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# Exploring the Design and Implementation of a Comprehensive Physical Education Curriculum in the Context of High-Quality Education Development: A Cross-Cultural Comparative Study Based on China and Kurdish

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## Abstract

*In contemporary society, the inclusion of physical education (PE) in the curriculum has become imperative for students' physical well-being, primarily driven by the demands of a fast-paced lifestyle and the limited availability of time for engaging in physical fitness activities. The examination of teacher knowledge, teaching experience, and institutional commitment to physical education (PE) student performance in China and the Kurdish region has received significant attention in recent literature. This article aims to analyse the impact of these factors on PE student performance. This study also examines the mediating influence of the development and implementation of the physical education (PE) curriculum on the relationship between teacher knowledge, teaching experience, institutional commitment, and PE student performance in China and the Kurdish region. The research collected data from participants enrolled in physical educational institutions through the administration of survey questionnaires. The study also utilised the SPSS-AMOS software to examine the relationship between the variables. The results of the study revealed a significant correlation between teacher knowledge, teaching experience, and institutional commitment with the academic performance of physical education (PE) students in both China and the Kurdish region. The findings also revealed that there is a significant relationship between teacher knowledge, teaching experience, institutional commitment, and PE student performance in China and the Kurdish region, which is mediated by the construction and implementation of the PE curriculum. The study provides guidance to policymakers in formulating policies aimed at enhancing physical education (PE) student performance through the utilisation of effective teacher knowledge, extensive teaching experience, and valuable institutional commitment.*

**Keywords:** Construction and execution of Physical education curriculum, teacher knowledge, teaching experience, institutional commitment, student performance

## Introduction

Physical education (PE) provides cognitive content and instructional strategies designed to foster the acquisition of knowledge, behaviour, and motor skills that are fundamental to engaging in physical activity and maintaining physical fitness. The inclusion of regular physical education (PE) in educational institutions plays a crucial role in educating children and adolescents about maintaining their overall health (Vasconcellos et al., 2020). This includes

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promoting cardiorespiratory fitness, developing strong muscles and bones, managing weight, and reducing the risk of various diseases such as heart disease, cancer, and diabetes. Additionally, it aids in the mitigation of psychological conditions such as anxiety, depression, and attention deficits among students. The implementation of this practice enhances the cognitive well-being of students, facilitating their ability to acquire, understand, and retain information effectively, thereby promoting efficient academic performance.

In addition, physical education (PE) cultivates physical abilities and instills self-assurance in students, encouraging them to maintain an active lifestyle in both their academic pursuits and personal endeavours, thereby enabling them to achieve their objectives. Physical education (PE) fosters the ability of students to collaborate in a group setting, adhere to given directives, and cultivate proficient communication skills (Aartun et al., 2022). The optimal performance of physical education (PE) students yields advantages not only for the individual students but also for the educational institution as a whole. The enhanced academic performance exhibited by students subsequent to their participation in physical education (PE) activities contributes positively to the overall learning environment and enhances the institution's reputation. The increase in institutional goodwill leads to a heightened attraction among parents and adolescents, garners support from the education ministry, and facilitates the flourishing of the institution within the community (Piñeiro-Cossio et al., 2021).

In order to fully comprehend the importance of the education system, it is imperative for individuals within this system to possess knowledge of the methods employed to enhance the performance of physical education (PE) students. The performance of physical education (PE) students can be influenced by various factors, including the attributes of the teacher, such as their knowledge and experience in teaching, as well as their commitment to the institution. Additionally, the design and implementation of the PE curriculum can also have an impact on student performance. Educators possess varying levels of knowledge acquired through both formal and informal avenues of learning. Teachers who are assigned to instruct physical education (PE) students must possess a comprehensive understanding of general teaching principles as well as specialised knowledge in the field of PE. This includes both theoretical knowledge pertaining to the principles and concepts underlying physical fitness as well as practical knowledge, enabling them to effectively prepare students for physical fitness activities. Educators possessing a sufficient level of expertise are more adept at effectively engaging physical education (PE) students, thereby facilitating enhanced learning outcomes (Varea, González-Calvo, & García-Monge, 2022).

Teaching experience refers to the knowledge and skills acquired by educators through their prior engagement in the field of education. This encompasses the evolution of teachers' knowledge and the enhancement of their teaching skills over the course of their tenure. Educators possessing considerable expertise in their field possess the knowledge and skills necessary to effectively engage with students, inspire and support their learning endeavours, refine their aptitudes, and enhance the performance of physical education students (Uraimov & Abdurahimova, 2022). Teaching commitment refers to the fervour and dedication exhibited by educators towards their profession, encompassing both their passion for teaching and their emotional connection to the educational institution and employer. Educators who demonstrate a strong level of dedication have the ability to effectively instruct and enhance student performance (Azimovna, 2020). The physical education curriculum is a structured plan outlining the instructional activities within the field of physical education that are intended to be accomplished within a specific timeframe. If educators develop a well-designed physical

education curriculum and implement it in a timely manner, they may observe positive performance outcomes among their students.

The primary objective of this study is to examine the academic performance of physical education (PE) students within the educational frameworks of China and Kurdistan. China is classified as a developing nation. The People's Republic of China's Ministry of Education (MOE) has mandated that physical education (PE) be a fundamental part of the mandatory national education curriculum (Zhao, 2020). In the context of primary education, it is customary for students in grades one to two to engage in physical education (PE) activities for a duration of four hours on a weekly basis. However, as students' progress to grades three to six, the allocated time for PE is typically reduced to three hours per week. China boasts a diverse array of sports universities, which typically yield graduates who assume roles as athletes, coaches, or professors within the nation.

Tianjin University of Sport, Nanjing Institute of Physical Education, and Shenyang Sport University are among the renowned higher education institutions specialising in sports education located within the borders of China (O'Brien et al., 2020). The Kurdistan region is home to approximately 19 higher education institutions, consisting of both government and semi-government establishments, as well as private institutions. The academic calendar typically consists of two semesters per school year. At the aforementioned universities, students are permitted to complete their degree within a timeframe of eight to ten semesters. The Kurdistan region is home to several renowned universities, including the University of Sulaimani in Khanaqin, Cihan University in Erbil, the University of Halabja, Soran University, the Iraqi Scientific Academy, and the University of Zakho.

Several educational institutions have been established specifically for physical education (PE), while others offer PE as part of their regular curriculum. However, it is evident that the academic achievement of physical education (PE) students remains subpar. The current study aims to address the factors that influence the performance of physical education students, with the intention of resolving the associated issues. The current study provides valuable contributions to the existing body of literature by addressing and filling gaps in the field. Numerous prior studies have examined the influence of teachers on the academic performance of physical education students. Nevertheless, there is a scarcity of research that thoroughly investigates the impact of teacher characteristics, such as teacher knowledge, teaching experience, and institutional commitment, on the academic performance of physical education (PE) students.

This present study investigates the influence of teacher characteristics, such as teacher knowledge, teaching experience, and institutional commitment, on the academic achievement of physical education students. Furthermore, numerous scholars have elucidated the significant contribution of teachers in the development and implementation of physical education curricula. However, there is a dearth of scholarly literature pertaining to the intermediary function of the development and implementation of physical education (PE) curriculum in relation to teacher expertise, teaching experience, institutional dedication, and the academic achievement of PE students. This present study expands upon existing literature by examining the mediating role of the construction and execution of physical education (PE) curriculum in relation to teacher knowledge, teaching experience, institutional commitment, and PE student performance. Furthermore, this particular study deviates from previous research by focusing on the involvement of teachers in the development and implementation of physical education curriculum as well as its impact on the performance of students in physical education.

The current study comprises five distinct sections. The subsequent section outlines the arguments put forth by previous studies regarding the correlation between the development and implementation of physical education (PE) curriculum, teacher expertise, teaching experience, institutional dedication, and the academic performance of PE students. The third section of this study focuses on a comprehensive description of the methodologies employed in the present research. Subsequently, the fourth section entails the extraction of research findings from the collected data. During the course of scholarly discourse, prior research endeavours have yielded findings that are congruent with the outcomes elucidated in the present scholarly manuscript. Finally, this study presents its implications, conclusions, and limitations.

## **Literature Review**

The integration of physical education (PE) within the standard educational framework contributes to the maintenance of students' physical fitness, mental resilience, and overall activity levels. Individuals who exhibit high levels of performance in academic pursuits have the potential to lead successful lives, functioning effectively as both productive members of society and influential contributors to the economy. The current investigation aims to advance the field of physical education by specifically examining the impact of physical education on the academic performance of students enrolled in PE courses. Various scholars have conducted analyses on the correlation among teacher knowledge, teaching experience, and institutional commitment, as well as the development and implementation of the physical education curriculum and the academic achievement of physical education students. The aforementioned hypotheses have been formulated in consideration of the existing body of literature.

In order to effectively instruct students within an educational institution, it is imperative for teachers to possess a comprehensive understanding of the subject matter they are tasked with teaching. Educators possess the ability to impart knowledge, instruct, and provide guidance to students based on their own cognitive capacities. Educators possessing a comprehensive understanding of physical education are more capable of effectively designing and delivering instruction, thereby fostering student motivation and facilitating the achievement of desired performance outcomes (Backman & Barker, 2020). In their study, (Li et al., 2019) investigates the influence of teacher knowledge on the academic performance of PE students.

The study suggests that teachers who possess knowledge regarding strategies for maintaining bodily health, promoting physical fitness through various activities, and understanding appropriate movements in different physical exercises as outlined in the curriculum are able to deliver enhanced cognitive content to students in relation to physical activity and fitness. Students who receive information from reputable tutors and receive proper guidance in this regard are more likely to achieve higher academic performance. Jeong and So (2020) conducted a study examining the impact of teacher knowledge on the academic performance of students in online physical education. The research employed a qualitative case study methodology. The research consisted of a sample of six teachers from middle and high schools in Korea. According to the study, there is a correlation between students' academic performance in the PE department and the level of pedagogical expertise that physical education (PE) teachers possess. Based on the above discussion, it can be proposed:

**H1:** *Teacher knowledge has a positive association with PE student performance.*

Teacher experience refers to the knowledge and skills that educators acquire over the course of their professional careers. The level of teaching abilities possessed by teachers is directly proportional to their level of experience. The teaching skills encompassing effective communication, information acquisition, organisation, retrieval, leadership, problem-solving, and critical thinking, among others, enable educators to engage in collaborative efforts with their students, provide assistance, and facilitate the completion of tasks, ultimately leading to improved performance in physical education (Chen et al., 2020). In their study, (Fernandez-Rio et al., 2020) investigate the impact of teaching experience on the performance of PE students. A total of 290 students, ranging in age from 6 to 14 years, were recruited from four schools situated in different regions of Spain and consented to take part in the study. Additionally, four physical education instructors, each representing a different educational institution, have also consented to partake in the study.

The research employed a mixed-methods design, incorporating the collection of quantitative data via questionnaires and qualitative data through group discussions. The research findings were constructed using the statistical software SPSS, as well as employing content analysis and constant comparison methods. The study findings indicate a positive correlation between the level of teacher professional experience and the performance of physical education students. According to Dai and Menhas (2020), the findings of the study suggest that educational institutions that have a policy of hiring teachers with ample experience in the field of education are more successful in effectively implementing and overseeing physical education projects. Additionally, these institutions are better equipped to adequately prepare students for engaging in physical activities and promoting physical fitness. So,

**H2:** *Teaching experience has a positive association with PE student performance.*

The institutional commitment of teachers refers to the level of attachment and dedication that students have towards the educational institution where they are employed to provide teaching services. This commitment is characterised by their devotion to contributing towards the advancement and development of the institution. Teachers who demonstrate commitment to their institution and receive support from their employers are not limited to their existing professional knowledge. Instead, they actively seek out and embrace innovative learning resources. The educators continually enhance their expertise and implement creative methods to conduct physical education lessons. According to Sitovskyi et al. (2019), under the instruction of these educators, physical education students have the potential to acquire novel knowledge and demonstrate enhanced performance in both the theoretical and practical components of the examination. In their study, Hinojo Lucena et al. (2020) aim to investigate the impact of teachers' institutional commitment on the academic achievement of physical education (PE) students.

The study employed a quantitative research methodology, wherein data were collected through the use of structured questionnaires administered to a sample of 119 physical education (PE) students enrolled in the educational system of Ceuta, a city located in Spain. The findings derived from the analysis of the data indicate that there is a positive correlation between teachers' institutional commitment and their effectiveness, as well as a positive impact on the performance of physical education students. According to Hasanov (2022), educators who possess institutional commitment extend their responsibilities beyond the conventional classroom setting, encompassing the provision of cognitive content and physical education instruction. Furthermore, these teachers demonstrate a willingness to allocate additional time to students, thereby facilitating the resolution of any concerns they may have. As a result, the students enrolled in physical education demonstrate enhanced academic performance. Thus,

**H3:** *Teachers' institutional commitment has a positive association with PE student performance.*

The knowledge that teachers possess affects their involvement, planning, and execution of plans as well as the final performance of students (Webster et al., 2021). Within the field of physical education (PE), teachers possess a comprehensive understanding of the behaviours and habits that promote the well-being of students, the utilisation of healthy products, engagement in physical fitness activities, and the application of pedagogical knowledge. This collective knowledge empowers teachers to develop a structured PE curriculum that encompasses theoretical foundations and practical instructional strategies. In addition, they possess the capacity to implement the prescribed curriculum and provide instruction to physical education students in accordance with the curriculum.

There is an observed enhancement in the performance of physical education students as a consequence of this phenomenon (Palamarchuk et al., 2020). In their study conducted in 2023, (Ruzmatovich & G'ayratjon o'g'li, 2023) examine the correlation between teacher knowledge, the development and implementation of the physical education (PE) curriculum, and the academic achievement of PE students. The research was conducted by writers in the mandatory secondary schools of Uzbekistan, where physical education courses are offered. The findings of the study indicate that teachers who possess an adequate level of physical education (PE) knowledge are able to effectively design and implement the PE curriculum, resulting in enhanced performance among PE students.

**H4:** *The construction and execution of the PE curriculum is a significant mediator between teacher knowledge and PE student performance.*

The educators' expertise in physical education instruction encompasses their acquisition of knowledge regarding the cognitive and physical growth that occurs as a result of their involvement in physical education curricula. The augmentation of physical education (PE) instructional exposure engenders cognitive capacities within educators, enabling them to comprehend and address concerns, establish an efficacious educational milieu for pupils, and impart motor skills, behavioural proficiencies (including communication, collaboration, and teamwork), and habits pertaining to physical fitness. Students acquire the capacity to actively engage in physical education programmes, acquire knowledge through practical application, and demonstrate the intended results. Hence, the development and implementation of the physical education curriculum serve as a crucial connection between pedagogical expertise and the academic achievement of physical education students. The study was conducted by Palamarchuk et al. (2020). In their recent study, Khamrakulov and Abduzhalilova (2022) examine the interconnectedness of teacher knowledge, the development and implementation of physical education (PE) curriculum, students' motor competence, and the academic performance of PE students.

The research employed a rigorous systematic review and meta-analysis methodology. The process of study selection involved the utilisation of seven databases, while the meta-analysis encompassed a total of 20 studies. The study findings indicate that teachers who have accumulated a substantial amount of experience in the field of education possess greater teaching aptitude in comparison to newly appointed faculty members. The construction and implementation of the physical education curriculum could be improved, resulting in more efficient execution. As a result, students in physical education may experience enhanced performance outcomes. According to Sh (2020) study, it is suggested that teachers with greater levels of experience are more likely to play a significant role in the development and

implementation of a physical education curriculum. Students who successfully complete the prescribed curriculum under the supervision of recognised tutors demonstrate superior academic performance. So,

**H5:** *The construction and execution of the PE curriculum is a significant mediator between teaching experience and PE student performance.*

Teachers' emotional attachment to their chosen profession of teaching, concern for the welfare of their employers, and dedication to the organization's reputation and advancement all contribute to their level of commitment to their educational institution. Teachers' motivation, devotion, focus, and proficiency in carrying out their teaching responsibilities are directly related to the level of institutional commitment they demonstrate (Baena-Morales, Merma-Molina, & Ferriz-Valero, 2023) Loràs (2020) examines the correlation between institutional dedication, the development and implementation of the physical education curriculum, and the academic achievement of physical education students. This study elucidates that educators who possess a strong sense of institutional commitment, stemming from their intrinsic passion for teaching, economic advantages derived from the educational institution, and social and economic support provided by the institution, exhibit heightened levels of dedication towards their professional responsibilities.

Consequently, these teachers exert diligent efforts in order to fulfil the tasks assigned to them. Consequently, the level of teachers' involvement in their professional duties becomes more effective, enabling physical education (PE) teachers to develop and implement the PE curriculum. The physical education curriculum, characterised by its systematic and sequential structure, facilitates optimal student performance. Backman and Barker (2020) also investigate the level of institutional dedication, the development and implementation of the physical education curriculum, and the academic performance of students in physical education. The findings of the study suggest that educators who possess a strong dedication to their educational institution take meticulous care in designing the physical education curriculum and demonstrate a strong sense of accountability in its implementation. An efficacious physical education curriculum facilitates enhanced performance among students in the subject of physical education. That's why,

**H6:** *The construction and execution of the PE curriculum is a significant mediator between institutional commitment and PE student performance.*

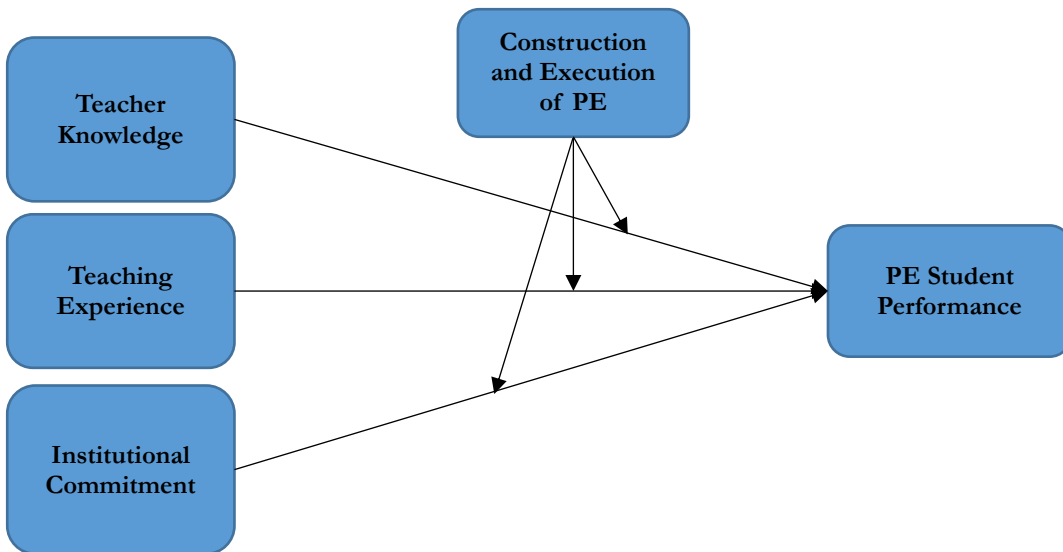
## Research Methods

This article aims to analyse the influence of teacher knowledge, teaching experience, and institutional commitment on physical education (PE) student performance. Additionally, it explores the mediating effect of the construction and implementation of the PE curriculum in relation to teacher knowledge, teaching experience, institutional commitment, and PE student performance in both China and the Kurdish region. The research collected data from participants enrolled in physical education institutions through the administration of survey questionnaires. The questions were employed for the purpose of assessing the independent variables. The measurement of teacher knowledge was conducted using a set of four questions (Yang et al., 2020b). Similarly, teaching experience was assessed through a questionnaire consisting of five items (Baker et al., 2021). The level of institutional commitment was evaluated using a set of five questions (Batugal & Tindowen, 2019). The construction and execution of the physical education curriculum were measured using a four-question

instrument (Garcia, 2021). Lastly, the performance of physical education students was assessed using a set of four items (Strelan, Osborn, & Palmer, 2020).

The participants selected for this study were chosen from the population of final-semester students enrolled in physical educational institutions. The surveys were disseminated to the selected students through in-person visits to the educational institutions. The selection of students was conducted using purposive sampling. The researchers have administered a total of 645 surveys in physical educational institutions in China and 532 surveys in physical educational institutions in Kurdistan. After a duration of one month, a total of 374 surveys were collected from physical educational institutions in China, while 292 surveys were obtained from physical educational institutions in the Kurdish region. These figures correspond to response rates of approximately 57.98% and 54.88%, respectively. In addition, the study utilised the SPSS-AMOS software to examine the interrelationships among the variables. The researchers achieved optimal outcomes despite employing intricate models and extensive datasets (Hair, Gabriel, & Patel, 2014). The study employed a single dependent variable referred to as PE student performance (PESP) along with a mediating variable known as construction and execution of PE curriculum (CEPEC). Additionally, three predictors were utilised, namely teacher knowledge (TK), teaching experience (TE), and institutional commitment (IC). The aforementioned constructs are depicted in Figure 1.

**Figure 1:** Theoretical model



## Research Findings

The present study examines the relationship between variables, referred to as convergent validity. The evaluation of the construct's reliability is conducted through the utilisation of factor loadings and average variance extracted (AVE), with both tests yielding values exceeding 0.50. Additionally, the data is assessed using the alpha coefficient, and the obtained values exceed 0.70. Lastly, the data is verified through the utilisation of MSV and AVS, ensuring that the values do not exceed the AVE threshold. The results of this study demonstrated a strong positive correlation among the variables. The aforementioned results are presented in Table 1(a) and Table 1(b).



**Table 1 (a):** Convergent validity (China)

Constructs	Items	Loadings	CR	AVE	MSV	ASV	
Teacher Knowledge	TK1 <---	TK	0.796	0.885	0.657	0.434	0.323
	TK2 <---	TK	0.804				
	TK3 <---	TK	0.824				
	TK4 <---	TK	0.819				
Teaching Experience	TE1 <---	TE	0.909	0.840	0.524	0.486	0.336
	TE2 <---	TE	0.879				
	TE3 <---	TE	0.603				
	TE4 <---	TE	0.511				
	TE5 <---	TE	0.629				
Institutional Commitment	IC1 <---	IC	0.855	0.912	0.722	0.324	0.285
	IC3 <---	IC	0.938				
	IC4 <---	IC	0.867				
	IC5 <---	IC	0.726				
PE Student Performance	PESP1 <---	PESP	0.765	0.792	0.792	0.766	0.501
	PESP2 <---	PESP	0.799				
	PESP3 <---	PESP	0.621				
	PESP4 <---	PESP	0.599				
Construction and Execution of PE Curriculum	CEPEC1 <---	CEPEC	0.813	0.723	0.822	0.766	0.386
	CEPEC2 <---	CEPEC	0.771				
	CEPEC3 <---	CEPEC	0.275				
	CEPEC4 <---	CEPEC	0.599				

**Table 1 (b):** Convergent validity (Kurdish)

Constructs	Items	Loadings	CR	AVE	MSV	ASV	
Teacher Knowledge	TK1 <---	TK	0.988	0.914	0.731	0.398	0.129
	TK2 <---	TK	0.696				
	TK3 <---	TK	0.986				
	TK4 <---	TK	0.702				
Teaching Experience	TE1 <---	TE	0.833	0.889	0.718	0.687	0.315
	TE2 <---	TE	0.855				
	TE3 <---	TE	0.831				
	TE4 <---	TE	0.630				
	TE5 <---	TE	0.761				
Institutional Commitment	IC1 <---	IC	0.996	0.936	0.754	0.687	0.254
	IC2 <---	IC	0.632				
	IC3 <---	IC	0.998				
	IC4 <---	IC	0.630				
	IC5 <---	IC	0.992				
Construction and Execution of PE Curriculum	CEPEC1 <---	CEPEC	0.772	0.884	0.656	0.398	0.233
	CEPEC2 <---	CEPEC	0.857				
	CEPEC3 <---	CEPEC	0.806				
	CEPEC4 <---	CEPEC	0.803				
PE Student Performance	PESP1 <---	PESP	0.558	0.796	0.501	0.279	0.166
	PESP2 <---	PESP	0.881				
	PESP3 <---	PESP	0.659				
	PESP4 <---	PESP	0.693				

The study additionally examines the relationship between variables, known as discriminant validity. The Fornell-Larcker method was employed to assess the construct's validity. The results indicate that the values representing the linkages with the construct itself are greater than those representing the linkages with other constructs. The results of this study suggest a weak correlation between the variables. The aforementioned outcomes are presented in Table 2(a) and Table 2(b).

**Table 2 (a):** Discriminant validity (China)

	<b>PESP</b>	<b>TK</b>	<b>TE</b>	<b>IC</b>	<b>CEPEC</b>
PESP	0.701				
TK	0.659	0.811			
TE	0.697	0.526	0.724		
IC	0.565	0.569	0.527	0.850	
CEPEC	0.475	0.506	0.550	0.470	0.650

**Table 2 (b):** Discriminant validity (Kurdish)

	<b>CEPEC</b>	<b>TK</b>	<b>TE</b>	<b>IC</b>	<b>PESP</b>
CEPEC	0.810				
TK	0.631	0.855			
TE	0.477	0.260	0.786		
IC	0.362	0.140	0.529	0.868	
PESP	0.421	0.170	0.528	0.423	0.707

The study additionally evaluates the model's high level of fitness. The evaluation of the model's fit is conducted through the utilisation of the Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI), both of which yield values exceeding 0.90. Furthermore, the evaluation is conducted utilising the Root Mean Square Error of Approximation (RMSEA), with the obtained values consistently below the threshold of 0.05. These results suggest that the model is a good fit. The aforementioned results are presented in Table 3 (a) and Table 3 (b).

**Table 3 (a):** Model god fitness (China)

<b>Selected Indices</b>	<b>Result</b>	<b>Acceptable level of fit</b>
TLI	0.987	TLI > 0.90
CFI	0.991	CFI > 0.90
RMSEA	0.000	RMSEA < 0.05 good; 0.05 to 0.10 acceptable

**Table 3 (b):** Model god fitness (Kurdish)

<b>Selected Indices</b>	<b>Result</b>	<b>Acceptable level of fit</b>
TLI	0.954	TLI > 0.90
CFI	0.963	CFI > 0.90
RMSEA	0.001	RMSEA < 0.05 good; 0.05 to 0.10 acceptable

Figure 2 (a): Measurement model assessment (China)

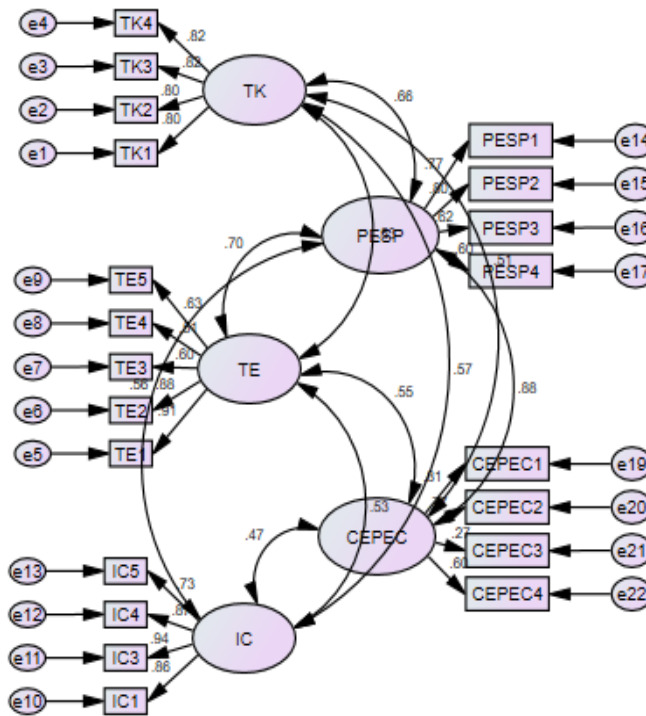
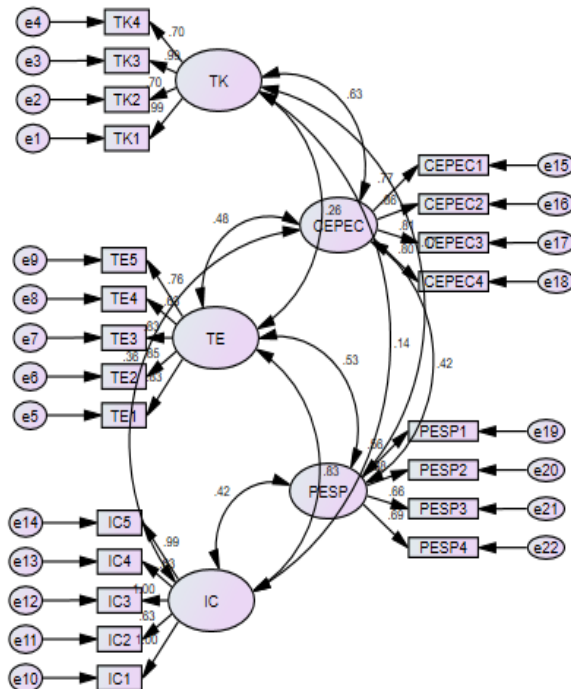


Figure 2 (b): Measurement model assessment (Kurdish)



The results of the study demonstrate a positive correlation between teacher knowledge, teaching experience, and institutional commitment and physical education (PE) student performance in both China and the Kurdish region. These findings support the acceptance of hypotheses H1, H2, and H3. The provided values can be found in Table 4 (a) and Table 4 (b).

**Table 4 (a):** Direct path analysis (China)

Relationships		Beta	S.E.	C.R.	P
Construction and Execution PE Curriculum	<--- Teacher Knowledge	0.073	0.042	1.750	0.080
Construction and Execution PE Curriculum	<--- Teaching Experience	0.348	0.041	8.466	0.000
Construction and Execution PE Curriculum	<--- Institutional Commitment	0.099	0.042	2.341	0.019
PE Student Performance	<--- Teacher Knowledge	0.214	0.032	6.741	0.000
PE Student Performance	<--- Teaching Experience	0.239	0.034	7.052	0.000
PE Student Performance	<--- Institutional Commitment	0.092	0.032	2.840	0.005
PE Student Performance	<--- Construction and Execution PE Curriculum	0.220	0.039	5.616	0.000

**Table 4 (b):** Direct path analysis (Kurdish)

Relationships		Beta	S.E.	C.R.	P
Construction and Execution PE Curriculum	<--- Teacher Knowledge	0.573	0.041	13.905	0.000
Construction and Execution PE Curriculum	<--- Teaching Experience	0.173	0.046	3.783	0.000
Construction and Execution PE Curriculum	<--- Institutional Commitment	0.133	0.039	3.420	0.000
PE Student Performance	<--- Teacher Knowledge	0.084	0.029	2.897	0.028
PE Student Performance	<--- Teaching Experience	0.199	0.044	4.577	0.000
PE Student Performance	<--- Institutional Commitment	0.106	0.037	2.872	0.004
PE Student Performance	<--- Construction and Execution PE Curriculum	0.206	0.055	3.781	0.000

The results also revealed that there is a significant relationship between teacher knowledge, teaching experience, institutional commitment, and physical education (PE) student performance in China and the Kurdish region. The development and implementation of the PE curriculum mediates this relationship. The provided values can be found in Table 5 (a) and Table 5 (b).

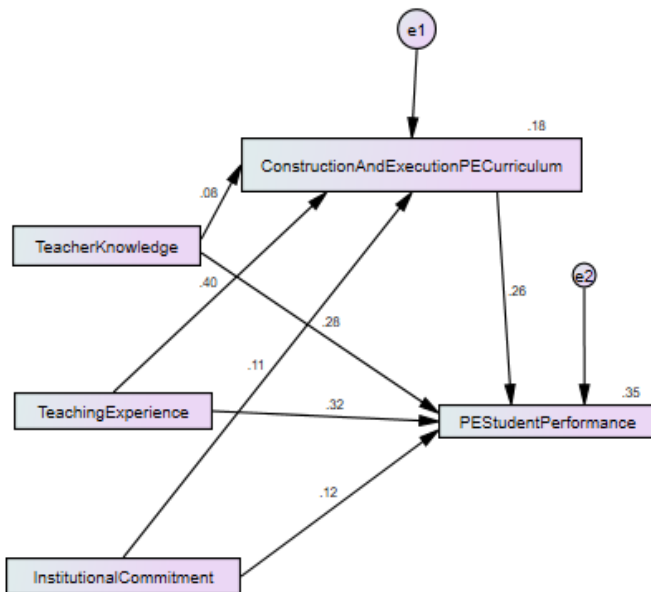
**Table 5 (a):** Indirect path analysis (China)

	Institutional Commitment	Teaching Experience	Teacher Knowledge	Construction and Execution PE Curriculum
Construction and Execution PE Curriculum	0.000	0.000	0.000	0.000
PE Student Performance	0.022	0.076	0.016	0.000

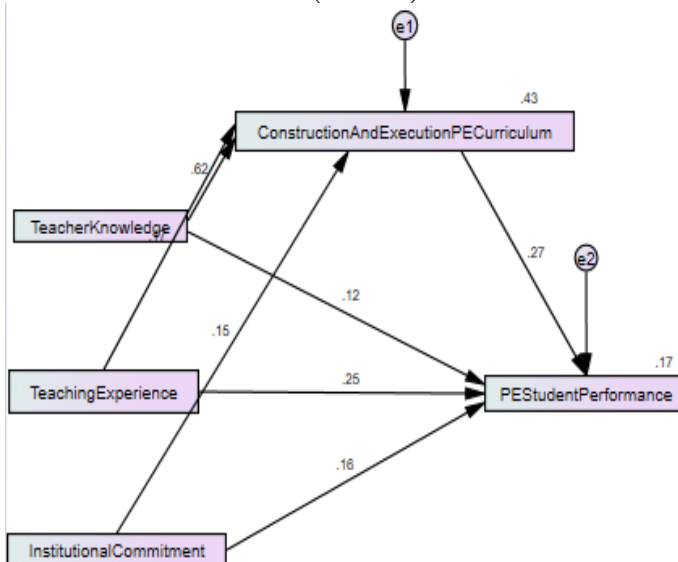
**Table 5 (b):** Indirect path analysis (Kurdish)

	Institutional Commitment	Teaching Experience	Teacher Knowledge	Construction and Execution PE Curriculum
Construction and Execution PE Curriculum	0.000	0.000	0.000	0.000
PE Student Performance	0.041	0.045	0.166	0.000

**Figure 3 (a):** Structural model assessment (China)



**Figure 3 (b):** Structural model assessment (Kurdish)



## **Discussions**

The findings indicated a significant correlation between teacher knowledge and the performance of physical education students. The research by Yu and Jee (2021), which supports the findings in this study, suggests that teachers' ability to impart knowledge to students depends on their own level of subject knowledge. In this particular context, physical education (PE), encompassing both theoretical and practical components, has been found to be more effectively achieved, resulting in commendable performance among students enrolled in PE courses. These findings are consistent with the research conducted by Daum et al. (2021), which emphasises that teachers who possess knowledge about the importance of physical education (PE), its breadth, effective physical fitness strategies, and how to implement these strategies are better equipped to provide guidance to PE students and facilitate their academic success.

The outcomes of the study indicate a significant correlation between teaching experience and the academic performance of physical education students. Sherzod (2022), who asserts that physical education (PE) is a discipline that necessitates both theoretical understanding and extensive practical training, supports the findings presented in this study. Educators possessing substantial expertise in the field of physical education are more adept at comprehending the unique requirements of students and effectively instructing them. These findings are in line with research by Akmalovich (2020), which contends that teachers gain knowledge from their practical experience and increase their effectiveness. Teachers with extensive professional experience are more likely to facilitate improved student performance.

The results indicated a positive correlation between teachers' institutional commitment and the academic performance of physical education students. Khabibullin (2022) claim that educators who have institutional commitment hold a high regard for the institution's objectives and make every effort to achieve these goals supports the findings presented. Students' performance in physical education improves as a result of the teachers' superior efficacy. These findings are consistent with the research conducted by Dilshodovich (2021), which posits that teachers' institutional commitment serves as a driving force in their ability to be attentive and fulfil their responsibilities efficiently. Under the tutelage of proficient instructors, physical education students exhibit enhanced performance.

The results of the study indicate that there is a notable relationship between the development and implementation of the physical education (PE) curriculum and its impact on both teacher expertise and the performance of students in PE. The findings presented in O'Connor and Penney (2021) study provide support for the notion that PE teachers who possess adequate understanding of the various perspectives within the field of physical education are more capable of developing and implementing the PE curriculum in a proficient manner. The implementation of a meticulously crafted curriculum enhances the academic achievement of physical education students. These findings are consistent with the research conducted by Banville et al. (2021), suggesting that teachers' knowledge plays a crucial role in effectively implementing the physical education curriculum, leading to enhanced performance among physical education students.

The findings indicate that the development and implementation of the physical education curriculum play a crucial role in mediating the relationship between teaching experience and the performance of students in physical education. The findings presented in this study are corroborated by the research conducted by Yang, Oh, and Wang (2020a), which suggests that physical education teachers with extensive teaching experience in the field are more adept at

designing and implementing an effective physical education curriculum. The implementation of this intervention is expected to enhance the academic performance of physical education students. The findings presented in this study are consistent with the research conducted by Aldous et al. (2022), which emphasises the significant role of teachers' expertise in effectively implementing the physical education (PE) curriculum and enhancing the academic performance of PE students.

The findings indicate that the development and implementation of the physical education curriculum play a crucial role in mediating the relationship between institutional dedication and the academic performance of physical education students. These findings are consistent with the research conducted by Coulter et al. (2020), which asserts that educators who demonstrate institutional dedication actively engage in the development and implementation of the physical education (PE) curriculum, resulting in enhanced performance among PE students. The findings presented in this study are corroborated by the research conducted by Tanure Alves et al. (2020), which suggests that educators who demonstrate a strong commitment to their educational institution are more likely to develop and implement an effective physical education curriculum, leading to enhanced performance outcomes among students in physical education.

## **Implications**

This study serves as a comprehensive guide for educational authorities seeking to enhance the efficiency of their physical education programmes in order to improve student performance. The study guides developed by tutors were designed to possess a comprehensive understanding of the subject of physical education, with the aim of enhancing the academic performance of students in this domain. The study also suggests that the recruitment and prioritisation of tutors with extensive teaching experience should be considered for the instruction of physical education classes, with the aim of enhancing the performance of students in this domain. The study additionally posits that teachers should demonstrate a strong commitment to the educational institution in order to effectively achieve the objective of enhancing the academic performance of physical education students. There is an additional proposition that posits that teachers should possess a comprehensive breadth of knowledge in order to proficiently design and execute physical education curricula, thereby enhancing the academic achievements of physical education students. The study further elucidates that teachers must possess a substantial amount of teaching experience.

The construction and implementation of an effective physical education curriculum can contribute to the enhancement of performance among students in physical education. Additionally, the study also proposes a set of guidelines aimed at fostering a sense of commitment among teachers towards the institution. The integration of this intervention within the PE curriculum has the potential to enhance both the construction and implementation of the curriculum, thereby resulting in improved performance among PE students. The study assists policymakers in formulating policies aimed at enhancing physical education (PE) student performance through the utilisation of effective teacher knowledge, extensive teaching experience, and valuable institutional commitment.

## **Conclusion**

The objective of this study is to examine the impact of teacher characteristics, such as teacher knowledge, teaching experience, and institutional commitment, on the academic performance of physical education students. The study aimed to investigate the impact of teacher knowledge, teaching experience, institutional commitment, and the construction and execution of the physical

education (PE) curriculum on PE student performance. Data for the research was collected by conducting surveys on the education systems of China and Kurdistan. Based on empirical research, it has been determined that factors such as teacher knowledge, teaching experience, and institutional commitment have a positive impact on the academic performance of physical education (PE) students. The findings indicate that teachers who possess comprehensive expertise in physical education, commonly referred to as specialisations, are capable of effectively addressing students' misconceptions, imparting comprehensive knowledge, and preparing them for practical assessments. Consequently, students in physical education demonstrate enhanced performance.

The findings of the study indicate that teachers' personal experiences within their profession contribute to the enhancement of their abilities and knowledge. In order to enhance their ability to manage various issues and facilitate optimal academic performance among physical education students, educators must strive to equip themselves with the necessary skills and knowledge. This will enable them to effectively support students' learning processes and empower them to excel in examinations. The findings also indicated that teachers who are committed exhibit an attitude that is congruent with the mission and vision of the institution. The individuals involved demonstrate a strong commitment to their work and strive to enhance the performance of physical education students. The study also examined the role of the PE curriculum in mediating the relationship between teacher knowledge, teaching experience, institutional commitment, and PE student performance. Teachers who possess adequate knowledge, substantial teaching experience, and a strong institutional commitment are instrumental in the development and implementation of the physical education curriculum, thereby enhancing the academic performance of students in this subject area.

## **Limitations**

Despite the implications of the current study, it is important to acknowledge its limitations. Future researchers are encouraged to address these limitations in their work. Previous studies have primarily focused on examining the influence of teachers' characteristics, such as their level of knowledge, teaching experience, and institutional commitment, on the academic performance of physical education (PE) students. This study focuses on the examination of institutional factors and the influence of parental involvement on physical education students' academic performance. In order to enhance the evaluation of physical education (PE) student performance, it is imperative for future researchers to thoroughly investigate these aforementioned factors. Furthermore, the researchers obtained data from educational institutions in two developing regions, namely China and Kurdistan, in order to conduct additional research on the correlation between teacher knowledge, teaching experience, institutional commitment, and the academic performance of physical education students.

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