

## TEACHERS' PERCEPTIONS REGARDING THE EFFECTIVENESS OF PHYSICAL EDUCATION (PJOK) INSTRUCTIONAL METHODS IN SCHOOLS WITH LIMITED FACILITIES AND INFRASTRUCTURE

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### ABSTRACT

The effectiveness of instructional implementation in Physical Education, Sports, and Health (PJOK) subjects is assessed from the teachers' standpoint, while considering the constraints of supporting infrastructure, particularly the unavailability of a sports field, within the context of SMA Muhammadiyah 1 Surakarta. This research adopts a descriptive quantitative design utilizing a survey method, involving the entire teacher population of thirty-nine participants, comprising both physical education educators and teachers of other disciplines. Data were gathered through a validated and reliable questionnaire and subsequently processed using descriptive statistical analysis. The findings reveal that teachers' perceptions of overall instructional effectiveness are categorized as good (68.67%). The internal teacher-related dimension records the highest achievement (71.92%), followed by external influencing factors (69.70%), and the effectiveness of teaching methods alongside learning outcomes (69.17%). Nevertheless, there exists a mutual recognition of a disparity between policy support and the adequacy of available facilities, with nearly half of the respondents expressing agreement regarding limitations in infrastructure. These results suggest that although teachers demonstrate strong competence and adaptability, the optimization of learning processes remains constrained by infrastructural inadequacies. Accordingly, this study emphasizes the necessity of strategic collaboration and the integration of technological solutions to bridge this gap, thereby allowing teachers' potential to be more fully actualized.

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### INTRODUCTION

Physical Education, Sports, and Health functions as a medium for cultivating physical fitness, motor proficiency, and the integrity of students' character. This subject is not solely oriented toward the execution of motor activities; rather, it is also utilized as a conduit for the internalization of togetherness values, self-regulation, and the habituation of a healthy lifestyle (Wulandari & Jariono, 2022; Yuliani et al., 2026). Physical education exerts a constructive influence on children's physical and social development, implying

that social interaction is regarded as an intrinsic component of physical education (Indarto et al., 2025; Setyawan et al., 2025; Zahra et al., 2022). The attainment of success in PJOK necessitates the pivotal role of educators in devising engaging and multifaceted instructional activities aimed at cultivating motivation and fostering the active involvement of learners (Angga & Sari, 2025; Pradityana, 2026; Setiawan, 2024). Physical activity is encompassed within the practical domain of physical education learning; this activity constitutes a deliberately executed bodily movement aimed at enhancing physical fitness, thereby fostering the development of a body that is both healthy and vigorous. (Jariono & Subekti, 2020).

As is the case with numerous schools situated in urban territories, the absence of a dedicated sports field constrains spatial mobility; this condition is likewise experienced by SMA Muhammadiyah 1 Surakarta, which does not possess its own athletic ground. This circumstance exerts an influence on the instructional approach, wherein conventional methods such as repetitive drills remain predominant, accompanied by a limited integration of technological resources. The suboptimal enactment of learner-centered innovative paradigms namely project based from these constraints, thereby rendering their implementation less than fully effective (Parinduri et al., 2024).

Prior investigations, such as those undertaken by I Wayan Rusmantara et al. (2023) have substantiated that the caliber of PJOK instruction is indeed substantially influenced by the adequacy of sports facilities. Concurrently, Fajar, (2020) accentuates that PJOK ought to be engaging in nature and underscores the importance of collaboration. However, the preponderance of prior inquiries tends to concentrate on facility conditions or instructional methods in isolation. In pursuit of amplifying students' active engagement within PJOK learning at school, an adequate command of methodological design alongside the utilization of instructional media is indispensable, both of which ought to be comprehensively mastered by educators in a fully professional capacity (Afif et al., 2024).

The novelty of this study resides in its endeavor to scrutinize the subjective perceptions of teachers at SMA Muhammadiyah 1 Surakarta, an A-accredited institution established in 1946, which nonetheless encounters enduring constraints in the form of the absence of its own sports field and the predominance of conventional pedagogical methods. The instructional trajectory of Physical Education is undergirded by principal references in the form of sporting facilities and infrastructure, which function as essential operational benchmarks for the learning process. The attainment of students' motor skill development, as well as the overall success of instruction for both educators and learners is contingent

upon the availability of adequate and appropriate facilities and infrastructure. The completeness of such provisions enables learning activities to proceed efficiently while simultaneously stimulating the optimal maturation of each learner's inherent potential (Wisnugroho et al., 2025).

This investigation does not merely diagnose the issue; it also endeavors to scrutinize how educators construe the efficacy of PJOK instructional approaches, formulate strategic actions, and perceive the prospective incorporation of technology such as motion-analysis video amid conditions of infrastructural constraints. The continuity of learning that is adaptive to the progression of the era can be actualized through the utilization of digital facilities, one of which is the application of video analysis-based software; consequently, the innovative capacity of PJOK is perceived to emerge as a responsive manifestation toward technological advancement in designing instructional methods that are congruent with the needs of learners (Jariono et al., 2020). This inquiry is oriented toward tracing and rigorously examining, in a comprehensive manner, the perceptions held by PJOK and non-PJOK teachers at SMA Muhammadiyah 1 Surakarta regarding the effectiveness of instructional methods implemented by PJOK educators amid infrastructural constraints.

As a constructive evaluative foundation, the findings of this inquiry are anticipated to steer the formulation of strategic recommendations, encompassing the reinforcement of training in inventive pedagogical methods, the optimization of spatial management in a more adaptive manner, as well as the utilization of modest technological tools, with the intent of enhancing the quality of PJOK learning at SMA Muhammadiyah 1 Surakarta in a more delineated scope, while concurrently serving as a referential benchmark for other educational institutions exhibiting analogous characteristics.

## **RESEARCH METHOD**

A quantitative descriptive approach employing a survey method is utilized as the foundational basis to ascertain teachers' perceptions regarding the PJOK instructional methods implemented at SMA Muhammadiyah 1 Surakarta. The assessment of inherently subjective perceptions is conducted in a controlled and systematically categorized manner through the selection of a quantitative approach, thereby enabling the resulting data to be explicated in a coherent and methodical sequence. All educators assigned at SMA Muhammadiyah 1 Surakarta were designated as the research population. The sampling procedure was executed using a saturated sampling technique, which entails the inclusion of every constituent of the population as the research sample (Yanti et al., 2024). Every

constituent of the population engaged contributed participation, resulting in the acquisition of 39 respondents, comprising 2 PJOK teachers and 37 non-PJOK teachers who are regarded as possessing an understanding of the implementation of PJOK instructional methods within the school environment (Jariono et al., 2025).

Data were amassed through a Google Form consisting of 20 statements, whose categorization was predicated on a four-point Likert scale, encompassing the classifications of Strongly Agree (SS) assigned a value of 4, Agree (S) assigned a value of 3, Disagree (TS) assigned a value of 2, and Strongly Disagree (STS) assigned a value of 1 (Erinsyah et al., 2024). The utilization of such an appraisal schema affords an avenue for the numerical inscription of respondents' perceptions, thereby enabling the data processing phase to be oriented toward a more systematic, impartial, and quantifiable analytical framework.

Across the twenty statement items, three principal factors and ten indicators are delineated. The internal domain comprises the implementation of instructional models, classroom governance, and motivational dynamics. The external domain encompasses infrastructural support and institutional policy frameworks. Meanwhile, the pedagogical method dimension pertains to the attained effectiveness of instructional approaches within the psychomotor, cognitive, and affective aspects, as well as the level of satisfaction experienced in the teaching process by PJOK educators. Each indicator encompasses two statements. The handling and computation of the data are undertaken using a descriptive statistical approach; once the questionnaire results have been successfully compiled, the data are subsequently processed and quantified. The execution of calculations within the data analysis is carried out by employing formulaic expressions:

$$P = \frac{\sum F}{N} \times 100$$

Reference: (Sukardi, 2021).

Description:

P : Proportion of responses

$\sum F$  : Aggregate frequency of scores attained from respondents

N : Total maximal score (highest possible score  $\times$  number of respondents  $\times$  number of items per indicator)

Where  $\sum F$  denotes the aggregate frequency of the scores attained, while N represents the maximal possible score (the highest score  $\times$  the number of respondents  $\times$  the number of items per indicator).

Data interpretation techniques are executed through frequency tabulation, indicator-based computations, classification into five strata (ranging from highly favorable to highly unfavorable) in accordance with Table 1, and visualization in bar chart form to facilitate the

examination of teachers' perceptual patterns. The interpretative procedure is undertaken by structuring the dataset and presenting it within bar chart representations, thereby serving as a foundational basis for comprehending teachers' perceptions of PJOK instructional methods in the school context. The stratification of scores is constructed through five evaluative categories, namely exceedingly good, good, moderately adequate, insufficiently good, and profoundly unsatisfactory. The criteria employed to delineate the scoring classifications are as follows:

**Tabel 1.** Scoring Categorization

Score Interval	Classification
81% - 100%	Exceptionally commendable
61% - 80%	Commendable
41% - 60%	Moderately adequate
21% - 40%	Insufficient
< 21%	Profoundly inadequate

Sumber : (Wijaya et al., 2025).

The adequacy of the research instrument was initially ascertained through an academic appraisal process prior to its utilization as a medium for data acquisition. The evaluation was administered by Mr. Gatot, a lecturer in the Physical Education Study Program, who possesses scholarly competence and professional experience pertinent to the domain of inquiry. The objective of this phase is to ensure the alignment of the instrument with the research targets as well as its coherence with the characteristics of teachers' perceptions toward PJOK learning within the school setting. Following expert endorsement, the research instrument is subsequently subjected to validity and reliability testing on a limited cohort, after which the outcomes are processed utilizing the SPSS application. The validity assessment findings demonstrate that all statements within the questionnaire exhibit a significance value of  $< 0.05$ ; consequently, each item is deemed valid and possesses the capacity to accurately embody the construct being measured.

The internal consistency of the instrument was likewise substantiated through a reliability assessment, yielding a Cronbach's Alpha coefficient of 0.752, which signifies that the instrument possesses an adequate and stable degree of dependability. Accordingly, the instrument satisfies the criteria of validity and reliability in alignment with the prevailing standards in quantitative research. The questionnaire data that had been amassed from all teachers at SMA Muhammadiyah 1 Surakarta were subsequently processed employing a descriptive statistical approach. This approach was selected due to its efficacy in

delineating, in a detailed manner, the condition of teachers' perceptions toward PJOK learning based on the results of questionnaire scoring. The analytical procedure was executed by calculating frequencies, proportions, mean values, and data dispersion, with the intent of attaining a comprehensive portrayal of teachers' perceptions regarding PJOK instruction within the school setting, as well as unveiling emergent patterns indicated by the research findings.

The research trajectory is initiated through problem identification, followed by a literature examination, the formulation of instruments, and expert validation. Subsequently, validity and reliability assessments are conducted utilizing SPSS. A saturated sample (39 teachers) is then determined, after which data are gathered via Google Form. The process continues with descriptive statistical processing, percentage computation, categorization, and interpretation, culminating in the derivation of conclusions and recommendations.

## RESULTS AND DISCUSSION

### Results

The research findings indicate that a predominantly favorable appraisal is conferred by educators at SMA Muhammadiyah 1 Surakarta regarding the effectiveness of the PJOK instructional approach implemented within the institution, notwithstanding the fact that the execution of such learning activities is constrained by infrastructural limitations, particularly the absence of school-owned sports fields. Through the outcomes of this inquiry, an overview concerning teachers' perceptions of the effectiveness of the implemented PJOK instructional method is presented, with emphasis placed on internal components, external determinants, as well as learning attainments, all of which are structured upon data that have undergone processes of calculation and categorization. To obtain a comprehensive depiction, it may be delineated as follows.

**Tabel 2.** Questionnaire Outcomes Based on Internal Factors

No	Aspect	Item No.	Aggregate Score	Maximum Score	Percentage	Classification
<b>A. Teachers' Internal Factors</b>						
1	Instructional Model	1	141	156	90,38%	Excellent
		2	70	156	44,87%	Moderate
2	Classroom Administration	3	141	156	90,38%	Excellent
		4	79	156	50,64%	Moderate
3	Teacher Motivation	5	140	156	89,74%	Excellent
		6	69	156	44,23%	Moderate
					Mean Value: 71,92	Good

From the perspective of instructors' internal determinants, an average attainment of 71.92% was recorded, which falls within a favorable classification. Affirmative statements pertaining to the instructional model, classroom management proficiency, as well as teachers' motivational disposition yielded exceptionally elevated scores, exceeding 90%. In contrast, adverse statements depicting the paucity of methodological variation registered comparatively diminished values, ranging from 44% to 51%. This denotes that the respondents do not concur with the notion that educators are perceived as having constraints in terms of instructional method variability.

**Table 3. Questionnaire Results Based on External Factors**

No	Aspect	Item No.	Total Score	Maximum Score	Percentage	Category
<b>B. External Factors</b>						
4	Infrastructure	7	140	156	89,74%	Very good
	Support	8	77	156	49,35%	Adequate
5	School Policy	9	142	156	91,02%	Very good
		10	76	156	48,71%	Adequate
					Average: 69.70	Good

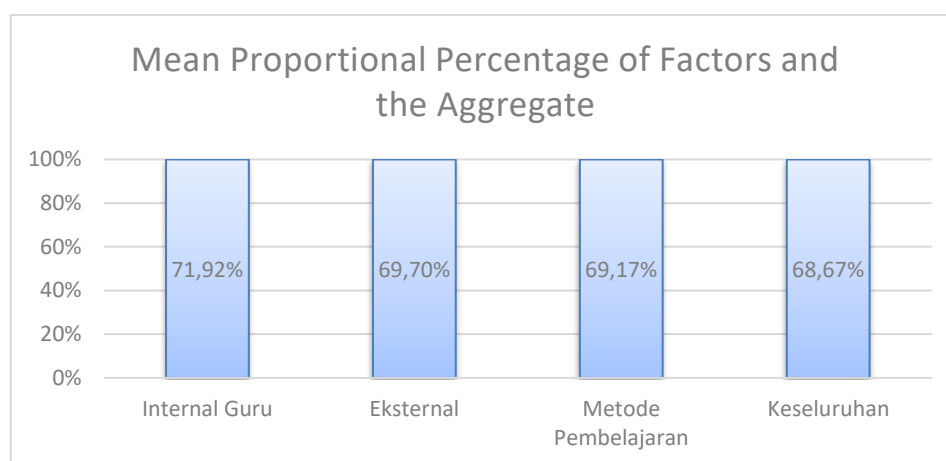
Within the external dimension, the mean attainment of 69.70% is likewise classified within a favorable category. Institutional normative support from the school toward the PJOK subject is appraised as exceedingly elevated, reaching 91%. Nevertheless, nearly half of the respondents (approximately 49%-50%) conceded that infrastructural inadequacy specifically, the absence of a school-owned sports field remains a primary impediment. This finding concurrently reveals the existence of a disparity between the policies that have been formally instituted and their actual implementation in practice.

**Table 4. Questionnaire Results Based on Learning Method Effectiveness**

No	Aspect	Item No.	Total Score	Maximum Score	Percentage	Category
<b>C. Effectiveness of Learning Methods</b>						
6	Psychomotor	11	141	156	90,38%	Very good
	Aspect	12	79	156	50,64%	Adequate
7	Cognitive	13	141	156	90,38%	Very good
	Aspect	14	66	156	42,30%	Adequate
8	Affective	15	142	156	91,02%	Very good
	Aspect	16	72	156	46,15%	Adequate
9	Teacher	17	144	156	92,30%	Very good
	Satisfaction	18	72	156	46,15%	Adequate
10	Effectiveness	19	140	156	89,74%	Very good
	Achievement	20	79	156	50,64%	Adequate
				Average : 69,17%		Good
Overall Average					68,67%	Good

The effectiveness of the instructional method attained an average value of 69.17%, which falls within the “good” classification. Each evaluated dimension namely psychomotor, cognitive, teacher satisfaction, effectiveness, as well as learning attainment was systematically assessed. Favorable statements yielded exceedingly elevated scores, ranging from 89% to 92%. Meanwhile, adverse statements within the same dimension merely attained a proportion ranging from (42%-51%). This circumstance underscores that educators have successfully realized a commendable degree of effectiveness, notwithstanding their confrontation with assorted infrastructural constraints.

Overall, the aggregate mean of the three determinants reaches 68.67%, which consistently falls within the favorable classification. This attainment signifies that the delivery of PJOK learning in the institution can be regarded as reasonably effective, albeit with an acknowledged margin for further enhancement, particularly concerning the adequacy of supporting facilities.



**Figure 1.** The mean percentage outcomes of the factors and the overall aggregate.

## DISCUSSION

The exposition of this research’s findings will scrutinize teachers’ perceptions of instructional methodologies, constrained by the absence of dedicated sports facilities and the predominance of conventional approaches. Why does the perception of teacher competence remain favorable, even though the employed methods tend to be largely traditional.

The findings of the study indicate that PJOK teachers at SMA Muhammadiyah 1 Surakarta are regarded as excelling in terms of commitment, inventiveness, and classroom management proficiency, with achievement levels surpassing 90%. Notably, the negatively

framed statement concerning the paucity of methodological variation did not receive endorsement from the respondents.

This condition indicates that the paucity of methodological variation is not attributable to teachers' incapacity, but rather to contextual constraints in the field, namely the absence of institutional infrastructure in the form of a school-owned sports field. Consequently, the average level of effectiveness remains within the "Good" classification and has not yet comprehensively attained the "Very Good" standard (Ginanjari et al., 2024). To address this condition, educators implemented adjustments by maximizing the application of drill-based methods, adopting learner-centered instructional strategies, and utilizing audiovisual media alongside interactive animations as substitutes for physical activities conducted in the field (Fauzan et al., 2024).

These findings are consonant with the study conducted by MARTASIA, (2024) which indicates that Physical Education (PJOK) teachers generally exhibit a favorable perception of the curriculum alongside a steadfast commitment to instructional practices. The present study corroborates those results, while also contributing a salient nuance, namely that such affirmative perceptions can persist even when educational institutions are confronted with infrastructural constraints. In other words, an ideal condition is not the sole circumstance that enables the emergence of favorable perceptions toward PJOK learning. The consistency of responses from non-PJOK teachers, who unequivocally endorse positive statements and repudiate negative ones, becomes a salient indicator. This conviction reflects that PJOK teachers possess sufficiently robust competence to design and implement high-quality instruction, even across diverse conditions.

Why is policy support high while physical facilities remain limited? Normative institutional support for the subject of PJOK is recorded at a very elevated level, reaching 91%. However, nearly half of the respondents acknowledge that the absence of adequate sports fields still constitutes a tangible constraint. This condition reflects a discernible gap in implementation between the established policies and the actual fulfillment of on-the-ground infrastructure. Such a phenomenon is frequently encountered in urban schools that are constrained by limited land availability; consequently, moral backing and institutional policies inevitably correspond with the adequacy of physical infrastructure. This finding accentuates that infrastructural insufficiency – specifically the absence of a dedicated sports field is not merely an administrative record, but is genuinely construed by teachers as the principal impediment (Rahman et al., 2020).

Karo Karo et al. (2024) It was identified that deficient infrastructural provisions

constitute a principal constraint in the learning process, although, in general, learners still report a sense of satisfaction. The study not only substantiates these findings but also augments them with new empirical evidence indicating that teacher competence is capable of attenuating the adverse effects arising from limited facilities. This underscores that the teacher's role is not merely confined to instruction, but also extends to functioning as a buffering agent against existing deficiencies.

Why is learning effectiveness still circumscribed within the "good" category and has not yet ascended to a "very good" level, even though attainment in the psychomotor, cognitive, and affective domains is relatively high, the overall mean effectiveness still has not reached an optimal or superior tier. The principal underlying cause is infrastructural impediments that constrain the optimal potentiality of the learning process. In this circumstance, educators function as a balancing agent capable of ameliorating the adverse impacts of facility insufficiencies, yet they are not able to eradicate them entirely.

In contrast to the findings of Alfarizi, (2024) whose study was more limited in scope as it concentrated solely on the aspect of learning evaluation, this research presents a more comprehensive analytical framework through a triangulation approach. This approach integrates internal factors, external factors, and learning effectiveness. Such a framework enables a more holistic understanding of how these three components interact and influence one another within the context of PJOK learning.

This study offers a more comprehensive perspective. The implementation of various innovative learning strategies has been carried out in Physical Education, Sports, and Health (PJOK) subjects at the senior high school level. These strategies include cooperative learning models such as Student Teams Achievement Divisions and Jointly Investigating Strategies Guiding Our Success, the utilization of technology in the form of videos and interactive animations, student-centered approaches such as Project-Based Learning and inquiry-based learning, as well as learning systems that accommodate individual students' learning pace through a Personalized System for Instruction.

The theoretical implications of this study further augment adaptive learning theory within the context of physical education. These findings indicate that the effectiveness of learning is not solely contingent upon the completeness of facilities, but also upon the teacher's capacity as an equilibrating agent. Moreover, this study discerns an implementation disjunction between normative endorsement and infrastructural materialization as variables that shape perceptions of effectiveness. A novel conceptual model that may be advanced is as follows: Teacher Competence → Adaptive Strategy

Formulation → Attenuation of the Impact of Infrastructure Constraints → Sustained Effectiveness Remains Favorable.

As a practical implication, a.) schools are advised to formulate strategies based on a collaborative networking approach, for instance by establishing cooperation with sports facilities surrounding the school environment, such as public fields or the nearest sports halls. b.) Teachers are encouraged to continuously enhance the utilization of simple technologies, such as motion analysis videos via smartphones or interactive animations, in order to strengthen both cognitive and affective aspects as a compensation for limitations in physical movement space c.) The equitable redistribution and enhancement of facilities and infrastructural provisions need to be aligned with the number of learners enrolled. In addition, teachers' pedagogical competence in managing instructional materials remains a paramount prerequisite so that the PJOK learning process can proceed efficaciously and attain optimal outcomes (Wibawa HS et al., 2024).

Thus, these findings are anticipated to function as an evaluative reference and a strategic undertaking to ameliorate the quality of Physical Education, Sports, and Health (PJOK) instruction, not solely within the investigated school, but also across other institutions encountering analogous predicaments in metropolitan regions.

## **CONCLUSION AND RECOMMENDATIONS**

Teachers' perception regarding the effectiveness of PJOK (Physical Education, Sports, and Health) learning methods at SMA Muhammadiyah 1 Surakarta is categorized as "good" (68.67%). The teachers' high level of internal pedagogical competence is able to attenuate the adverse consequences arising from infrastructural limitations, particularly the absence of a school-owned sports field. The effectiveness of learning is not determined solely by the completeness of facilities, but also by the teacher's capacity as a balancing agent through adaptive instructional strategies, although the learning outcomes have not yet attained the "very good" level.

Schools are recommended to forge cooperation with sports facilities in the vicinity of the school environment, while teachers persistently optimize the utilization of simple technologies as a substitution for the constraints of limited physical movement space.

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