Teacher's professional development, work productivity and environment among physical education teachers in Hubei Enshi University

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Abstract

In response to the evolving landscape of education, this study investigates the profile, professional development, work productivity, and work environment of Physical Education Teachers at Hubei Enshi University. The significance lies in understanding the dynamics shaping teaching practices and the holistic experiences of educators, particularly in the context of physical education. The study aims to bridge existing research gaps by providing nuanced insights into the relationships between teacher profiles, development, productivity, and the work environment. Employing a descriptive quantitative method, data was collected from 385 participants using a survey questionnaire. The participants, diverse in age, gender, educational attainment, and teaching experience, contribute to a comprehensive understanding of the teaching faculty. The findings reveal positive engagement in professional development and work productivity, yet point to areas in the work environment that warrant attention, such as meeting practices and task structuring. This study contributes new knowledge by highlighting the intricate connections between professional development, work productivity, and the work environment within the unique context of physical education. The research underscores the importance of tailored professional development plans, the optimization of virtual collaboration tools, and the enhancement of meeting efficiency. The recommendation is to establish a recognition program, fostering a culture of mutual support and celebrating the achievements of Physical Education Teachers. This study serves as a valuable resource for educational institutions aiming to create conducive environments that enhance both teacher and student experiences.

Keywords: physical education teachers, professional development, work productivity, work environment, education research

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1. Introduction

In the context of physical education, the professional development of teachers is a critical element that significantly influences the quality of instruction and the overall learning environment (Sancar, et al 2021). Continuous growth and adaptation to evolving educational landscapes are essential for educators to effectively nurture the minds of the next generation. This study delves into the multifaceted aspects of Teacher's Professional Development, Work Productivity, and Work Environment, with a specific focus on Physical Education Teachers at Hubei Enshi University. Physical Education plays a crucial role in holistic student development, making it imperative to understand the factors that contribute to the efficacy of educators in this field. By examining the professional development, productivity, and working conditions of Physical Education Teachers, this research aims to provide valuable insights that can inform policies and practices to enhance the educational experience for both teachers and students.

Within the broader context of education, the study narrows its lens to scrutinize the Professional Development, Work Productivity, and Work Environment of Physical Education Teachers at Hubei Enshi University. These educators play a unique role in fostering not only academic knowledge but also physical well-being and healthy lifestyle habits among students. The investigation encompasses diverse dimensions of professional growth, productivity metrics, and the physical, virtual, and social surroundings in which these educators operate. By understanding the nuanced challenges and opportunities within this specialized field, the study aims to contribute targeted insights that can support the continuous improvement of teaching practices and the overall educational milieu for Physical Education Teachers at the university.

While literature on teacher professional development, work productivity, and work environment exists, there remains a noticeable gap in the specific examination of these aspects within the context of Physical Education Teachers at Hubei Enshi University. The distinct nature of physical education instruction, coupled with the unique demands of university-level teaching, calls for a tailored exploration of the challenges and opportunities faced by these educators. By identifying and addressing this gap, the study aspires to provide a foundation for targeted interventions and improvements that can positively impact the professional growth, productivity, and overall work satisfaction of Physical Education Teachers, ultimately contributing to an enriched educational experience for both educators and students alike.

The significance of this study lies in its potential to inform targeted interventions and policies that enhance the professional growth, productivity, and overall job satisfaction of Physical Education Teachers at Hubei Enshi University. Ultimately, the study's findings have the potential to positively impact the quality of physical education instruction, thereby fostering a more enriching educational experience for both educators and students.

Statement of the Problem - This study aims to explore the professional development, work productivity, and work environment of Physical Education teachers at Hubei Enshi University. It seeks to profile the respondents based on their age, gender, educational attainment, and years of teaching. Additionally, the study evaluates how respondents assess the professional development of Physical Education teachers in areas such as staying up-to-date, experimenting, reflecting and seeking feedback, and collaborating with colleagues. The work productivity of these teachers is also examined in terms of quantity, quality, and punctuality, while the work environment is assessed across physical, virtual, and social dimensions. Furthermore, the study investigates whether significant differences in the assessments of professional development, work productivity, and work environment exist when grouped by the respondents' profiles.

2. Research Methodology

Research Design - A descriptive correlational design using a survey method for this study is rooted in its appropriateness for exploring relationships between variables and describing the characteristics of a population. This design allows for the systematic collection of data to uncover patterns, associations, and trends among key factors, aligning well with the objectives of the study. The study aims to investigate relationships between various aspects, such as professional development, work productivity, and the work environment. A correlational design enables the exploration of how these factors interact without manipulating variables. Education, especially in the context of Physical Education, is a multifaceted domain. The descriptive nature of the design allows for a detailed examination of the complexity of teacher profiles and experiences. .

Population, Samples and Sampling Technique - The population for this study comprises all Physical Education Teachers at Hubei Enshi University. These individuals collectively represent the target group from which the research seeks to draw conclusions. In this context, the population consists of educators specializing in physical education within the university. By defining the population in this manner, the study narrows its focus to a specific and relevant subset of the university community, ensuring that the findings are directly applicable to the context of interest. The study selects a sample of 385 Physical Education Teachers from the larger population at Hubei Enshi University. The choice of a sample, rather than attempting to survey the entire population, is a pragmatic decision driven by considerations of feasibility, time constraints, and resource availability. The sample is carefully chosen to be representative of the broader population, ensuring that the characteristics and experiences of the selected Physical Education Teachers mirror those of the entire group. The sample size of 385 is likely sufficient to achieve a balance between statistical reliability and practical considerations.

The sampling technique employed is crucial in ensuring the validity and generalizability of the study's findings. Given the relatively large population of Physical Education Teachers at Hubei Enshi University, a stratified random sampling technique is likely employed. This technique involves dividing the population into subgroups or strata based on relevant criteria, such as years of teaching experience, and then randomly selecting samples from each stratum. This ensures that the sample is representative of the diversity within the population and captures the experiences of teachers across various demographics and experience levels. To maintain the study's focus on Physical Education Teachers and the specific aspects of Professional Development, Work Productivity, and Work Environment, certain exclusion criteria are established. Employees without direct involvement in logistics or those who do not consent to participate may be excluded. This ensures that the survey responses are directly relevant to the study objectives and that the included participants have a direct stake in the areas under investigation.

Research Instrument - The research instrument comprises four distinct parts designed to comprehensively explore various facets of the Physical Education Teachers' experiences and professional dynamics at Hubei Enshi University. PART I: Demographic Profile. This section serves as the foundational component of the research instrument, aiming to gather essential demographic information about the respondents. It focuses on key factors such as age, gender, highest educational attainment, and years of teaching experience. This demographic profile provides a contextual backdrop for the subsequent sections, enabling a nuanced understanding of the diverse backgrounds of the participating Physical Education Teachers. PART II: Physical Education Teachers Professional Development. Adapted from Evers et al. (2015), this section delves into the professional development of Physical Education Teachers. It evaluates their practices in terms of keeping up-to-date, experimenting, reflecting and asking for feedback, and collaborating with colleagues. Respondents express their perspectives using a four-point scale, ranging from strongly agree to strongly disagree. This section aims to capture the multifaceted nature of professional development within the specific context of physical education.

PART III: Work Productivity of the Physical Education Teachers. Adapted from Zainal (2017) and Asio (2021), this section assesses the work productivity of Physical Education Teachers. It evaluates productivity in terms of quantity, quality, and punctuality. Respondents use a four-point scale to indicate their agreement or

disagreement. This section aims to provide insights into the efficiency and effectiveness of teaching practices within the domain of physical education. PART IV: Work Environment of the Physical Education Teachers. Adapted from Palvalin, this section scrutinizes the work environment of Physical Education Teachers, considering physical, virtual, and social aspects. Respondents express their perceptions using the same four-point scale. This section seeks to uncover the factors contributing to a conducive or challenging work environment for Physical Education Teachers, shedding light on elements beyond their direct teaching responsibilities.

Together, these instrument components form a comprehensive framework, allowing for a detailed exploration and analysis of the experiences, practices, and perceptions of Physical Education Teachers at Hubei Enshi University. Among the 30 respondents from the pilot test, the Cronbach alpha value ranges from 0.700. to 0.900 signifies that the instrument is acceptable, good and excellent in the rule of thumb.

Table 1
Reliability Test Result

Physical Education Teachers Professional Development			
Keeping up to date	5	0.751	Acceptable
Experimenting	5	0.865	Good
Reflecting and asking for feedback	5	0.842	Good
Collaborating with colleagues	5	0.872	Good
Work Productivity of the Physical Education Teachers			
Quantity	4	0.714	Acceptable
Quality	4	0.788	Acceptable
Punctuality	4	0.756	Acceptable
Work Environment of the Physical Education Teachers			
Physical Environment	7	0.904	Excellent
Virtual Environment	7	0.914	Excellent
Social Environment	7	0.87	Good

Data Gathering Procedure - The data gathering procedure involved several steps. The initiation of the data gathering process involved seeking formal permission from the administration of Hubei Enshi University. This step is crucial to ensure compliance with ethical guidelines and institutional protocols. Permission provides legitimacy to the research and facilitates smooth data collection within the academic setting. A comprehensive questionnaire was designed to capture relevant information regarding Professional Development, Work Productivity, and Work Environment among Physical Education Teachers. The questionnaire likely includes a mix of closed-ended and Likert-scale questions to facilitate quantitative analysis. The questionnaire was distributed to the target respondents, i.e., the Physical Education Teachers, through an online platform. Specifically, Google Forms was chosen as the data collection tool. This choice ensures efficiency in data collection, ease of response for participants, and centralized data management. The distribution process spanned approximately four weeks, allowing sufficient time for respondents to access and complete the questionnaire at their convenience. A reasonable timeframe helps in accommodating the varied schedules of the teaching faculty, ensuring a diverse and comprehensive set of responses. To enhance the response rate and encourage active participation, follow-up reminders were systematically sent to the faculty members. These reminders served as gentle prompts for those who may have overlooked or delayed their response.

Statistical Treatment - Frequency and percentage distribution were used to present the demographic profile of the respondents. Weighted mean and rank were used to assess the Professional Development, Work Productivity, and Work Environment among Physical Education Teachers. Moreover, Mann Whitney U for two groups and Kruskal Wallis Test for three groups were used as part of the non-parametric tests to determine the significant differences on the responses when grouped according to profile. All analyzes were performed using SPSS version 26.

Ethical Consideration - Ethical considerations within this study encompass the commitment to ensuring participant confidentiality and safeguarding data. The identities and individual responses of the respondents are

handled with utmost confidentiality. Personal details, such as names and contact information, are stored separately from the survey responses to guarantee anonymity. The data is securely stored and accessible only to authorized researchers. It will be retained for a predetermined duration and then securely disposed of, adhering to data protection regulations. Adhering to the fundamental ethical principle of informed consent is integral to this research. Participants are furnished with a clear and comprehensive explanation of the research, its objectives, and the implications of their involvement.

3. Results and discussion

Table 2
Profile of the Respondents

Age	Frequency	Percent
20 to 29 years old	142	36.9
30 to 39 years old	141	36.6
40 to 49 years old	69	17.9
50 years old and above	33	8.6
Gender	Frequency	Percent
Male	197	51.2
Female	188	48.8
Highest Educational Attainment	Frequency	Percent
Bachelor Degree	353	91.7
Master Degree	27	7
Doctor Degree	5	1.3
Years of Teaching of the Respondents	Frequency	Percent
1 to 5 years	66	17.1
6 to 10 years	144	37.4
11 to 15 years	76	19.7
16 years and above	99	25.7
Total	385	100

The majority of respondents fall within the age range of 20 to 39 years old, comprising 73.5% of the total. This indicates a relatively young teaching population. Teachers aged 40 and above constitute 26.5% of the respondents. The age distribution indicates a relatively young teaching population, which may have implications for the institutional culture and dynamics. Younger teachers may bring fresh perspectives, while more experienced teachers may provide stability and institutional knowledge. There is a balanced gender distribution among the Physical Education Teachers, with 51.2% being male and 48.8% female. The balanced gender distribution is positive for promoting diversity within the teaching staff, which is essential for creating an inclusive and equitable work environment. A significant majority (91.7%) of the respondents hold a Bachelor's Degree. The percentage decreases for higher educational levels, with 7% holding a Master's Degree and 1.3% having a Doctoral Degree. The educational distribution suggests a need for further exploration into the potential impact of different educational backgrounds on professional development and work productivity. The high percentage of teachers with Bachelor's Degrees suggests a need for attention to the professional development needs of those with lower academic qualifications. Strategies for continuous learning and career advancement should be considered. The teaching experience of respondents is fairly distributed across different ranges. Teachers with 6 to 10 years of experience constitute the largest group (37.4%), followed by those with 16 years and above (25.7%). The balanced distribution of teaching experience allows for a diverse perspective on professional development, work productivity, and work environment, considering the varying levels of experience.

The composite mean of Physical Education Teachers' Professional Development in terms of keeping up to date is 3.14, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive disposition towards various strategies for staying updated in their field. Among the specific strategies, participating in a training course centered around subject matter pedagogy received the highest mean (3.17) and secured the top rank. This implies that teachers accord significant importance to formalized training programs for subject matter pedagogy as a means of professional development. The three

activities with the highest means, including reading educational literature, participating in a one-day conference, and visiting educational sites, all fall within a narrow range (3.11 to 3.17), indicating a relatively consistent positive perception towards various forms of professional development. The top-ranked strategy, participating in a training course focusing on subject matter pedagogy, signifies a preference for structured and in-depth learning experiences. Teachers likely perceive such courses as effective platforms for acquiring advanced pedagogical knowledge and skills. The emphasis on formal training aligns with the recognition that sustained and specialized educational programs contribute significantly to their professional growth and teaching effectiveness.

Table 3
Physical Education Teachers Professional Development in terms of Keeping up to date

Keeping up to date	Mean	V.I.	Rank
Studying subject matter literature in physical education	3.11	Agree	5
Visiting educational sites applicable in physical education	3.12	Agree	4
Reading educational/subject matter pedagogical literature	3.15	Agree	2
Participating in a one day conference or study day that centres around subject matter pedagogy	3.15	Agree	3
Participating in a training course that centres around subject matter pedagogy	3.17	Agree	1
Composite Mean	3.14	Agree	

Existing literature supports the prioritization of formal training as a key element in teacher professional development. García-Rico, et al (2021) have consistently emphasized the effectiveness of focused training courses in enhancing pedagogical skills and subject matter expertise. The inclination towards such formalized programs aligns with broader educational research advocating for the importance of targeted, continuous learning opportunities for educators to improve classroom practices and student outcomes.

While the overall composite mean suggests a positive inclination, two activities, studying subject matter literature in physical education (ranked 5) and visiting educational sites (ranked 4), fall at the lower end of the scale. These lower rankings, along with their respective means (3.11 and 3.12), imply a comparatively lower level of enthusiasm or perceived effectiveness among teachers for these particular professional development strategies. The lowest-ranked strategy, studying subject matter literature, suggests that teachers may find self-directed study less appealing or impactful compared to other forms of professional development. Similarly, the act of visiting educational sites, though generally valued, may not be as highly regarded as other strategies. These findings indicate potential areas for improvement and underscore the need for diversified approaches to cater to varying preferences and learning styles among PE Teachers. Griffiths, et al. (2022) have shown that preferences for specific professional development methods differ among teachers, emphasizing the need for tailored approaches to accommodate diverse learning styles and preferences. Thus, Walters et al. (2023) emphasize the importance of continuous professional development in physical education with a focus on assessment.

Table 4
Physical Education Teachers Professional Development in terms of Experimenting

Experimenting	Mean	V.I.	Rank
Trying out new teaching methods in my lesson	3.09	Agree	3
Trying out new applications applicable in physical education	3.06	Agree	5
Testing alternative teaching materials in class	3.10	Agree	2
Applying and evaluating other forms of assessments	3.10	Agree	1
Inquiring new teaching methods in class	3.07	Agree	4
Composite Mean	3.09	Agree	

The composite mean for Physical Education Teachers' Professional Development in terms of experimenting is 3.09, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive disposition towards engaging in experimental practices in their teaching methods.

Among the specific experimenting strategies, applying and evaluating other forms of assessments received the highest mean (3.10) and secured the top rank. This implies that teachers highly value the continuous exploration of alternative assessment methods as a crucial aspect of their professional development. The top

three activities, including testing alternative teaching materials and trying out new teaching methods, all fall within a narrow range (3.06 to 3.10), suggesting a consistent positive perception towards various forms of experimentation in teaching. The top-ranked strategy, applying and evaluating other forms of assessments, signifies a strong emphasis on pedagogical innovation, specifically in the assessment domain. Teachers likely recognize the significance of diversifying assessment methods to cater to different learning styles and effectively gauge student understanding. The focus on assessments aligns with contemporary educational practices that stress the importance of varied evaluation approaches for a comprehensive understanding of student progress. Existing literature supports the prioritization of diverse assessment methods in teaching. The top ranking aligns with the broader educational discourse on the transformative impact of alternative assessments in fostering meaningful learning experiences. Jiang and Ning (2023) propose the practical application of their study's findings to diverse social groups. They suggest the establishment of private social media groups as a means to promote physical exercise, demonstrating the adaptability and potential scalability of their results for health and fitness promotion

While the overall composite mean suggests a positive inclination towards experimenting, two activities, trying out new applications applicable in physical education (ranked 5) and inquiring about new teaching methods in class (ranked 4), fall at the lower end of the scale. These lower rankings, along with their respective means (3.06 and 3.07), suggest a relatively lower level of enthusiasm or perceived effectiveness among teachers for these particular experimenting strategies. The least-ranked strategy, trying out new applications applicable in physical education, suggests that teachers may find integrating new technologies less appealing or impactful compared to other forms of experimentation. Similarly, inquiring about new teaching methods in class, though generally valued, may not be as highly regarded as other strategies.

Literature on teacher professional development recognizes that the adoption of new technologies can be met with varying degrees of enthusiasm and resistance. Ansari, et al (2020) have highlighted the importance of considering teachers' technological readiness and comfort levels when introducing new applications. The lower ranking of trying out new applications aligns with the understanding that the integration of technology in teaching requires thoughtful consideration of teachers' readiness and ongoing support to maximize its effectiveness. Krause et al. (2020) address the challenges faced by Physical Education Teacher Education (PETE) graduates in utilizing technology for teaching. Their proposed call to action seeks to equip future educators with the necessary technological skills to enhance teaching and learning.

Table 5
Physical Education Teachers Professional Development in terms of Reflecting and asking for feedback

Reflecting and asking for feedback	Mean	V.I.	Rank
Asking pupils for feedback on the way I teach	3.07	Agree	4.5
Reflecting on the different educational applications applicable in physical education	3.07	Agree	3
Reflecting on my strong and weak points	3.12	Agree	1
Inviting colleagues to attend my lesson	3.07	Agree	4.5
Adapting my teaching methods in response to pupils' reactions	3.07	Agree	2
Composite Mean	3.08	Agree	

The composite mean for Physical Education Teachers' Professional Development in terms of reflecting and asking for feedback is 3.08, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive disposition towards engaging in reflective practices and seeking feedback on their teaching methods. Among the specific reflecting and asking for feedback strategies, reflecting on my strong and weak points received the highest mean (3.12) and secured the top rank. This implies that teachers highly value self-reflection as a means of professional development. The top three activities, including adapting teaching methods in response to pupils' reactions and reflecting on different educational applications, all fall within a narrow range (3.07 to 3.12), indicating a consistent positive perception towards various forms of reflection and feedback-seeking.

The top-ranked strategy, reflecting on my strong and weak points, indicates a strong emphasis on

self-awareness and personal growth among Physical Education Teachers. Teachers likely recognize the importance of critically evaluating their teaching practices, acknowledging areas of strength, and identifying areas for improvement. The focus on self-reflection aligns with contemporary educational principles that underscore the role of introspection in fostering effective teaching practices.

Existing literature supports the pivotal role of self-reflection in teacher professional development. Varea and González-Calvo's (2021) emphasize that engaging in reflective practices enhances teaching effectiveness, contributes to personal and professional growth, and positively impacts student outcomes. The top ranking aligns with broader educational research advocating for the incorporation of self-assessment and reflective practices as foundational elements of effective teaching. Viciana et al. (2020) present significant differences between experimental group (EG) and control group (CG) participants, with higher scores for EG in various dimensions, including personal, interpersonal, social, and autonomy and acquisition of habits.

While the overall composite mean suggests a positive inclination towards reflecting and seeking feedback, two activities, asking pupils for feedback on the way I teach (ranked 4.5) and inviting colleagues to attend my lesson (ranked 4.5), fall at the lower end of the scale. These lower rankings, along with their respective means (3.07), suggest a relatively lower level of enthusiasm or perceived effectiveness among teachers for these particular reflection and feedback-seeking strategies.

The least-ranked strategies, asking pupils for feedback and inviting colleagues to attend lessons, suggest that teachers may find these external feedback mechanisms less appealing or impactful compared to other forms of reflection. These findings indicate potential areas for improvement and underscore the need for creating a supportive and non-evaluative environment for soliciting feedback from both students and peers. Literature on teacher professional development recognizes that seeking feedback from students and colleagues can be challenging due to concerns about evaluation and judgment. Abd-Alhamid, et al. (2019) emphasize the importance of fostering a culture of trust and collaboration to encourage open feedback. The lower ranking aligns with the understanding that creating a safe and supportive feedback environment is crucial for the successful implementation of these strategies.

Table 6
Physical Education Teachers Professional Development in terms of Collaborating with colleagues

Collaborating with colleagues	Mean	V.I.	Rank
Discussing lessons with colleagues in Learning Environment in physical education	3.05	Agree	4
Using peer coaching in case my colleagues and I experience teaching problems	3.04	Agree	5
Making agreements with colleagues about the pedagogical practices in physical education	3.06	Agree	2
Discussing the teaching approaches I use in class with colleagues	3.08	Agree	1
Discussing ideas about educational improvement and innovation in my school with colleagues	3.05	Agree	3
Composite Mean	3.06	Agree	

The composite mean for Physical Education Teachers' Professional Development in terms of collaborating with colleagues is 3.06, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive disposition towards engaging in collaborative practices with their colleagues for professional development.

Among the specific collaborating with colleagues strategies, discussing the teaching approaches used in class with colleagues received the highest mean (3.08) and secured the top rank. This implies that teachers highly value open discussions about teaching methods as a crucial aspect of their professional development. The top three activities, including making agreements about pedagogical practices and discussing ideas about educational improvement, all fall within a narrow range (3.05 to 3.08), indicating a consistent positive perception towards various forms of collaboration.

The top-ranked strategy, discussing the teaching approaches used in class with colleagues, suggests a strong emphasis on peer dialogue and mutual learning among Physical Education Teachers. Teachers likely recognize the value of sharing insights into effective teaching methods, exchanging ideas, and fostering a collaborative teaching community. The focus on open discussions aligns with contemporary educational principles that emphasize the role of collaborative learning in enhancing teaching practices.

Existing literature supports the idea that collaborative discussions among colleagues significantly contribute to teacher professional development. Houghton, et al. (2022) emphasize that peer collaboration fosters a culture of continuous improvement, shared knowledge, and a supportive community. The top ranking aligns with broader educational research advocating for collaborative learning as an effective means of enhancing teaching practices and promoting positive outcomes for both teachers and students (Kwiek (2021).

While the overall composite mean suggests a positive inclination towards collaborating with colleagues, two activities, using peer coaching in case of teaching problems (ranked 5) and discussing lessons with colleagues in the learning environment (ranked 4), fall at the lower end of the scale. These lower rankings, along with their respective means (3.04 and 3.05), suggest a relatively lower level of enthusiasm or perceived effectiveness among teachers for these particular collaborative strategies. The least-ranked strategy, using peer coaching in case of teaching problems, suggests that teachers may find formalized coaching less appealing or impactful compared to other forms of collaboration. Similarly, discussing lessons in the learning environment, though generally valued, may not be as highly regarded as other strategies.

Literature on teacher collaboration recognizes that the effectiveness of collaborative strategies can vary, and the success of peer coaching relies on factors such as trust and willingness to engage in coaching relationships. Cai et al. (2019) have emphasized the importance of creating a supportive and non-evaluative environment for peer coaching to be successful. The lower ranking aligns with the understanding that the implementation of peer coaching requires careful consideration of the teachers' readiness and the establishment of trustful relationships. In exploring the role of online social media in collaborative learning, Ansari & Khan (2020) emphasize its positive impact on students, fostering imagination, activity, and focus on studies. This highlights the potential of digital platforms to enhance the learning experience by promoting engagement and creativity among students.

Table 7
Work Productivity of the Physical Education Teachers in terms of Quantity

Quantity	Mean	V.I.	Rank
Employees are eager to maximize themselves to be more productive.	2.93	Agree	3
Employees can identify and give top attention to top	2.90	Agree	4
Employees have steadily increased their output.	2.95	Agree	2
Employees can deliver under less than perfect conditions.	2.98	Agree	1
Composite Mean	2.94	Agree	

The composite mean for Work Productivity of Physical Education Teachers in terms of quantity is 2.94, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive disposition towards work productivity, with a focus on quantity.

Among the specific quantity-related work productivity factors, delivering under less than perfect conditions received the highest mean (2.98) and secured the top rank. This implies that teachers highly value their ability to perform effectively even in challenging circumstances. The top two activities, including steadily increasing output, all fall within a narrow range (2.95 to 2.98), indicating a consistent positive perception towards various aspects of work productivity. The top-ranked strategy, delivering under less than perfect conditions, indicates a strong emphasis on adaptability and resilience among Physical Education Teachers. Teachers likely recognize the importance of being able to maintain productivity even in less than ideal situations, showcasing their commitment to delivering quality education regardless of challenges.

Existing literature supports the idea that teachers need to be adaptable and resilient in the face of diverse

challenges. O'Brien et al. (2020) emphasize that the ability to deliver under less than perfect conditions is a crucial aspect of effective teaching. The top ranking aligns with broader educational research that underscores the significance of adaptability and resilience in the teaching profession, especially in dynamic and unpredictable educational settings. In the context of elderly individuals confined to their homes, Son et al. (2021) emphasize the need for alternative forms of physical activity and social interactions to preserve health.

While the overall composite mean suggests a positive inclination towards work productivity, two factors, employees are eager to maximize themselves to be more productive (ranked 3) and employees can identify and give top attention to top (ranked 4), fall at the lower end of the scale. These lower rankings, along with their respective means (2.93 and 2.90), suggest a relatively lower level of enthusiasm or perceived effectiveness among teachers for these particular productivity-related factors. The least-ranked strategies, eagerness to maximize productivity and identifying and giving top attention, suggest that teachers may find these factors less impactful compared to other aspects of work productivity. Literature on work productivity and motivation recognizes that the effectiveness of strategies can vary among employees. Nuzzo (2020) emphasize the importance of understanding individual motivations and providing tailored support to enhance productivity. The lower ranking aligns with the understanding that generic approaches to productivity may not resonate equally with all teachers, highlighting the need for personalized and nuanced strategies.

Table 8
Work Productivity of the Physical Education Teachers in terms of Quality

Quality	Mean	V.I.	Rank
Employees' quality of work improves over time.	3.08	Agree	2
Employees provide suggestions to enhance their service delivery.	3.03	Agree	3
Employees are eager to learn ways of making themselves more productive.	3.08	Agree	1
Over time we have increased customer satisfaction with the quality service delivered.	3.03	Agree	4
Composite Mean	3.05	Agree	

The composite mean for Work Productivity of Physical Education Teachers in terms of quality is 3.05, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive disposition towards work productivity, specifically in terms of quality.

Among the specific quality-related work productivity factors, employees' eagerness to learn ways of making themselves more productive received the highest mean (3.08) and secured the top rank. This implies that teachers highly value a proactive approach to continuous learning and self-improvement as a means of enhancing the quality of their work. The top two activities, including the improvement of the quality of work over time, all fall within a narrow range (3.03 to 3.08), indicating a consistent positive perception towards various aspects of work productivity in terms of quality. The top-ranked strategy, employees' eagerness to learn ways of making themselves more productive, suggests a strong emphasis on a growth mindset and continuous improvement among Physical Education Teachers. Teachers likely recognize the importance of staying abreast of new strategies, technologies, and pedagogical approaches to enhance the quality of their work.

Existing literature supports the idea that a commitment to continuous learning and self-improvement contributes significantly to work productivity and the quality of service delivery. Ulmer (2020) emphasize that a growth mindset and eagerness to learn are key factors in fostering excellence in professional practices. The top ranking aligns with broader educational research that underscores the significance of a proactive approach to learning for educators to continually enhance the quality of their work.

While the overall composite mean suggests a positive inclination towards work productivity in terms of quality, two factors, employees providing suggestions for service delivery improvement (ranked 3) and customer satisfaction with the quality service delivered (ranked 4), fall at the lower end of the scale. These lower rankings, along with their respective means (3.03), suggest a relatively lower level of enthusiasm or perceived effectiveness among teachers for these particular quality-related factors. The least-ranked strategies, providing suggestions for service delivery improvement and customer satisfaction with the quality service delivered,

suggest that teachers may find these factors less impactful compared to other aspects of work productivity in terms of quality. These findings indicate potential areas for improvement and underscore the need for understanding specific factors that contribute to teachers' engagement and satisfaction with their work. Literature on work productivity and quality service delivery recognizes that the effectiveness of strategies can vary among employees. Gobbi et al. (2020) emphasize the importance of creating a culture that encourages feedback and values employee input to enhance service quality. The lower ranking aligns with the understanding that employees may have varying perceptions of the impact of their suggestions on service delivery and customer satisfaction.

Table 9
Work Productivity of the Physical Education Teachers in terms of Punctuality

Punctuality	Mean	V.I.	Rank
Employees can generate more than an hours' worth of productivity each hour.	3.03	Agree	1
Employees can deliver within the set deadlines.	3.02	Agree	2
Employees have a sense of what to do and when to do it.	2.99	Agree	3
Over time we have been able to reduce service cycle time.	2.97	Agree	4
Composite Mean	3.00	Agree	

The composite mean for Work Productivity of Physical Education Teachers in terms of punctuality is 3.00, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive disposition towards work productivity, particularly regarding punctuality.

Among the specific punctuality-related work productivity factors, employees being able to generate more than an hour's worth of productivity each hour received the highest mean (3.03) and secured the top rank. This implies that teachers highly value the efficiency and effectiveness of their work, aiming to maximize productivity within the allocated time. The top two activities, including delivering within set deadlines, all fall within a narrow range (3.02 to 3.03), indicating a consistent positive perception towards various aspects of punctuality-related work productivity. The top-ranked strategy, employees being able to generate more than an hour's worth of productivity each hour, suggests a strong emphasis on optimizing work efficiency among Physical Education Teachers. Teachers likely recognize the importance of maximizing their productivity within each hour, aligning with the broader goal of effective time management in the educational setting. This focus aligns with contemporary educational principles that underscore the significance of efficient use of time for educators to accomplish their tasks effectively.

Existing literature supports the idea that efficient time management and productivity are crucial for effective teaching practices. The top ranking aligns with broader educational research that highlights the significance of punctuality and time efficiency for educators to fulfill their responsibilities effectively. Irzik & Nola (2023) delve into the potential reconciliation between the consensus viewpoint and the familial resemblance method. While the overall composite mean suggests a positive inclination towards work productivity in terms of punctuality, two factors, employees having a sense of what to do and when to do it (ranked 3) and over time reducing service cycle time (ranked 4), fall at the lower end of the scale. These lower rankings, along with their respective means (2.99 and 2.97), suggest a relatively lower level of enthusiasm or perceived effectiveness among teachers for these particular punctuality-related factors.

The least-ranked strategies, having a sense of what to do and when to do it and reducing service cycle time, suggest that teachers may find these factors less impactful compared to other aspects of work productivity in terms of punctuality. These findings indicate potential areas for improvement and underscore the need for understanding specific factors that contribute to teachers' perceived effectiveness in task management and cycle time reduction.

Literature on work productivity and task management recognizes that the effectiveness of strategies can vary among employees. O'Brien et al. (2020) emphasize the importance of providing clear expectations and support for effective task management to enhance overall productivity. The lower ranking aligns with the understanding

that employees may have varying perceptions of the impact of their sense of task management and service cycle time reduction on overall punctuality.

Table 10
Work Environment of the Physical Education Teachers in terms of Physical Environment

Physical Environment	Mean	V.I.	Rank
There is a space available for tasks that require concentration and peace at our workplace when needed	2.98	Agree	7
There are enough rooms at my workplace for formal and informal meetings	3.04	Agree	2
The facilities at my workplace enable spontaneous interaction between workers	3.04	Agree	1
The ergonomic arrangements of the work stations at my workplace are in order	3.01	Agree	4
There are generally no disruptive factors in my work environment	3.02	Agree	3
There is a place in which I can discuss or talk on the phone about matters which I do not want others to hear	3.01	Agree	5
The facilities at my workplace are conducive to efficient working	2.99	Agree	6
Composite Mean	3.01	Agree	

The composite mean for the Work Environment of Physical Education Teachers in terms of the physical environment is 3.01, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive perception of their work environment, specifically regarding physical aspects.

Among the specific physical environment-related factors, the facilities at the workplace enabling spontaneous interaction between workers received the highest mean (3.04) and secured the top rank. This implies that teachers highly value opportunities for informal interactions, fostering a collaborative and communicative atmosphere. The top three factors, including enough rooms for formal and informal meetings and the absence of disruptive factors, all fall within a narrow range (3.02 to 3.04), indicating a consistent positive perception towards various aspects of the physical work environment. The top-ranked strategy, facilities enabling spontaneous interaction between workers, suggests a strong emphasis on fostering a collaborative and communicative work culture among Physical Education Teachers. Teachers likely recognize the importance of informal interactions in promoting teamwork, idea exchange, and a positive work atmosphere. This focus aligns with contemporary workplace principles that underscore the significance of a conducive environment for spontaneous collaboration. The top ranking aligns with broader workplace research highlighting the significance of informal interactions for building strong team dynamics and enhancing overall job satisfaction. Existing literature supports the idea that a collaborative work environment positively influences employee satisfaction and overall productivity. Studies emphasize the importance of creating spaces that facilitate spontaneous interactions, contributing to a positive and innovative work culture. Lee et al. (2019) uncover a negative correlation between physical educators' unpleasant emotions and emotional intelligence.

While the overall composite mean suggests a positive inclination towards the physical work environment, three factors, availability of space for tasks requiring concentration, facilities conducive to efficient working, and a place for private discussions, fall at the lower end of the scale. These lower rankings, along with their respective means (2.98, 2.99, and 3.01), suggest a relatively lower level of satisfaction or perceived effectiveness among teachers for these particular aspects of the physical work environment. The least-ranked strategies, space for tasks requiring concentration, facilities conducive to efficient working, and a place for private discussions, suggest that teachers may find these aspects less satisfactory compared to other elements of the physical work environment. These findings indicate potential areas for improvement and underscore the need for understanding specific factors that contribute to teachers' satisfaction with their workspace. Literature on work environment satisfaction recognizes that the effectiveness of strategies can vary among employees. Studies emphasize the importance of providing tailored and comfortable spaces that meet employees' diverse needs. Chen et al. (2019) advocate for leveraging the results of physical geography research to understand natural environmental processes' patterns and mechanisms. This, they argue, would not only contribute to the global advancement of physical geography theory but also align with national development strategies focused on building an ecological civilization. Ackah-Jnr and Danso (2019) reveal that "inclusive schools" often have subpar physical

environments, making them less suitable for various physical activities, including sports and physical education, particularly for students with physical.

Table 11
Work Environment of the Physical Education Teachers in terms of Virtual Environment

Virtual Environment	Mean	V.I.	Rank
The usability of the main software for doing my work tasks is good	2.96	Agree	7
I can access the information I need wherever I am	2.99	Agree	5
Workers can see other workers' electronic calendar	3.00	Agree	4
Workers can communicate with instant messaging tools (e.g. Lync, Skype)	3.03	Agree	2
My workplace has sufficient equipment for virtual negotiations	3.02	Agree	3
My workplace has electronic teamwork tools (e.g. Google docs, iPhone, tablet)	3.04	Agree	1
Telework is a generally accepted practice at my workplace	2.99	Agree	6
Composite Mean	3.00	Agree	

The composite mean for the Work Environment of Physical Education Teachers in terms of the virtual environment is 3.00, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive perception of their virtual work environment.

Among the specific virtual environment-related factors, the workplace having electronic teamwork tools received the highest mean (3.04) and secured the top rank. This implies that teachers highly value the availability of collaborative digital tools for efficient teamwork. The top three factors, including communication with instant messaging tools and having sufficient equipment for virtual negotiations, all fall within a narrow range (3.02 to 3.04), indicating a consistent positive perception towards various aspects of the virtual work environment. The top-ranked strategy, having electronic teamwork tools, suggests a strong emphasis on fostering collaborative work practices in a virtual setting among Physical Education Teachers. Teachers likely recognize the importance of digital tools for effective communication, file sharing, and collaborative work, especially in remote or virtual work environments. This focus aligns with contemporary workplace trends that underscore the significance of technology in enhancing remote collaboration and productivity. Existing literature supports the idea that electronic teamwork tools play a crucial role in fostering collaboration and communication in virtual work environments. Šašinka et al. (2019) emphasize the importance of providing accessible and user-friendly digital tools to support remote teamwork.

While the overall composite mean suggests a positive inclination towards the virtual work environment, three factors, the usability of the main software, telework as a generally accepted practice, and accessing needed information anywhere, fall at the lower end of the scale. These lower rankings, along with their respective means (2.96, 2.99, and 2.99), suggest a relatively lower level of satisfaction or perceived effectiveness among teachers for these particular aspects of the virtual work environment. The least-ranked strategies, the usability of the main software, telework acceptance, and information accessibility anywhere, suggest that teachers may find these aspects less satisfactory compared to other elements of the virtual work environment. These findings indicate potential areas for improvement and underscore the need for understanding specific factors that contribute to teachers' satisfaction with their virtual workspace. Literature on virtual work environments recognizes that the effectiveness of strategies can vary among employees. Kurbakova et al. (2020) emphasize the importance of providing user-friendly and widely accepted tools to enhance overall satisfaction with virtual work practices. The lower ranking aligns with the understanding that employees may have varying expectations and preferences regarding the usability and acceptance of virtual tools in their work.

The composite mean for the Social Environment of Physical Education Teachers is 3.04, indicating an overall agreement among respondents. This suggests that, on average, the surveyed teachers express a positive perception of their social work environment. Among the specific social environment-related factors, the assessment of work in terms of results achieved, not only hours worked, received the highest mean (3.07) and secured the top rank. This implies that teachers highly value a results-oriented approach to work assessment. The

top three factors, including information flow among relevant people and the exploration of new ways of working, all fall within a narrow range (3.04 to 3.07), indicating a consistent positive perception towards various aspects of the social work environment. The top-ranked strategy, assessing work in terms of results achieved, not only hours worked, suggests a strong emphasis on outcomes and productivity in the social work environment among Physical Education Teachers. Teachers likely appreciate a focus on the quality and impact of their work rather than strict adherence to traditional working hours. This focus aligns with contemporary workplace trends that underscore the importance of outcome-based assessments for fostering productivity and job satisfaction. Existing literature supports the idea that a results-oriented approach to work assessment contributes to employee satisfaction and overall productivity. Kepper et al. (2019) emphasize the importance of shifting from time-based to outcome-based evaluations to motivate employees and enhance their sense of achievement. The top ranking aligns with broader workplace research that highlights the significance of recognizing and rewarding results as a means of fostering a positive and productive work environment.

Table 12
Work Environment of the Physical Education Teachers in terms of Social Environment

Social Environment	Mean	V.I.	Rank
I am able to work in the ways and at the times which suit me best	3.04	Agree	3.5
Operations at my workplace are open (e.g. decision-making and information flow)	3.04	Agree	5.5
Information flows well among the people important for my work	3.06	Agree	2
The meeting practices at my workplace are efficient	2.98	Agree	7
My work is assessed in terms of results achieved, not only hours worked	3.07	Agree	1
My work tasks constitute a reasonable whole	3.04	Agree	5.5
New ways of working are actively explored and experimented at my workplace	3.04	Agree	3.5
Composite Mean	3.04	Agree	

While the overall composite mean suggests a positive inclination towards the social work environment, three factors, efficient meeting practices, open operations, and work constituting a reasonable whole, fall at the lower end of the scale. These lower rankings, along with their respective means (2.98, 3.04, and 3.04), suggest a relatively lower level of satisfaction or perceived effectiveness among teachers for these particular aspects of the social work environment. The least-ranked strategies, efficient meeting practices, openness of operations, and the coherence of work tasks, suggest that teachers may find these aspects less satisfactory compared to other elements of the social work environment. These findings indicate potential areas for improvement and underscore the need for understanding specific factors that contribute to teachers' satisfaction with their social workspace. Literature on social work environment satisfaction recognizes that the effectiveness of strategies can vary among employees. Hawkins et al. (2023) emphasize the importance of fostering open communication, efficient meetings, and coherent work structures to enhance overall satisfaction with the social aspects of the work environment. The lower ranking aligns with the understanding that employees may have varying expectations and preferences regarding these specific social aspects of their work environment.

Table 13 presents the result of the test of Significant Difference on Professional Development, Work Productivity and Environment of the Physical Education when grouped according to Profile. The analysis of the significant difference on Professional Development, Work Productivity, and Environment of Physical Education Teachers when grouped according to profile reveals that there are no statistically significant differences among different age groups, genders, highest educational attainments, and years of teaching in terms of these three aspects. The p-values for Professional Development (p = 0.222), Work Productivity (p = 0.875), and Work Environment (p = 0.681) in relation to age are all greater than the typical significance level of 0.05. This suggests that there is no significant difference in the perceptions of Professional Development, Work Productivity, and Work Environment among different age groups of Physical Education Teachers. The retention of the null hypothesis (Retain Ho) indicates that age is not a significant factor in these areas.

For gender, the p-values for Professional Development (p = 0.051), Work Productivity (p = 0.071), and Work Environment (p = 0.201) are all greater than 0.05. Thus, there is no statistically significant difference in the

perceptions of Professional Development, Work Productivity, and Work Environment between male and female Physical Education Teachers. The decision to retain the null hypothesis reinforces that gender does not play a significant role in shaping these perceptions.

Regarding the highest educational attainment, p-values for Professional Development (p = 0.200), Work Productivity (p = 0.664), and Work Environment (p = 0.637) are all above 0.05. This suggests that there is no significant difference in the perceptions of Professional Development, Work Productivity, and Work Environment based on the highest educational attainment of Physical Education Teachers. Retaining the null hypothesis reinforces that highest educational attainment is not a significant factor in these areas.

Table 13
Significant Difference on Professional Development, Work Productivity and Environment of the Physical Education when grouped according to Profile

Age	H/U	p-value	Decision	Interpretation
Physical Education Teachers Professional Development	4.39	0.222	Retain Ho	Not Significant
Work Productivity of the Physical Education Teachers	6.94	0.875	Retain Ho	Not Significant
Work Environment of the Physical Education Teachers	1.507	0.681	Retain Ho	Not Significant
Gender				
Physical Education Teachers Professional Development	16390	0.051	Retain Ho	Not Significant
Work Productivity of the Physical Education Teachers	16553.5	0.071	Retain Ho	Not Significant
Work Environment of the Physical Education Teachers	17123.5	0.201	Retain Ho	Not Significant
Highest Educational Attainment				
Physical Education Teachers Professional Development	3.218	0.200	Retain Ho	Not Significant
Work Productivity of the Physical Education Teachers	0.819	0.664	Retain Ho	Not Significant
Work Environment of the Physical Education Teachers	0.901	0.637	Retain Ho	Not Significant
Years of Teaching				
Physical Education Teachers Professional Development	5.912	0.116	Retain Ho	Not Significant
Work Productivity of the Physical Education Teachers	5.207	0.157	Retain Ho	Not Significant
Work Environment of the Physical Education Teachers	2.91	0.406	Retain Ho	Not Significant

In terms of years of teaching, p-values for Professional Development (p = 0.116), Work Productivity (p = 0.157), and Work Environment (p = 0.406) are all above the significance level. Thus, there is no statistically significant difference in the perceptions of Professional Development, Work Productivity, and Work Environment among Physical Education Teachers with different years of teaching experience. Retaining the null hypothesis indicates that years of teaching do not significantly influence these perceptions. The findings align with the existing literature that suggests age, gender, educational attainment, and years of teaching do not consistently correlate with perceptions of professional development, work productivity, and work environment among educators. Numerous studies emphasize the complex and multifaceted nature of factors influencing these aspects, with personal preferences, organizational culture, and individual differences often playing more significant roles (Chen, & Antonelli, 2020).

4. Conclusions and recommendations

The teaching staff is diverse in terms of age, gender, educational background, and years of teaching experience, contributing to a rich and varied professional environment. Teachers actively participate in professional development activities, demonstrating a commitment to staying current and experimenting with innovative teaching methods. Overall, teachers perceive a positive work productivity environment, showing eagerness to enhance their service delivery and learn new ways of improving productivity. There were no significant difference on Professional Development, Work Productivity, and Work Environment when grouped according to profile.

This study recommends the following: Human Resource Department may customize professional development plans based on teachers' individual needs and preferences, ensuring a more personalized and

impactful experience. Physical Education Department may address usability concerns with main software and provide additional training to enhance virtual collaboration tools, ensuring seamless and efficient remote work practices. Teachers may implement strategies to improve meeting efficiency, ensuring that teachers feel their time is well-utilized during collaborative sessions. Universities may Establish a recognition program to acknowledge teachers' achievements and foster a culture of mutual support and celebration. Program Head and Administrator may conduct Regularly monitor the impact of interventions and adjust strategies based on ongoing feedback, ensuring the sustained improvement of the work environment. Future Researcher may conduct study considering other design such as qualitative study to further confirm the result of the study.

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