Quality Physical Education (QPE): Assessment, Challenges and Practices

Pinghua Zhang[1], Liza L.Chang[2]
[1]Graduate School, Adamson University-Manila
[2]Graduate School, Emilio Aguinaldo College-Manila

ABSTRACT: The study sought to establish the correlations between the evaluations of the Quality of Physical Education (QPE) by physical education teachers and students from five universities in Hunan Province, China. The participants evaluated the QPE based on seven subfactors: Instructional Strategy, Facilities and Equipment in Physical Education, Quality Teaching of Physical Education, Social Norms and Inclusivity, Cognitive Skill Development, Student Engagement, and Governmental Policies for Physical Education. The study also examined the difficulties and methods employed by physical education teachers in implementing QPE to gain insight into their firsthand experiences.

The findings indicate that both teachers and students generally concur on the quality of the physical education curriculum in their respective universities, as evidenced by an overall combined F value of 4.37 and a Sig value of 0.48. Nevertheless, the universities' teaching staff was identified as the most invaluable component. During a focus group discussion, participants identified continuous professional development as a prominent theme, indicating that future research should prioritize this topic.

The study revealed that there was no statistically significant disparity in the evaluation of QPE by teachers based on their age and years of experience. Similarly, no significant differences were observed in terms of gender, educational attainment, or school affiliation. These findings indicate that teachers who are engaged in professional development have varying perspectives on the process of teaching and learning. The study suggests modifying physical education programs to address the challenges encountered by teachers when preparing and conducting assessments. Teachers must enhance their ability to assess student learning as a fundamental component of the learning process.

KEYWORDS: quality physical education   instructional strategy social norms and inclusivity cognitive skill development

INTRODUCTION

The World Health Organization warns that physical inactivity could lead to illnesses like heart disease, obesity, and diabetes, costing the world $27 billion annually. Most adults, including 1.4 billion adults, do not meet the recommended level of physical activity. In China, physical activity levels among Chinese youths are low, with most below the recommended guidelines. Although overall physical activity has improved, the grade remained D, the same as in 2018. The school grades also decreased, with primary schools at 38.9%, secondary schools at 28.9%, and upper secondary schools at 18.%. This lack of physical activity may increase the risk of health hazards, such as the increasing prevalence of overweight and obesity.

The improvement in the quality of education in schools is influenced by human resource factors and education management. Teachers and students play a crucial role in enhancing the quality of education. Physical education is essential for developing motor skills, knowledge, and behaviors for active living, physical fitness, sportsmanship, self-efficacy, and emotional intelligence. UNESCO declared physical education and sports a fundamental right for all, ensuring access to physical education and sports for the full development of a person's personality.

The role of teachers is crucial for achieving quality education, as they interact directly with students. To improve educational standards, it is essential to improve the quality of teachers in education units. Quality Physical Education (QPE) is an effective and inclusive means of providing all children with the skills, attitudes, values, knowledge, and understanding for lifelong participation in physical activity and sport.

The UNESCO document introduced QPE in 2005 to provide children with a base to understand the importance of lifelong engagement in physical activity and sports. The movement for quality development in PE ensures individuals' right to play, helps design an attractive curriculum, delivers adequate professional training and coaching education, enhances innovative research, and develops policies to promote the profession.

Quality Physical Education (QPE): Assessment, Challenges and Practices

In 2020, Phillip Ward and Kyuil Cho presented five trends impacting physical education teacher education (PETE) that are positives rather than encumbrances in the education of preservice teachers. These trends include practice-based teacher education, core teaching practices, pedagogies of practice, reconnecting health and physical education, and the Whole School, Whole Community, and Whole Child model.

This study aims to explore the level of assessment of teachers and students on the quality of physical education at their universities, as well as the challenges and best practices of these two human resources involved in the implementation of QPE. The data collected will be used to create an innovative program to solve the challenges experienced and highlight the best practices in the implementation of QPE.

Statement of the Problem

This study aimed to determine the correlations between physical education teachers' and students' assessments of the Quality of Physical Education (QPE) of their universities and the level of implementation in the classroom in selected universities in Hunan Province, China. Furthermore, this paper also covered the description of the challenges and practices of physical education teachers in the implementation of QPE.

Specifically, this study aimed to answer the following questions:

1. What is the assessment of the teacher and the students on the quality of the PE curriculum in terms of
   1.1 Instructional Strategy
   1.2 Facilities and Equipment in Physical Education
   1.3 Quality Teaching of Physical Education
   1.4 Social Norms and Inclusivity
   1.5 Cognitive Skill Development
   1.6. Student Engagement
   1.7 Governmental Policies for Physical Education
2. Is there a significant difference in the level of assessment of the teacher respondents in QPE in classroom learning when their profile is taken as a test factor?
3. Is there a significant difference in the level of assessment of the student of QPE in the classroom learning when their profile is taken as a test factor?
4. What are the challenges and practices of teachers in implementing QPE?
5. Based on the results of the study, what innovation program can be proposed?

Statement of the Hypotheses

The following hypotheses were tested in this study:

Ho1: There is no significant difference in the level of assessment of the teacher respondents in QPE in classroom learning when their profile is taken as a test factor.

Ho2: There is no significant difference in the level of assessment of the student respondents in QPE in the classroom learning when their profile is taken as a test factor.

Theoretical Framework

The theory proposed by Medley (1977) is widely regarded as the predominant theory on teacher competence, surpassing other theories in popularity. It also pertains to five elements of teacher proficiency. Medley's theory is the primary theoretical foundation of this study.

Medley's teacher competence theory categorizes teachers' competence into five primary components. The researcher specifically examined the competency present within each of these components, namely: Instructional Skills, Classroom Management, Guidance Skills, and Personal and Professional Skills.

Pedagogical competence refers to the proficiency of teachers in effectively overseeing the process of learning. This includes the capacity to design a comprehensive learning curriculum, skillfully facilitate the learning process, and accurately evaluate students' progress.

Pedagogical skills can enhance the quality of the teaching-learning process, reinforce collaborative learning, alleviate monotony, and enable a customized learning experience. An examination of pedagogical skills is crucial for revealing the strategies behind creating a successful and influential learning experience.

METHODOLOGY

This research utilized a mixed method type, including a combination of numerical measurement and in-depth exploration (Tattamparambil, 2020). The survey consists of two parts and yields numerical data which is quantitative. The first part collects the demographical information of the respondents, and the second part measures the level of assessment of the respondents by accomplishing the researcher-constructed questionnaire, this survey questionnaire was created from different scanned educational books and several reviewed research studies that significantly related to the topic. It was validated before disseminating to the

respondents. According to the Webster Dictionary (2024), assessment means appraisal and is used in the field of education very often to test the quality of teaching and learning processes (Panganiban, 2020).

A qualitative method was utilized by conducting a focus group discussion with selected Physical Education teachers. Focus group discussion interacts with the researcher (Warren, 2020) and involves people with similar characteristics coming together in a relaxed and permissive environment to share their thoughts, experiences, and insights (Krueger & Casey, 2009). As cited in participants share their views and experiences, but also listen to and reflect on the experiences of other group members. It is this synergistic process of interacting with other group members that refines individuals' viewpoints to a deeper and more considered level and produces data and insights that would not be accessible without the interaction found in a group (Finch et al., 2014). This qualitative was interpreted using a thematic analysis.

A stratified sampling technique was used for selecting respondents. The respondents were selected from five universities in Hunan Province, China. Stratified sampling was selected as the sampling technique for this investigation. The potentially diverse populations in China make the variety of universities there well-suited to the research objectives. Stratified sampling is a systematic method of selecting participants to create a sample that accurately represents the different strata or subgroups that exist within a population. Finding the relevant strata is the first step in stratified sampling implementation. These layers might have included different academic disciplines, Chinese institutions, or levels of participation in local or global professional learning communities. Within each stratum, responders were selected at random to reduce the possibility of bias in participant selection. Using statistical analysis, the sample size was determined while accounting for the required degree of accuracy and confidence in the study findings. To maintain strong statistical validity and guarantee the inclusion of a diverse range of professional experiences and perspectives, the study attempted to use stratified sampling. The goal of this method is to increase the study's ability to gather meaningful and pertinent data.

Institution	P.E. Teachers	Sample Size	P.E. Students	Sample Size
A	122	61	1226	90
B	83	41	900	66
C	66	33	882	65
D	66	33	1291	95
E	67	33	730	54
TOTAL	**404**	**201**	**5029**	**371**

Focus Group Discussion
For the retrieval of responses for the interview featuring the challenges and practices of physical education teachers in their respective physical education classes, a total of 10-20 respondents were requested to participate in the focus group discussion (FGD). Crewell (2018) stated that between 10-20 individuals can satisfy the interview for long responses and follow-up questions.

Instrumentation
The questionnaire was an instrument developed by Ho, et al in 2018 which was validated with psychometric properties that can measure PE professionals' perception regarding the quality of PE in schools, cities, and countries. Specifically, the instrument used in this study was the Professional Perception of Quality Physical Education Questionnaire (PPQPEQ). This questionnaire consists of two parts. The first part collected demographic information such as position in school, gender, age, educational attainment, years of teaching, and school affiliation. The second part involved the participants completing Ho et al.'s (2018) Professional Perception of Quality Physical Education questionnaire (PPQPEQ) to measure professionals' level of awareness of the quality provision of PE in the respondents' universities. The PPQPEQ consists of 48 items which measure eight broad subfactors: Subfactor1: Skill Development and Bodily Awareness, SubFactor2- Facilities and Norms in Physical Education, Subfactor3-Quality Teaching of Physical Education, Subfactor4. Social Norms and Cultural Practice, Subfactor5-Cognitive Skill Development, SubFactor6.Habituated Behavior in Physical Activities, and Sub Factor7. Governmental Input for Physical Education. All items in this survey were measured using a 5-point Likert scale.

RESULTS AND DISCUSSION
The goal of the study was to determine the correlations between physical education teachers' and students' assessments of the Quality of Physical Education (QPE) of five universities all located in Hunan Province, China. The respondents assessed the QPE of their universities in terms of these seven subfactors: Instructional Strategy, Facilities and Equipment in Physical Education, Quality Teaching of Physical Education, Social Norms and Inclusivity, Cognitive Skill Development, Student Engagement, and Governmental Policies for Physical Education. Furthermore, this paper also covers the description of the challenges and practices of physical education teachers in the implementation of QPE to further understand the teachers' experiences. There are 201 teacher

respondents and 371 student respondents who answered the survey while 20 teacher respondents participated in Focus Group Discussion in the study. The study used a descriptive research design, a modified survey questionnaire, and Focus Group Discussion as the main instruments of the study.

The study revealed that both teacher and student respondents identify the quality of the PE curriculum in their universities as mostly "perceived" and have an overall combined F value of 4.37 and Sig value of 0.48. Among the seven subfactors, only instructional strategy has been marked "strongly perceived" with an F-value of 4.56 and Sig value of 0.48. This result has placed the teaching force as the most valuable aspect of the universities. However, in focus group discussion, a theme of continuous professional development emerged when asked about their wish for a successful Physical Education Department. It is recommended that a survey on implementation be done to triangulate future research on this topic.

The similarities and differences between the respondents' profiles when taken as factors were identified. The study's noteworthy findings on the teacher respondents' assessment of QPE in terms of age and years in service led to the rejection of the null hypothesis. However, the study found no statistically significant difference in terms of gender, educational attainment, and school leading to the adoption of the null hypothesis. This reveals that teachers pursuing professional development differ in views of teaching and learning It is also an interesting study to see the gender differences in future studies. Regarding all the profiles taken as a factor among the student respondents, there is no significant difference in age and gender in assessing the QPE. On one hand, the school of the respondents matters.

The study identified five key themes that emerged from the daily routines of college physical education teachers at five universities in Hunan: PE Educators' Preparedness, PE Educators' Self-Improvement, PE Educators' Well-being, PE Educators' Collaboration, and PE Educators' Accountability.

The teacher respondents expressed their desire for improved school leadership, enhanced professional development, innovative evaluation methods, addressing structural challenges, and promoting collaboration. Utilize benchmarking and partnership strategies to implement student-centered instruction and foster mutual respect. The teacher respondents are observed to utilize effective strategies, such as assigning meaningful tasks, implementing gamification and cooperative learning, employing both positive and negative reinforcement, and utilizing a diverse range of teaching methods.

Provisioning modern facilities to enhance coach training and foster talent development in students for competitive preparation.

To enhance the Physical Education department, the teachers desire leaders who can effectively collaborate with their subordinates and prioritize the teachers' requirements in terms of professional growth, state-of-the-art equipment, a secure setting, and financial resources.

The physical education department should consist of teachers who collaborate on resources and best practices, implement student-centered activities, participate in professional development, stay updated on the latest trends in physical education, and have a genuine passion for teaching.

CONCLUSIONS

Based on the summary of the findings presented, the following generalizations are formulated:

1. Regarding all the sub-factors in QPE, both the teacher and student respondents assessed them as either "clearly perceived" or "strongly perceived". Interestingly, it is an indicator of the positive assessment of the respondents in the overall PE curriculum in their universities.

2. The study's noteworthy findings on the teacher respondents' assessment of QPE in terms of age and years in service led to the rejection of the null hypothesis. However, the study found no statistically significant difference in terms of gender, educational attainment, and school leading to the adoption of the null hypothesis.

3. Regarding all the profiles taken as a factor among the student respondents, there is no significant difference in age and gender in assessing the QPE. On the one hand, the school of the respondents does matter.

4. Among the sub-factors, the instructional strategy of the PE curriculum in five universities garnered the highest interpretation of strongly perceived. The instructional strategy includes PE programs enhancing students' physical activities through interaction with classmates, the extension of sports and physical activities outside the school, and the realization of how the body works and physical activities together.

5. Programs on sport-related after-school programs and co-curricular activities programs; teaching elements promoting the importance of physical activities, health, communication with others, develop basic motor skills; safe and suitable equipment for works of teaching and learning in physical education lessons were included in the respondents' PE curriculum. Though the latter was ranked the least among the indicators.

6. The programs in the PE curriculum characterize meaningful goals in real life such as developing the students' basic skills in decision-making and communication and setting and achieving personal goals for healthy living.

7. Community involvement, personal and social development, serving sports clubs in school or community, developing advanced proficiency in different physical and sports activities, and participating in and out-of-school programs available within the community were the focus of the university's Physical Education Program.

8. Hunan universities' PE curriculum promotes cognitive skill development such as critical thinking skills, problem-solving skills, innovative thinking skills, and independent thinking ability.

9. The role of physical education as part of a balanced education system for the realization of human potential, health well-being of all citizens, partnering with international financial institutions, the identifying qualification of teachers for a good quality of PE education, and the clear policy for human rights issue among children were given recognition in five Hunan universities.

10. The typical day of college physical education teachers at five universities in Hunan emerged five themes: PE Educators' Preparedness, PE Educators' Self-Improvement, PE Educators' Well-being, PE Educators' Collaboration, and PE Educators' Accountability.

11. The teacher respondents aspired to have better school leadership, Strengthened Professional Development, Innovative Evaluation, Structural challenges, and Fostering Collaboration. Benchmarking and Partnership, employ student-centered instruction and establish mutual respect.

12. It is noted that teacher respondents employ best practices: meaningful tasks, employ gamification and cooperative learning, positive and negative reinforcement, and eclectic teaching methods.

13. Provision for modern facilities to improve in training the coaches to cultivate the talents and prepare the students for competition.

14. To improve the Physical Education department, the teachers wish to have leaders who work harmoniously with subordinates and see the needs of the teachers in terms of professional development, modern equipment, a safe environment, and financial needs.

15. The PE department must have teachers who share resources and best practices, employ student-centered activities, engage in professional development, keep abreast of the newest trends in PE education, and love teaching.

RECOMMENDATIONS

The following recommendations are formulated by the researcher for the further enhancement of the PE curriculum in the classroom based on the study's findings and conclusions:

1. For school administrators, investing in new and modern equipment that is interesting for students and securing spaces both in and outside the vicinity of the school are noteworthy projects.

2. Promote and maintain the implementation of the PE curriculum in the universities in Hunan through the provision of a support system or partnership from the administrators and government agencies.

3. Institutionalize the university's best practice of creating a professional learning community to bring different strengths, knowledge, skills, and experiences to teachers who want to improve practice.

4. Consider the proposed innovation of physical education programs to improve teachers' teaching pedagogy.

5. For future researchers, include the implementation of the PE curriculum in the university in addition to inquiry on the level of assessment and focus group discussion. Using triangulation research enhances the validity and credibility of the findings.

6. Future research should investigate local and central government policies related to sports funding in the regions because, with sufficient funding, it will be easier to maintain the training spirit of athletes, the fighting spirit of coaches, and that of other supporting staff.

REFERENCES

1) Abun, D. et al (2021) The effect of educational attainment, and length of work experience on the self-efficacy of teachers and employees. International Journal of Business Ecosystem & Strategy, 2021, 3, pp.16 - 28. ff10.36096/ijbes.v3i2.258ff. ffhal- 03418003f

2) Agyekum, Samuel. (2021) The Effects of rewards and punishments on Discipline and motivation in Adolescence. University of the People. DOI:10.13140/RG.2.2.21837.15847

3) Ahmad, S. (2020). Identification of quality indicators in teacher education program. Journal of Education and Practice. ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.11, No.1, 2020 www.iiste.org

4) Ahmed, D. M., Ho, W. K. Y., Mataruna-Dos-Santos, L. J., & Alharamlah, A. (2020). Motivation to participate in physical activity and sports: Age transition and gender differences among India's adolescents. Cogent Psychology, 7(1), 1–17. https://doi.org/10.1080/ 23311908.2020.1798633

5) Ahmed, M. D., Heydari, R., Kukurová, K., Esfahani, M., & Ho, W. (2023). A quantitative analysis measuring professionals' perception about quality physical education (QPE). Cogent Education, 10(2) doi: https://doi.org/10.1080/2331186X.2023.2248887

6) Ahmet Enes Sağin, Uğraş, S., & Güllü, M. (2022). Bullying in physical education: Awareness of physical education teachers. Physical Culture and Sport, 95(1), 40-53. doi:https://doi.org/10.2478/pcssr-2022-0010

7) Aksovic,N., Bjelica, B., Jovanovic, L. (2021). Teaching methods on teaching physical education. Italian Journal of Sports Rehabilitation and Posturology. https://www.researchgate.net/publication/350979264_Teaching_methods_in_teaching_physical_education

8) Aygun, Y., Boke, H., Fatma, H. Y., Tufekci, S., Murathan, T., Gencay, E., . . . Ardigò, L. P. (2024). Emotional and social outcomes of the teaching personal and social responsibility model in physical education: A systematic review and meta-analysis. Children, 11(4), 459. doi:https://doi.org/10.3390/children11040459

9) Bae, S. (2018). Redesigning systems of school accountability: A multiple measures approach to accountability and support. Education Policy Analysis Archive, 26(8), 1-32. https://doi.org/10.14507/epaa.26.2920

10) Barroso Jerez, M. C. (2018). Educacion en la sociedad del conocimiento y desarrollo sostenible: XXXVII Seminario Interuniversitario de Teoria de la Educacion.

11) Beni, S., Chróinín, D. N., & Fletcher, T. (2021). 'It's how PE should be!': Classroom teachers' experiences of implementing Meaningful Physical Education. European Physical Education Review, 27(3), 666-683. https://doi.org/10.1177/1356336X20984188

12) Breisacher, J. (2019). Easy Student-Centered Physical Education for 21st Century Students https://www.studentcenteredworld.com/student-centered-physical-education/

13) Capitanescu-Benetti, A., & D´Adonna, C. (2020) Les parents, enseigant dans la clase à l´heure du Covid-19. N´Autre École Hebdo.

14) Centers for Disease Control and Prevention. Comprehensive School Physical Activity Programs: A Guide for Schools. Atlanta, GA: U.S. Department of Health and Human Services (2013)

15) Chang, C. M., Hsieh, H. H., Chou, Y. H., & Huang, H. C. (2021). The relationship between physical education teachers' perceptions of principals' transformational leadership and creative teaching behavior at junior and senior high schools: A cross-level moderating effect on innovative school climates. Sustainability (Switzerland), 13(15), 1–11. https://doi.org/10.3390/su13158184

16) Cherry, K. (2024). Operant conditioning in Psychology: Why being rewarded or punished affects how you behave. Very Well Mind. https://www.verywellmind.com/operant- conditioning-a2-2794863

17) Chettaoui, N., Atia, A., & Bouhlel, M. (2020). "Exploring the impact of multimodal adaptive learning with tangible interaction on learning motivation," in Proceedings of the 2020 15th International Conference on Computer Engineering and Systems (ICCES) doi: 10.1109/ICCES51560.2020.9334588

18) Ching, L. & Lund, J. (2018). Assessment for learning in Physical Education: The What, Why and How. Journal of Physical Education, Recreation & Dance. 89. 29-34. 10.1080/07303084.2018.1503119. Accessed April 16, 2024

19) Copp, D. (2019). Accountability testing in Canada: Aligning provincial policy objectives with teacher practices. Canadian Journal of Educational Administration and Policy, 188, 15-35.

20) Cowley, E. S., Watson, P. M., Foweather, L., Belton, S., Thompson, A., Thijssen, D., & Wagenmakers, A. J. M. (2021). "Girls Aren't meant to exercise": Perceived influences on physical activity among adolescent Girls—The HERizon project. Children, 8(1), 31. doi:https://doi.org/10.3390/children8010031

21) Cruz, A. B. (2022). Post-primary school students' attitudes toward physical education and physical activity preferences: Philippines' K-12 program. The Asia - Pacific Education Researcher, 31(5), 507-517. doi:https://doi.org/10.1007/s40299-021-00598-2

22) Dely-Palinkas, A., Tari-Keresztes, N., & Gupta, H. (2023). Conflict management in physical education: The critical role of team-based activities in physical education to improve cooperation and wellbeing. International Journal of Emotional Education, 15(2), 164-168. doi:https://doi.org/10.56300/YVUY2715

23) Erhorn, J; Moeller, L; Langer, W. Academic physical education training for inclusive physical education? A critical review of the state of research. German J Exerc Sport Res; 2020; 4, 50 pp. 487-500. [DOI: https://dx.doi.org/10.1007/s12662-020-00668-5]

24) Ferriz-Valero, A., Østerlie, O., García Martínez, S., & García-Jaén M. (2020). Gamification in Physical Education: Evaluation of impact on motivation and academic performance within higher education. Int J Environ Res Public Health. doi: 10.3390/ijerph17124465.

25) Gazali, N., Saad, N., Cendra R., & Kamaruzamana, S. (2022). Leadership in physical education: Systematic review of the last five years December 2022 Jurnal SPORTIF Jurnal Penelitian Pembelajaran DOI:10.29407/js_unpgri.v8i4.18226

26) Gleddie, D. L., & Morgan, A. (2021). Physical literacy praxis: A theoretical framework for transformative physical education. Prospects, 50(1-2), 31-53. doi:https://doi.org/10.1007/s11125-020-09481-2

27) González-Melero, E., Baena-Extremera, A., & Baños, R. (2023). Current situation of physical activity in the natural environment in physical education in Spain. Apunts.Educació Física i Esports, (153), 9-26. doi: https://doi.org/10.5672/apunts.2014-0983.es.(2023/3).153.02

28) González-Cruz, T. F., Botella-Carrubi, D., & Martínez-Fuentes, C. M. (2019). Supervisor leadership style, employee regulatory focus, and leadership performance: A perspectivism approach. Journal of Business Research, 101(June 2018), 660–667. https://doi.org/10.1016/j.jbusres.2019.01.065

29) Global status report on physical activity 2022. Geneva: World Health Organization. License: CC BY-NC-SA 3.0 IGO.

30) Gordon, S. P. (2003) Professional development for school improvement: Empowering learning communities. Pearson

31) Guerrero, M. A., & Laura, G. P. (2023). Advancing gender equality in schools through inclusive physical education and teaching training: A systematic review. Societies, 13(3), 64.   doi:https://doi.org/10.3390/soc13030064

32) Gupta, M., & Verma, G. (2021). Teaching Effectiveness: An analysis on the basis of type of school. 7 (9), Seichen Journal. https://www.researchgate.net/publication/354893908

33) Gwon, H., & Shin, J. (2023). Effects of physical education playfulness on academic grit and attitude toward physical education in middle school students in the Republic of Korea. Healthcare, 11(5), 774. doi: https://doi.org/10.3390/healthcare11050774

34) Kolleck, N., Schuster, J., Hartmann, U., & Gräsel, C. (2021). Teachers' professional collaboration and trust relationships: An inferential social network analysis of teacher teams. Research in Education, 111(1), 89-107. https://doi.org/10.1177/00345237211031585

35) Hapke, J., Töpfer, C., & Lohmann, J. (2021), "Challenging German physical education teacher educators' health-related beliefs through cooperative planning", Health Promotion International, 36, pp. ii26-ii39, doi:10.1093/heapro/daab163.

36) Han, Q.(2022) Using neural network for the evaluation of physical education teaching in colleges and universities. https://doi.org/10.1007/s00500-022-

37) Hartman, R., Townsend, M. & Jackson, M. (2019). Educators' Perceptions of technology integration into the classroom: a descriptive case study. School of Advanced Studies, Univ. of Phoenix, Arizona, USA. https://www.emerald.com/insight/content/doi/10.1108/JRIT-03-20190044/full/html Retrieved February 25, 2024

38) Ho, Y. K. W., Ahmed, D. M., & Klaudia, K. (2020). Development and validation of an instrument to assess quality physical education among Asian professionals. Cogent Education, 8(1), 1864082. https://doi.org/10.1080/2331186X.2020.1864082

39) Houshyar, M., Sajadi, S. H., Amirtash, A., & Anzahaei, Z. H. (2020). Leadership styles of Iranian physical education teachers. Sport TK, 9(1), 113–118. https://doi.org/10.6018/sportk.412591

40) Kelly Le, M. V. (2004) Developing the physical education curriculum: an achievement-based approach. Human Kinetics.

41) King Yan Ho, W., Ahmed, M. D., & Kukurova, K. (2021). Development and validation of an instrument to assess quality physical education. Cogent Education, 8(1) doi:https://doi.org/10.1080/2331186X.2020.1864082

42) Kokkonen, J., Gråstén, A., Quay, J., & Kokkonen, M. (2020). Contribution of motivational climates and social competence in physical education on overall physical activity: A self-determination theory approach with a creative physical education twist. International Journal of Environmental Research and Public Health, 17(16), 5885. doi:https://doi.org/10.3390/ijerph17165885

43) Kozin, O., Kozina, Z., Kozin, V., Korobeinik, V., Panyok, T., Schepelenko, T., & Polishchuk, S. (2023). Influence of the professional and motor skills integral development method application on physical fitness indicators of art faculty students: A randomized control trial. Journal of Physical Education and Sport, 23(6), 1350-1358. doi:https://doi.org/10.7752/jpes.2023.06165

44) Krauss, S., Bruckmaier, G., Lindl, A., Hilbert, S., Binder, K., Steib, N. & Blum, W. (2020), "Competencies a continuum in the COACTIVstudy:the'cascademodel", ZDM, 52 (2), 311-327,doi:10.1007/s11858-020-01151-z.

45) Ladwig, M. A., Vazou, S., & Ekkekakis, P. (2019). My best memory is when I was done with it: PE memories are associated with adult sedentary behavior. Translational Journal of the American College of Sports Medicine 3.

46) Lefstein, A., N. Louie, A. & Segal, A. 2020. Taking tock of research on teacher collaborative discourse: Theory and method in a Nascent Field." Teaching and Teacher Education 88: 102954. doi:10.1016/j.tate.2019.102954.

47) Leung, Y., et al. (22024). Estimating gender differences in the association between cognitive resilience and MCI incidence. https://www.researchgate.net/publication/380318061

48) Marttinen, R., Fredrick, R. N., & Silverman, S. (2018). Changes in student attitude toward physical education across a unit of instruction. J. Phys. Educ. Sport 18, 62–70.

49) Meirink, J., A. Van Der Want, M. Louws, P. Meijer, H. Oolbekkink-Marchand, & H. Schaap. 2020. Beginning Teachers' Opportunities for Enacting Informal Teacher Leadership: Perceptions of Teachers and School Management Staff Members. European Journal of Teacher Education 43   (2): 243–257.

50) Meryani, A. S. (2019). Data management base. International Journal of Scientific & Technology Research. 8 (6). Retrieved http://www.ijstr.org/final-print/june2019/Database-Management-System.pdf

51) Merriam-Webster (2024). "Physical education." Merriam- Webster.com Dictionary, https://www.merriam-webster.com/dictionary/physical%20education. Accessed 25 Feb. 2024.

52) Moore, K. (2018). Teachers' perceptions on principal digital leadership behaviors that impact technology use in the classroom. Dallas Baptist University.

53) Onyebuenyi Promise, N, Onovo Nonso, E., Ewe Ugochukwu, C., & Njoku Ndubueze, A. (2022). Impact of School Physical Facilities on Students' Academic Performance in Senior Secondary Schools in Aba Education Zone of Abia State.https://www.researchgate.net/publication/364150933_Impact_of_School_Physical_Facilities_on_Students'_Academic_Performance_in_Senior_Secondary_Schools_in_Aba_Education_Zone _of_Abia_State

54) Otero, F. L. (2002). Desarrollo sostenible en el deporte, el turismo y la educacion fisica.

55) Park, Y. (2024). Integrating career education into physical education:Insights from the sports DreamCatcher initiative. Journal of Physical Education and Sport, 24(3), 499-512. doi:https://doi.org/10.7752/jpes.2024.03061

56) Patel, D. (2023). A study of the physical education infrastructure in India. International Journal of Novel Research and Development. https://www.ijnrd.org/papers/IJNRD2304155.pdf

57) Pierce, S. (2019). The importance of building collective teacher efficacy: Leadership and accountability are crucial to student success. Leadership, 22-26.

58) Rahman, M., Santosa, A., & Sihotang, H. (2020). The Influence of principals' leadership, teachers' performance and internal quality assurance system in improving the quality of education in vocational high schools. Magister Manajemen Pendidikan. 7(2).

59) Rahman, R. A., Zakaruya, N. H., Jannatun, S. N. H., & Ahmad, N. N. (2020). Enhancing students' achievement through Astin theory of involvement. University Utara, Malaysia.

60) Edu Sportivo: Indonesian Journal of Physical Education.

61) Raza, A., & Zainab, H. (2019). The good teacher attributes–a cross-sectional study on teaching evaluation at Rehman medical college, Peshawarq. The Professional Medical Journal, 26(06), 881-888.

62) Ressler, J. D., & Rodriguez, A. (2020). Possibilities for Leadership Development in High School Physical Education. Strategies, 33(6), 50–52. https://doi.org/10.1080/08924562.2020.1782135

63) Rocliffe, P., Brendan T. O' Keeffe, Sherwin, I., Mannix-McNamara, P., & MacDonncha, C. (2023). School-based physical education, physical activity, and sports provision: A concept mapping framework for evaluation. PLoS One, 18(6) doi:https://doi.org/10.1371/journal.pone.0287505

64) Rosenheck, L. (2023). Teacher wellbeing: Why 2023 needs to be the Year of the Teacher. Future of Education Technology Conference. www.fetc.org.

65) Salmon, M.R., & Ali, A.A. (2019). Problems of female teachers working at boy's schools for the intermediate stage comparative field study. Lark Journal for Philosophy. Linguistic and Social Sciences, 4 (35), 109-128. https//www.iosj.net/rosy/article 170553

66) Sangco, A. E. (2022). Emerging physical education teaching strategies and students' academic performance: Basis for a development program. Psychology Education. Document ID: PEMJ0 DOI:10.5281/zenodo.7031217

67) Silva, R., Farias, C., & Mesquita, I. (2021). Challenges faced by preservice and novice teachers in implementing student-centered models: a systematic review. Eur Phys Educ Rev; [DOI: https://dx.doi.org/10.1177/1356336X21995216]

68) SHAPE America, 2024 https://www.shapeamerica.org/MemberPortalpublications/resources/teachingtools/teachertoolbox/What_Is_Physical_Education.aspx

69) Siedentop, D., & Tannehill, D. (2000). Developing teaching skills in physical education. Mountain View, CA: Mayfield, 2000. [10] Stillwell JL, Willgoose CE. The physical education curriculum. Long Grove, Illinois.

70) Simon, W. (2024). 2024 physical education a student's most important subject? TEDTALK. Retrieved Feb 25, 2024

71) Singh, R. (2020). What is multimedia and the use of multimedia in education and entertainment? https://www.careerbodh.in/post/what-is- multimedia-and-use-of-multimedia-in-education-and-entertainment

72) Tang, K. D. (2023). Impacts of COVID-19 on primary, secondary, and tertiary education: A comprehensive review and recommendations for educational practices. Educational Research for Policy and Practice.

73) Tatum,M.(2022)What is software evaluation? https://www.easytechjunkie.com/what-is-software evaluation. htm#:~:text=A%20software%20evaluation%20is%20a,needs%20of%20a%20given%20client

74) Thornberg, R., Forsberg, C., Hammar Chiriac, E., & Bjereld, Y. (2020). Teacher–Student Relationship Quality and Student Engagement: A Sequential ExplanatoryMixed-Methods Study. Research Papers in Education, 37(6), 840–859. https://doi.org/10.1080/02671522.2020.186477

75) Tzeni, D., Ioannis, A., Athanasios, L., & Amalia, S. (2019). Effective school leadership according to the perceptions of principals and physical education teachers. Journal of Physical Education and Sport, 19, 936–944. https://doi.org/10.7752/jpes.2019.s3135

76) Umar, O. Y., & Mardesia, P. (2023). A correlational study: Pedagogical and professional competence of physical education teachers in relation to the implementation of the merdeka curriculum. Journal of Physical Education and Sport, 23(12), 3325-3331. doi:https://doi.org/10.7752/jpes.2023.12380

77) Uhlenbrock, C., & Meier, H. E. (2021). Public-private partnerships in physical education: The catalyst for UNESCO's quality physical education (QPE) guidelines. Sport, Education and Society, 26(5), 527-540. doi:https://doi.org/10.1080/13573322.2020.1754780

78) Utami, I.S. (2018), "The effect of blended learning model on senior high school students' achievement", SHS Web of Conferences, 42, doi:10.1051/shsconf/20184200027.

79) Ward, P., & Cho, K. (2020) Five Trends in Physical Education Teacher Education, Journal of Physical Education, Recreation & Dance, 91:6, 16-20, DOI: 10.1080/07303084.2020.1768182

80) White, L. (2020). The importance of accountability in teacher learning. BU Journal of Graduate Studies in Education, 12 (1), 2020. EJ1262922.pdf (ed.gov)

81) WHO (2018). Global action plan on physical activity 2018-2030: more active people for a healthier world. Geneva: World Health Organization.

82) Val Martin, P., Kukurova, K., Ho, W., Sanchez, D., & Oblador, S. (2023). The perceptual understanding of quality physical education (QPE) from professionals in Ecuador. Retos, 48, 16-23.

83) Vetter, M. K., Schreiner, L. A., McIntosh, E. J., & Dugan, J. P. (2019). Leveraging the quantity and quality of co-curricular involvement experiences to promote student thriving. Journal of Campus Activities Practice and Scholarship.

84) Yambi, T. & Yambi, C. (2020). Assessment and evaluation in education. Research Gate. https://www.researchgate.net/publication/342918149_Assessment_and_evaluation_in_education. Retrieved April 16, 2024.

85) Zeng, J. (2019). Reform and innovation of physical education in colleges and universities from the perspective of healthy China. Advances in Higher Education.