validity in Rasch modeling, namely 1) Logit 0.5 <MNSQ <1.5; 2) Logit -2.0 <ZSTD <+2.0; and 3) Logit 0.4 <Pt. MC. <0.85; an item is declared valid if it meets one of these criteria (Boone et al., 2013). Based on the results of the analysis in Table 2, all items in the teacher perspective survey instrument related to the Kurikulum Merdeka and the Sport Education learning model in elementary schools were valid and could be used for data collection.

Next, all survey data collected via Google Form were entered into a Microsoft Excel file and analyzed using the WINSTEPS application version 5.3.2, a measurement software using Rasch modeling for validation, data cleaning, item difficulty and individual ability calibration, and description of the relationship between the level of difficulty of items and individual abilities using the same unit scale known as scaled logit (Linacre, 2012).

RESULT

Mapping analysis of teacher perspective regarding the Kurikulum Merdeka and the Sport Education learning model in elementary schools was carried out using Rasch modeling to determine the extent to which an instrument can measure diversity so that it can be seen whether the instrument can measure what it should measure (Andrich, 2010; Higgins, 2007). The results of the data collection were then analyzed for data cleaning

Table 3. Summary of Person Measure Data, N=74 (Data Cleaning Results)

	Total Score	Count	Measure	Model Error	Infit		Outfit	
					MNSQ	ZSTD	MNSQ	ZSTD
Mean	104.8	30	1.39	0.32	.99	-.45	1.00	-.35
Standar Deviation	17.2	0.0	1.85	0.02	.59	2.45	.56	2.27
Max.	144	30	9.16	0.47	2.51	4.40	2.28	3.90
Min.	55	30	-3.71	0.31	0.06	-6.32	0.07	-6.03
Real RMSE	0.36	TRUE SD	1.71	Separation	4.20	Person	Reliability	0.96
Model RMSE	0.32	TRUE SD	1.72	Separation	4.48	Person	Reliability	0.97

Standard Error of Person Mean = 0.20
Cronbach Alpha Person Raw Test Reliability = 0.96

Table 4. Level of Understanding of Kurikulum Merdeka Items and Sport Education Learning Model in Elementary School

Indicators	No	Items	Logit Item	Logit Value Item (LVI)			
				Very Difficult LVI > 1.62	Difficult +1.62 ≥ LVI ≥ 0.00	Easy 0.00 ≥ LVI ≥ −1.62	Very Easy LVI < −1.62
Understanding related to *Kurikulum Merdeka*	1	How much do you understand the *Kurikulum Merdeka*?	0.99		√		
	2	How much do you understand the Planning of the Project for Strengthening the Pancasila Student Profile?	0.95		√		
	3	How much do you understand the learning achievement phase of the *Kurikulum Merdeka* ?	0.88		√		
	4	How much do you understand the designing of the learning objective flow of the *Kurikulum Merdeka*?	0.84		√		
	5	How much do you understand the construction of teaching modules in Physical Education learning?	0.80		√		
	6	How much do you understand the use and development of teaching tools in designing learning in *Kurikulum Merdeka*?	0.92		√		
	7	How much do you understand the design of learning evaluation/ assessment in Physical Education learning?	0.80		√		
Understanding related to Sport Education Learning Model	8	How much do you understand the learning model used in Physical Education?	0.16		√		
	9	How much do you understand the concept of the Sport Education Learning Model?	0.95		√		
	10	How much do you understand the lesson planning using the Sport Education Learning Model?	0.95		√		
	11	How much do you understand the design of learning evaluation/ assessment using the Sport Education learning model?	1.26		√		
Understanding related to Phase/Sintax of Sport Education Learning Model	12	How much do you understand the phases in implementing the Sport Education Learning Model?	1.26		√		
	13	How much do you understand the skill/tactical development phase in implementing the Sport Education Learning Model?	1.54		√		
	14	How much do you understand the inter/intra team games with practice phase in implementing the Sport Education Learning Model?	1.70	√			
	15	How much do you understand the Postseason phase in implementing the Sport Education Learning Model?	1.86	√			
Understanding related to Roles in Sport Education Learning Model	16	How much do you understand the types of roles in implementing the Sport Education Learning Model?	0.99		√		
	17	How much do you understand the role of the Coach (role in the team) in implementing the Sport Education Learning Model?	0.65		√		
	18	How much do you understand the role of the Manager (role in the team) in implementing the Sport Education Learning Model?	0.73		√		
	19	How much do you understand the role of Players (roles in the team) in implementing the Sport Education Learning Model?	0.57		√		
	20	How much do you understand the role of the Referee (a role outside the team) in implementing the Sport Education Learning Model?	0.54		√		
	21	How much do you understand the role of Match Recorder (a role outside the team) in implementing the Sport Education Learning Model?	0.69		√		
	22	How much do you understand the role of Publication (a role outside the team) in implementing the Sport Education Learning Model?	0.80		√		
The Im-portance of understanding curriculum and learning models	23	How important is it to know the latest curriculum developments?	-2.67				√
	24	How important is it to update your understanding of the latest curriculum?	-2.88				√
	25	How important is it to know the Physical Education models that will be applied in learning?	-2.93				√
	26	How important is it to apply appropriate Physical Education models in learning?	-2.47				√
	27	How important is it to apply the Sport Education Learning Model in Physical Education Learning?	-1.49				√
	28	How important is it to plan Physical Education learning activities?	-2.52			√	
	29	How important is it to create an environment that encourages active play in Physical Education learning?	-2.93				√
	30	How important is it to evaluate Physical Education learning?	-2.93				√
N				2	20	1	7

process based on the respondent entries, which can be seen in Table 3.

Table 3 shows the results of respondent data cleaning. None of the collected respondent data was eliminated (there was no maximum or minimum extreme measure), so that the data from 74 respondents were eligible to be analysed at the next stage, namely to examine the interaction between respondent characteristics and the 30 questionnaire items. In addition, the item separation index showed the distribution of the easy and difficult items (Trantham, et al., 2021). Therefore, the consistency of the respondent was determined by the respondent ability index (Nguyen & Seong, 2014). The greater the separability value, the better the instrument at identifying broader groups of respondents (able-unable) and item groups (difficult-easy) (Parkitny et al., 2012; Sumintono & Widhiarso, 2015). In Table 3, the data cleaning results showed that the instrument could identify 4 groups of items based on person separation (4.20). Meanwhile, the Cronbach Alpha Person value measured the reliability of interactions between people and items as a whole. Cronbach Alpha Person had a value of 0.96. Referring to the criteria proposed by Fisher (2007), the score is in the very good category because the value is above 0, 5 so that the interaction between respondents and items was in the very good quality. The mapping of teacher perspectives regarding the Kurikulum Merdeka and Sports Education learning models in elementary schools can be seen in Table 4.

Table 4 provides information about the understanding and importance of the Kurikulum Merdeka and Sports Education learning model in elementary schools. The information is explained by the logit item value (LVI), showing that Physical Education teachers had difficulty in understanding the Kurikulum Merdeka, Sports Education learning model, phases/syntax of Sports Education learning model, and the roles in the Sports Education learning model. However, the results of other analysis showed that Physical Education teachers believed that it is important to understand the Kurikulum Merdeka and learning models in implementing Physical Education learning. The distribution map for item difficulty levels can be seen in Figure 1. The distribution map of the level of understanding and the importance of the Kurikulum Merdeka and the Sports Education learning model in elementary schools can be seen in Figure 1.
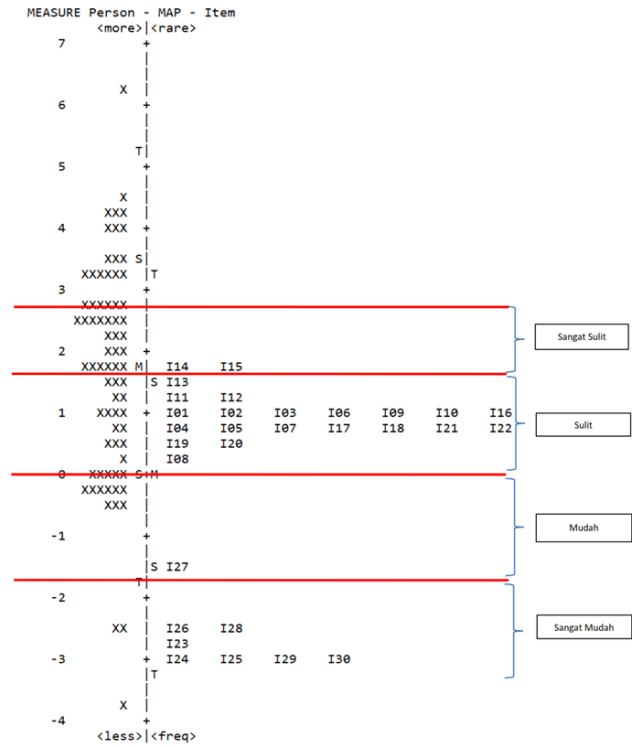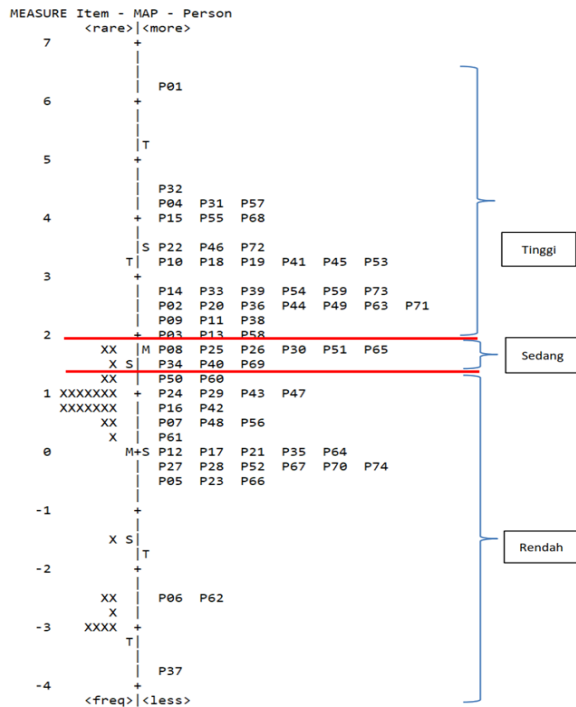

Figure 1. Wright Map to show the map of teacher perspective questionnaire items regarding the *Kurikulum Merdeka* and Sports Education learning models in elementary schools

Table 5. Logit Value of Persons (LVP) Perspective of PE Teachers in Elementary Schools (N= 7

Classification	High LVP ≥ 1.85	Moderate 1.85 < LVP < 1.39	Low LVP ≤ 1.39
Total (%)	36 (48.6%)	9 (12.2%)	29 (39.2%)

In Table 5, the level of understanding and belief of the importance of the Kurikulum Merdeka and the Sports Education learning model in elementary schools were divided into 3 categories, namely high, moderate, and low. Categorization was carried out by combining the mean value with the standard deviation. The respondent separation index showed that the scale differentiated the teachers very well. The results show that 48.6% of Physical Education teachers had an understanding and belief of the importance of Kurikulum Merdeka and Sports Education in elementary schools at the high level, 12.2% at the moderate level, and 39.2% at the low level. The visualization of the mapping of the Physical Education teacher perspectives regarding the

Kurikulum Merdeka and Sports Education learning models in elementary schools can be seen from the Wright map analysis providing information about the distribution of items and respondents (Bond & Fox, 2013). The distribution map can be seen in Figure 2.

The results of the questionnaire regarding the models often used by teachers, interests and expectations of the training they wanted to participate, and the obstacles experienced during learning process at school

Figure 2. Wright Map to show the level of understanding of Physical Education teachers regarding the *Kurikulum Merdeka* and Sports Education learning models in elementary schools

Table 6. Understanding and Implementation of Physical Education Learning Models (N= 74)

Topics	Category	N	%
Physical Education learning models that you know	1	0	0%
	< 3	10	14%
	< 5	32	43%
	< 7	19	26%
	More than 7	13	18%
Learning models that you have or often use when teaching	1	1	1%
	< 3	26	35%
	< 5	34	46%
	< 7	8	11%
	More than 7	5	7%
Learning models that you have or often use when teaching	Direct Instruction	39	53%
	Personalized System for Instruction (PSI)	19	26%
	Cooperative Learning	36	49%
	Sport Education Model (SEM)	21	28%
	Peer Teaching Model	26	35%
	Inquiry Teaching	24	32%
	Tactical Games Model (TGM)	33	45%
	Problem Based Learning	39	53%
	Project Based Learning	31	42%

Table 7. Teacher interests in further trainings on the *Kurikulum Merdeka* and Learning Models

Topics	Not Interested		Neutral		Interested	
	N	%	N	%	N	%
Are you interested in taking part in the Sport Education Learning Model Training?	0	0%	12	16%	62	84%
Are you interested in taking part in the Cooperative Learning Model Training?	1	1%	14	19%	59	80%
Are you interested in taking part in the Personalized System for Instruction (PSI) Learning Model Training?	0	0%	14	19%	60	81%
Are you interested in taking part in the Peer Teaching Model Training?	0	0%	18	24%	56	76%
Are you interested in taking part in the Inquiry Teaching Learning Model Training?	1	1%	15	20%	58	78%
Are you interested in taking part in the Tactical Games Model (TGM) Learning Model Training?	0	0%	13	18%	61	82%
Are you interested in taking part in Direct Instruction Learning Model Training?	3	4%	16	22%	55	74%
Are you interested in taking part in the Project Design Training for Strengthening Pancasila Student Profile?	1	1%	17	23%	56	76%
Are you interested in taking part in ATP and Teaching Module Construction Training?	0	0%	15	20%	59	80%

Table 8. Teacher Comments and Feedbacks

Topic of Discussion	Example of Reflection
Other trainings (if any) that you would like to take part in to support the implementation of Physical Education Learning at School. Why do you need this training?	Training on making learning videos and coaching clinics on digital-based curriculum due to the urgency of Gen Z students (R5)
	Training on the application of kurmer Workshops that have been available so far are only related to filing, not field practice of the application of kurmer (R21)
	Training to develop learning models is really needed because education must adapt to the current era and generation. So, there is a real need to develop a 21st century learning model (R23)
	Training on the Implementation of Artificial Intelligence technology in Physical Education learning. Because the educational process must continue to develop along with the times, including in terms of technology. In the era of technology 4.0 and social 5.0, Physical Education teachers must be able to adapt and utilize technological developments in the learning process (R47)
	Differentiated Learning Training in Physical Education and Health to determine the mapping of children's learning needs (R54)
	Traditional sports related training. Because it will increase insight and can preserve traditional sports, from community sports to elite sports (R55)
Obstacles that You encounter when implementing Physical Education Learning at School	The obstacle faced is that it is difficult to apply the learning model as a whole because of the characteristics of elementary school students who always want to play straight away (R14)
	Obstacles to the learning process are related to tools and infrastructure that are less supportive so that you have to modify the learning, thus it is less optimal to participate in Physical Education lessons (R15)
	Students are more interested in one of the sub-subjects even though they are studying the topic that we have planned. For example, students who are studying floor exercise want to play football or futsal (R41)
	The difficulty that I often encounter when carrying out learning is how to return student focus to learning when their focus has been diverted during break times or after school hours. Apart from that, it is difficult to implement ICT media in Physical Education learning which is dominated by games/movement (R47)
Obstacles that you encounter when implementing the *Kurikulum Merdeka* in Physical Education learning at school	The obstacle I face is miscommunication and misconceptions among teachers at school so that there are differences in concepts. The P5 is still not fully understood (R2)
	There is a lack of information available and there is no specific PJOK IHT that discusses the *Kurikulum Merdeka* in PJOK learning. Most *Kurikulum Merdeka* training is given in general (R23)
	In general, the level of difficulty does not really matter. When students are required to learn independently using various learning media, the level of activity and motivation of each child varies greatly so that learning outcomes seem to be more influenced by the level of motivation than by the potential of the students themselves (R47)
	At my school, I have implemented the *Kurikulum Merdeka* for 2 years; at another school it was only this year; at another school it was only Grades 1 and 4 of elementary school; this year it is only for Grades 1, 2, 4, and 5 at my school. The problem is in implementing LKPD and adapting teacher handbooks to CP/Learning Outcomes (R49)

are shown in Table 6 to Table 8.

In Table 6, it can be seen that 43% of teachers had an understanding of less than 5 Physical Education learning models. The number of models that had been implemented < 3 was 35% and < 5 was 46%. The learning models that had been implemented and were frequently used by 53% of teachers were the Direct Instruction and Problem Based Learning models.

Table 7 shows teacher perspectives regarding their interest in further training on the Kurikulum Merdeka and Learning Models. Overall, 74% to 84% of teachers were interested in taking further training. Feedbacks regarding other expected trainings, obstacles during the implementation of learning, and the application of the Kurikulum Merdeka in Physical Education learning at schools can be seen in Table 8.

DISCUSSION

This research aimed to examine teacher perspectives regarding the Kurikulum Merdeka and the Sport Education Learning Model in Elementary Schools. It was also the initial study of a series of research to develop a Sport Education learning model based on the local cultural wisdom material to strengthen the Pancasila Student Profile in supporting the Kurikulum Merdeka in Elementary Schools. Overall, based on the results of their perceptions from the questionnaire, Physical Education teachers found it difficult to understand the Kurikulum Merdeka, the Sport Education (SEM) learning model, SEM phases/syntax, and the roles in the SEM learning model. However, the results of other analysis showed that Physical Education teachers believed that it is important to understand the Kurikulum Merdeka and learning models in implementing Physical Education learning.

The results of the Rasch model analysis regarding teacher understanding of the Kurikulum Merdeka showed that teachers found it difficult to understand the Kurikulum Merdeka in all aspects, but it was not yet in the very difficult category. This means that there is potential for teachers to develop their understanding regarding the implementation of the Kurikulum Merdeka, which has only been implemented for a few years. Other research results state that curriculum changes have a significant impact on educators and require time to adapt and adjust to the latest curriculum (Leite et al.,

2013). Another study by Thorburn et al. (2011) confirmed that although there were challenges in implementing the revised curriculum in Scotland, a teacher had to be able to adapt to new policies and take advantage of existing opportunities. Research conducted by Jin (2013) in China revealed a number of factors that had the potential to prevent Physical Education teachers from actively implementing the Physical Education and Health (HPE) curriculum, such as structural, personal, and cultural factors, but teachers were supportive in implementing the new HPE curriculum in general.

Another finding related to the SEM Learning Model in terms of the concept of the model, the learning syntax phases, and the roles in the SEM learning model showed that the teacher overall perception of their understanding was in the difficult category for the inter/intra team games with practice phase item and very difficult for the Postseason phase item. This can be an indication that the SEM model is not yet familiar to be used by Physical Education teachers in schools, indicated from the results of the models that were often used, namely the Direct Instruction and Problem Based Learning models with a usage percentage reaching 53%, even though the SEM model has been implemented in many countries, such as Ireland (Kinchin et al., 2012), Australia (Mooney et al., 2018), and Russia (Glotova & Hastie, 2014), and has had a significant impact in improving various skills, including physical, attitude, and social values of students from various levels of education and types of sports (Hastie et al., 2011). Therefore, teacher understanding regarding the SEM learning model should be improved, especially related to the festival characteristics at the end of the SEM learning model phase which can be collaborated with the Project of Strengthening Pancasila Student Profile (P5) at schools. The findings regarding teacher interests in further training on the Kurikulum Merdeka and Learning Models showed that, overall, they were interested in taking part in further training. The highest percentage of their interest was on the SEM learning model training.

Based on the results of the teacher feedback, from their perspective, the obstacles faced at school were related to tools and infrastructure that were less supportive, so they had to modify the learning process so that it was less optimal to participate in Physical Education lessons. Then, it was also related to the difficulty in

implementing the learning model as a whole because of the characteristics of elementary school students who want to play directly and the difficulty in implementing ICT media in Physical Education learning which is dominated by games/movements. In line with this, previous research in Preschools regarding teacher perspectives on existing facilities and infrastructure revealed that they needed adequate spaces, both indoors and outdoors, to support learning and facilities in the form of educational teaching aids to support physical motor activities (Nur et al., 2022). The results of other studies added that the preparation of adequate facilities and infrastructure that could be used mobile could make it easier for teachers to facilitate physical activity activities in schools apart from teacher behaviors and increasing training/education about physical activity activities for teachers would be beneficial (Hesketh et al. 2017; Martyniuk & Tucker, 2014). In relation to learning problems, a Systematic Review study revealed that some of the main sources of stress for Physical Education teachers were related to the curriculum, inadequate facilities/equipment, low physical activity status, and student discipline problems. Most studies reported low to moderate levels of burnout in general. However, there are also studies reporting that 20-25% of Physical Education teachers showed high level of burnout (von Haaren-Mack et al. 2020). Based on these findings, they suggested that PE teachers should receive adequate pre- and in-service training aimed at recognizing the main sources of their stress and developing adequate coping strategies. This research studied Physical Education at schools because most teachers still rarely knew about the Sport Education learning model. So, it can be a reference for the importance of understanding learning models as a whole to help teachers teach at schools, especially understanding the Sport Education model. The limitations of this research are related to the number of participants, because distributing questionnaires online needs a frequent contact to remind the respondent to fill in the questionnaire.

CONCLUSION

This research is an initial study to illustrate the teacher perspectives regarding their understanding of the Kurikulum Merdeka and the Physical Education Learning Model, especially the Sport Education Learning Model (SEM). The research results showed that

48.6% of Physical Education teachers had an understanding and belief in the importance of the Kurikulum Merdeka and Sport Education in Elementary Schools at the high level, while 12.2% were at the moderate level, and 39.2% were at the low level. This means that efforts are still needed to improve teacher understanding regarding the implementation of the Kurikulum Merdeka and the implementation of the SEM learning model at schools.

ACKNOWLEDGEMENT

REFERENCES

Andrich, D. (2010). Rasch models. In *International encyclopedia of education*. (pp. 111-122). Pergamon.

Ary, D., Jacobs, L. C., Irvine, C. K. S., & Walker, D. (2018). *Introduction to research in education*. Cengage Learning

Ayvazo, S. (2009). Applying the sport education model to tennis. *Strategies*, *23*(1), 8-12.

Bond, T. G., & Fox, C. M. (2013). *Applying the Rasch model: Fundamental measurement in the human sciences*. Psychology Press.

Boone, W. J., Staver, J. R., & Yale, M. S. (2013). *Rasch analysis in the human sciences*. Springer Science & Business Media.

Bruijns, B. A., Adamo, K. B., Burke, S. M., Carson, V., Irwin, J. D., Naylor, P. J., ... & Tucker, P. (2022). Early childhood education candidates' perspectives of their importance and responsibility for promoting physical activity and minimizing screen-viewing opportunities in childcare. *Journal of Early Childhood Teacher Education*, *43*(1), 87-104.

Burgueño, R., Calderón, A., Sinelnikov, O., & Medina-Casaubón, J. (2022). Development and initial validation of the Sport Education Scale. *Measurement in Physical Education and Exercise Science*, *26*(1), 73-87.

Casey, A., & MacPhail, A. (2018). Adopting a models-based approach to teaching physical education. *Physical Education and Sport Pedagogy*, *23*(3), 294-310.

Fisher, W. P. (2007). Rating scale instrument quality criteria. Rasch measurement transactions, 21(1), 1095.

Glotova, O. N., & Hastie, P. A. (2014). Learning to teach Sport Education in Russia: factors affecting model understanding and intentions to teach. *Sport, Education and Society*, *19*(8), 1072-1088.

Harvey, S., Pill, S., Hastie, P., & Wallhead, T. (2020).

Physical education teachers' perceptions of the successes, constraints, and possibilities associated with implementing the sport education model. *Physical Education and Sport Pedagogy, 25*(5), 555-566.

Hastie, P. A., de Ojeda, D. M., & Luquin, A. C. (2011). A review of research on Sport Education: 2004 to the present. *Physical education and sport pedagogy, 16*(2), 103-132.

Heryahya, A., Herawati, E. S. B., Susandi, A. D., & Zulaiha, F. (2022). Analisis Kesiapan Guru Sekolah Dasar dalam Implementasi Kurikulum Merdeka. *Journal of Education and Instruction (JOEAI), 5*(2), 548-562.

Hesketh, K. R., Lakshman, R., & van Sluijs, E. M. (2017). Barriers and facilitators to young children's physical activity and sedentary behaviour: a systematic review and synthesis of qualitative literature. *Obesity Reviews, 18*(9), 987-1017.

Higgins, G. E. (2007). Examining the original Grasmick scale: A Rasch model approach. *Criminal Justice and Behavior, 34*(2), 157-178.

Jin, A. (2013). Physical education curriculum reform in China: a perspective from physical education teachers. *Physical Education & Sport Pedagogy, 18*(1), 15–27.

Kinchin, G. D., MacPhail, A., & Chroinin, D. N. (2012). Irish primary school teachers' experiences with Sport Education. *Irish educational studies, 31*(2), 207-222.

Lee, K. C., & Cho, S. M. (2014). The Korean national curriculum for physical education: a shift from edge to central subject. *Physical Education and Sport Pedagogy, 19*(5), 522-532.

Leite, C., Fernandes, P., & Figueiredo, C. (2013). National curriculum vs curricular adaptation: teachers' perspectives. In *Future directions: uncertainty and possibility: European Conference on Curriculum Studies.* 556-561.

Linacre, J. M., & Wright, B. (2012). *Winsteps help for Rasch analysis.* Winsteps, USA.

Manninen, M., & Campbell, S. (2022). The effect of the Sport Education Model on basic needs, intrinsic motivation and prosocial attitudes: A systematic review and multilevel meta-analysis. *European Physical Education Review, 28*(1), 78-99.

Martyniuk, O. J., & Tucker, P. (2014). An exploration of early childhood education students' knowledge and preparation to facilitate physical activity for preschoolers: a cross-sectional study. *BMC Public Health, 14*(1), 1-10.

Metzler, Michael W. (2000). *Instructional Models for Physical Education.* Massachusetts: Allyn & Bacon A Pearson Education Company.

Mooney, A., Moncrieff, K., & Hickey, C. (2018). Exploring pre-service teachers' experience of Sport Education as an approach to transition pedagogy. *Physical Education and Sport Pedagogy, 23*(6), 545-558.

Muth'im, A. (2014). Understanding and Responding to the Change of Curriculum in the Context of Indonesian Education. *American Journal of Educational Research, 2* (11), 1094-1099.

Nguyen, T. D., & Ng Foo Seong, D. (2014). Applying the Rasch model to investigate Singapore principals' instructional leadership practices. *Leading and Managing, 20*(2), 1-26.

Nur, L., Stephani, M. R., & Malik, A. A. (2022). Teachers' Perspectives on Promoting Physical Activity in Early Childhood Education: A Pilot Study in Indonesia. *Sciences, 10*(6), 1189-1196.

O'Neil, K., & Krause, J. M. (2016). The sport education model: A track and field unit application. *Journal of Physical Education, Recreation & Dance, 87*(9), 14-20.

Parkitny, L., McAuley, J. H., Walton, D., Costa, L. O. P., Refshauge, K. M., Wand, B. M., ... & Moseley, G. L. (2012). Rasch analysis supports the use of the depression, anxiety, and stress scales to measure mood in groups but not in individuals with chronic low back pain. *Journal of Clinical Epidemiology, 65*(2), 189-198.

Pill, S., Penney, D., Williams, J., Cruickshank, V., & Hyndman, B. (2023). A Figurational Perspective on the Influence of the Sport Education Model in Australia. *Quest, 75* (1), 50-62.

Putwain, D. W., & von der Embse, N. P. (2019). Teacher self-efficacy moderates the relations between imposed pressure from imposed curriculum changes and teacher stress. *Educational Psychology, 39*(1), 51-64.

Rachmawati, N., Marini, A., Nafiah, M., & Nurasiah, I. (2022). Projek Penguatan Profil Pelajar Pancasila dalam Impelementasi Kurikulum Prototipe di Sekolah Penggerak Jenjang Sekolah Dasar. *Jurnal Basicedu, 6*(3), 3613–3625.

Sumintono, B., & Widhiarso, W. (2015). *Aplikasi pemodelan rasch pada assessment pendidikan.* Trim komunikata.

Thorburn, M., Jess, M., & Atencio, M. (2011). Thinking differently about curriculum: Analysing the potential contribution of physical education as part of 'health and wellbeing'during a time of revised curriculum ambitions in Scotland. *Physical Education & Sport Pedagogy, 16*(4), 383-398.

Trantham, P. S., Sikorski, J., de Ayala, R. J., & Doll, B. (2021). An item response theory and Rasch analysis of the NUDKS: a data literacy scale. *Educational Assessment, Evaluation and Accountability*, 1-23.

von Haaren-Mack, B., Schaefer, A., Pels, F., & Kleinert, J. (2020). Stress in physical education teachers: a systematic review of sources, consequences, and moderators of stress. *Research Quarterly for Exercise and Sport, 91*(2), 279-297.

Wallhead, T. L., Garn, A. C., & Vidoni, C. (2014). Effect of a sport education program on motivation for physical education and leisure-time physical activity. *Research quarterly for exercise and sport, 85*(4), 478-487.

Wallhead, T. L., Hastie, P. A., Harvey, S., & Pill, S. (2021). Academics' perspectives on the future of sport education. *Physical Education and Sport Pedagogy, 26*(5), 533-548.