Asian Journal of Advanced Research and Reports

16(11): 97-108, 2022; Article no.AJARR.93129
ISSN: 2582-3248

Work Engagement and Teaching Performance of Public-school Physics Teachers in the New Normal

Jonnel E. Calansingin [a*], Vilma B. Azucena [a] and Ma. Judy B. Legaspi [b]

[a] University of Negros Occidental-Recoletos, Bacolod City-6100, Negros Occidental, Philippines.
[b] Communication and the Arts Department, College of Arts and Sciences, University of Negros Occidental-Recoletos, Bacolod City-6100, Negros Occidental, Philippines.

Authors' contributions

This work was carried out in collaboration among all authors. Author JEC is the primary researcher who did all the conceptualization and conduct of the study from the start to the end. Author VBA is the adviser of the primary researcher and has contributed to the refinement of this paper. Author MJBL is the technical editor and research writing consultant of the primary researcher. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJARR/2022/v16i11441

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://www.sdiarticle5.com/review-history/93129

Original Research Article

Received 09 September 2022
Accepted 27 October 2022
Published 31 October 2022

ABSTRACT

Aims: This study correlated the extent of work engagement and level of teaching performance in the new normal of public school Physics and determined the challenges encountered in teaching Physics.
Study Design: This quantitative study utilized a descriptive and correlational research design.
Place and Duration of Study: This study was conducted among Physics teachers in the large division in Central Philippines during the school year 2021-2022.
Methodology: Standardized questionnaire, validated and reliability-tested researcher-made checklist, and RPMS results were used to collect data needed for the study. Descriptive analysis using mean and standard deviation were used for the extent of work engagement and level of teacher performance while frequency count and percentage distribution were used for the challenges in teaching Physics. Spearman rank correlation determined the significant relationship between work engagement and teaching performance.
Results: Overall, the extent of the work engagement of the Physics teachers is very often (M=4.88; SD=0.99). Meanwhile, the overall level of teaching performance is very satisfactory (M=4.46; SD=0.26).

**Corresponding author: Email: jonnel.calansingin@gmail.com;*

Moreover, there is a significant relationship between work engagement and teaching performance [ρ(62)=0.331, p=0.008]. Topping the challenges in teaching Physics are the voluminous paperwork and extended working hours (64 or 75%), diversity of learners (45.3%), and adaptability to educational trends (39.1%).

Conclusion: This study discovered a significant relationship between work engagement and teaching performance. Hence, when the work engagement of teachers is greater, their teaching performance level also escalates. Vigor, dedication, and absorption are all contributory to work engagement, which influences teaching performance. Age, as well as years of teaching experience, matters a lot in work engagement. The longer one stays in the teaching profession, the more he or she becomes adept at work. Also, the educational qualification or preparation of a teacher is another factor influencing work engagement as seen clearly in the difference in the scores between Physics majors and non-Physics majors.

Keywords: Work engagement; teaching performance; physics; central philippines; descriptive-correlational.

1. INTRODUCTION

Work engagement generally refers to a positive and affective-motivational state of high energy combined with high levels of dedication and a strong focus on work [1]. Public and private organizations maintain engaged employees to promote high levels of creativity, task performance, organizational citizenship behavior, and client satisfaction [1]. Among teachers, their work engagement affects their own professional development [2], influences students' physical and mental growth and academic performance [2], and results in more commitment, better involvement, and increased productivity [2].

Meanwhile, teaching performance is the enactment of a teacher's duties as stipulated in his or her responsibilities as an educator and is assessed through a formal process to ascertain its effectiveness in the classroom and the institution and community as a whole [3]. The Europass Teacher Academy [4] used the term teacher performance to define the observable outcomes, such as the set of actions, attitudes, and behaviors in the teaching-learning environment that results in achieving educational goals for students.

In the Philippines, high levels of teaching performance are usually defined in terms of students' outputs and teachers' skills and knowledge of the teaching profession, based on the Results-based Performance Management System (RPMS). These teaching performances include upholding the dignity of their profession through their accountability for their performance during their work engagement, thus demonstrating higher teaching competence that will, later on, result in higher student output [5]. Moreover, employee engagement and job satisfaction are important aspects of productivity that affect faculty performance and organizational success. Hence, the faculty may capitalize on their work engagement and job satisfaction since they are the best predictors of their performance [6].

In the Large Division in Central Philippines, no study has been conducted correlating work engagement and teaching performance of teachers, specifically, the Physics teachers. However, these teachers' level of teaching performance has been assessed through performance-related skills, abilities, initiatives, and productivity, exceeding requirements in many of the areas of teaching performance indicated in the five key result areas of the Results-based Performance Management System (RPMS) for teachers. Results of the assessment have been interpreted in the light of factors that influence their performance, and work engagement is one of them. It has been observed that teachers who are engaged at work obtain very satisfactory or outstanding performance ratings. However, there is no study documenting the influence of work engagement on teaching performance. This propelled the conduct of this study.

Several studies have been conducted on work engagement and teaching performance of teachers. Burić and Macuka [7] used a two-wave cross-lagged analysis for the self-efficacy, emotions, and work engagement among teachers. Li et al. [8] looked into the mediating effects of self-efficacy and work engagement in teachers. Iyer [9] conducted a study of work

engagement among teachers in India. Meanwhile, Wang et al. [10] conducted an investigation on teaching performances of model-based flipping classroom for physics supported by modern teaching technologies. Cauet et al. [11] measured the domain-specific professional knowledge of Physics teachers. Minghui et al. [12] assessed teacher efficacy, work engagement, and social support among Chinese special education school teachers. In the Philippines, Comighud and Arevalo [13] determined motivation in relation to teachers'performance. Of the studies cited and others reviewed, none so far focused on exploring the correlation between work engagement and teaching performance of public school teachers, specifically Physics teachers in the large school division in Central Philippines. Hence, there is an evidence of a gap in literature. This study was conducted to contribute to the existing body of knowledge regarding work engagement and teaching performance of the teachers.

1.1 Research Problem

This study aimed to determine the extent of work engagement in terms of vigor, dedication, and absorption and level of teaching performance in the new normal of public school Physics teachers in the large division in Central Philippines during the school 2021-2022 when they are taken as a whole and grouped according to sex, age, educational qualification, and years of teaching experience in Physics. Likewise, it identified challenges encountered by the respondents in the teaching of Physics. It also sought to determine if there is a significant relationship between work engagement and teaching performance. Results and findings served as the basis for the preparation of proposed training programs to advance the level of work engagement and teaching performance of Physics teachers.

1.2 Theoretical Framework

This paper theorizes that work engagement influences teaching performance. The vigor, dedication, and absorption teachers put into their work matters a lot to how they perform at work. Vigor refers to the energy and motivation of Physics teachers in completing the task in the work environment. Dedication is the commitment and devotedness of the Physics teachers in their profession. Absorption is the ability of the Physics teachers to be engaged in the duty as part of their work engagement. Thus, teachers who have higher extent of work engagement have the tendency to also have a higher level of teaching performance.

This study is anchored to the Work Engagement Theory of Kahn, who defined work engagement as the degree to which a person shows self-preference in job tasks to promote connections between self and job, which can increase role performance through cognitive, emotional, and physical self-investment [14]. This theory relates to the present study in so far as the areas of work engagement tested are concerned. Vigor, which may relate to physical engagement, concerns the physical energies exerted by individuals to accomplish their roles. Dedication, which may relate to emotional engagement, concerns how employees feel about each of those three factors and whether they have positive or negative attitudes toward the organization and its leaders. Lasty, absorption, which may relate to cognitive engagement, concerns employees' beliefs about the organization, its leaders, and working conditions.

Moreover, this study anchors to the Performance Management Theory of Actions of Simmons. This theory emphasizes the importance of teachers' educational background and performance characteristics to describe teacher effectiveness. Furthermore, the performance management perspective tends to treat effective teaching as an individual endeavor and thus seeks solutions focused on enhancing the identification and distribution of effective teachers in high-minority, high-poverty schools [15,210]. Within the context of this study, this theory focuses on the factors that influence teachers' performance. The educational background relates to the classification of the respondents as either Physics majors or non-Physics majors, which matters a lot in their teaching efficiency. Teachers' background and training prepare them for the tasks inside and outside the classroom. Performance characteristics can cover other factors such as age, sex, and years of teaching experience, which when brought together, could somehow spell the quality of teaching every teacher demonstrates in the class.

2. METHODOLOGY

2.1 Research Design

This quantitative study utilized a descriptive and correlational research design. Descriptive

research was used to determine the extent of work engagement and level of teaching performance of public school Physics teachers in the schools' large division in Central Philippines during the school 2021-2022. It was also most appropriate in identifying the challenges encountered by the respondents in teaching Physics. Meanwhile, correlational research was used in determining the significant relationship between work engagement and teaching performance.

2.2 Respondents

Using stratified random sampling, 64 Senior High School Physics teachers in a large schools division in Central Philippines during the school year 2021-2022 were determined from the total population size and calculated using a Raosoft sample size calculator. Table 1 shows the distribution of respondents where N refers to the total population; n refers to the sample size; and % refers to the percentage represented by the sample size of the population.

2.3 Research Instruments

The researcher utilized a standardized questionnaire taken from the works of Schaufeli and Bakker (2006) on The Measurement of Work Engagement and a researcher-made checklist for the challenges in teaching Physics encountered by the Physics teachers in the new normal.

To check for the validity of the researcher-made checklist, five (5) experts in the field of science validated the instrument using the Good and Scates [16] criteria, which resulted in a 4.54 validity index.

To determine the reliability of the said checklist, the researcher fielded the instrument through online forms conducted to 45 Physics teachers under a different division within the research locale. The researcher utilized Cronbach's Alpha which resulted in 0.971, interpreted as excellent.

For the secondary data, the researcher wrote a letter to the division office to collect the RPMS results for the school year 2020-2021 of the Physics teachers for in the entire division. Upon submitting the letter, the division collected the data from each school under their jurisdiction. Other RPMS data that were not collected were sent by the ICT coordinators of the school to the researcher. Other options were through the administrative officers and through online DepEd electronic mail.

2.4 Data Analysis

Descriptive and correlational data analyses were employed to generate findings to answer the specific problems. Descriptive analysis was utilized to determine the extent of work engagement and level of teacher performance of SHS Physics teachers amidst the pandemic using the mean and standard deviation. Also, descriptive analysis was employed in determining the challenges faced by the respondents in teaching Physics amidst the pandemic using frequency count and percentage distribution.

Meanwhile, correlational analysis was used to identify the significant relationship between work engagement and the teaching performance of the SHS Physics teachers. To determine the appropriate statistical tools, Kolmogorov-Smirnov was used to test the normality of the variables. The normality test revealed that the work engagement [KS=0.211, p=0.000] was not normally distributed while teaching performance [KS=0.087, p=0.200] was normally distributed. Hence, Spearman rank correlation was used to determine the significant relationship between work engagement and teaching performance.

Table 1. Distribution of Respondents

Respondents	N	n	%
Northern	31	26	41
Central	26	22	34
Southern	19	16	25
Total	76	64	100

3. RESULTS AND DISCUSSION

3.1 Work Engagement of Physics Teachers

Table 2 shows the extent of the work engagement of the Physics teachers in terms of vigor, dedication, and absorption as a whole and when grouped according to age, sex, educational qualifications, and years of teaching, where 0.00-0.86=Never (Ne), 0.87-1.71=Almost Never (AN), 1.72-2.57=Rarely (Ra), 2.58-3.43=Sometimes (So), 3.44-4.29=Often (Of), 4.30-5.14=Very Often (VO), 5.15-6.00=Always.

Overall, Physics teachers engage in work very often (M=4.88; SD=0.99). This means they engage in work a few times a week. In terms of vigor (M=4.90; SD=0.98), dedication (M=4.98; SD=1.09), and absorption (M=4.77; SD=0.96), the extent is very often.

In terms of age, although both subgroups possess the same extent of work engagement, respondents under adulthood yielded a higher mean score than middle-aged respondents. These findings only confirm the findings of Montalbo and Agong [17] that those who are older or are in their middle age show a higher level of work engagement. Those younger or are in their adulthood display average work engagement in terms of the three dimensions of work engagement. These include vigor in performing in the field, absorption of new concepts at work, and their dedication toward the goal of the institution. Sharma et al. [18] support the positive relationship between age, education, and experience in a group's work engagement.

In terms of sex, both male and female respondents' extent of work engagement is very often, which means they engage in work a few times a week despite the difference in their ratings. Although both male and female respondents possess the same extent of work engagement, male respondents yielded higher mean scores than their female counterparts. In the three dimensions of work engagement, the male sub-group displayed a higher extent of work engagement than the female subjects, who have lower work engagement.

This finding is supported by Sharma et al. [18] that work engagement is best predicted by education and gender, where males with higher educational attainment exhibit higher levels of work engagement. However, it opposes the findings of Bilgel et al. [19] wherein female participants were found to be more vigorous than the opposite subgroup. Research conducted by Gallup also reported that women are most likely to have greater fulfillment and contentment in their jobs and are more engaged than men [20].

In terms of educational qualification, both Physics majors and the non-Physics majors' extent of work engagement is very often, which means they engage in work a few times a week despite the difference in their ratings. Both sub-categories of educational qualifications showed extent in work engagement interpreted as very often. In terms of vigor and absorption, majors in Physics yielded higher mean scores than respondents who are not Physics majors. Findings show that employees with credentials were more involved than those with diplomas, degrees, postgraduate, and other educational qualifications. This finding confirms the research conducted by Barkhuizen and Rothmann [21] that those who have higher educational qualifications and training in the specific field have a higher extent of work engagement than those who have different training and practice in the field. It is also supported by Sharma et al. [18] that work engagement is best predicted by education and gender, where males with higher educational attainment exhibit higher levels of work engagement. However, it disposes the findings of Mhlanga et al. [22] that teachers or subjects who do not have proper training in the field engage with their work more than those with higher qualifications.

Lastly, when grouped according to their years in teaching Physics, all subgroups generated ratings interpreted as very often. Despite the difference in their scores, all subgroups under the variable years in teaching Physics obtained ratings for extent of work engagement interpreted as very often, which means they engage in work a few times a week.

Work engagement has most often depended on an employee's length of work experience in the work environment. This result is supported by Conti-Ramsden et al. [23] that those new to the working environment tend to show a higher level of dedication towards their job than those who are longer in the field. More so, subjects with five to ten years in the field are engaged more in anticipation of a wider opportunity at work. Moreover, MacArthur [24] found that as individuals work and build tenure in the work environment, some may grow and become better employees or fade out; people at this stage are discovering career changes in the stages of

growth and challenges at work. Also, Mohapatra and Sharma [25] found work experience as a constant predictor of employee commitment amid other demographics like age, educational attainment, work experience, and academic records or grades.

3.2 Level of Teaching Performance of Physics Teachers

Table 3 shows the level of teaching performance of the Physics teachers, where 1.00-1.49 = Poor, 1.50-2.49 = Unsatisfactory, 2.50-3.49 = Satisfactory, 3.50-4.49=Very Satisfactory, and 4.50-5.00 = Outstanding. Overall, the level of teaching performance is very satisfactory (M=4.46; SD=0.26), which means the performance of the Physics teachers exceeded expectations. Moreover, all goals, objectives, and targets were achieved above the established standards.

When grouped according to age, respondents who belong to adulthood (M=4.46; SD=0.28) and middle age (M=4.46; SD=0.23) showed a very satisfactory level of teaching performance. This means the performance of the Physics teachers exceeded expectations, and all goals, objectives, and targets were achieved above the established standards.

This runs contrary to Bungai and Perdana [26] who cited some studies showing that the different age groups display dissimilar performance at work, where those who are both in their late ages tend to perform better.

When grouped according to sex, male respondents showed an outstanding level of teaching performance (M=4.54; SD=0.20) while their female counterparts displayed only a very satisfactory level of performance (M=4.43; SD=0.28). This means that the performance of the males represents an extraordinary level of achievement and commitment in terms of quality and time, technical skills and knowledge, ingenuity, creativity, and initiative. They have demonstrated exceptional job mastery in all major areas of responsibility, and their achievement and contributions to the organization are of marked excellence. On the other hand, the very satisfactory level of teaching performance of females means they exceeded expectations, and all goals, objectives, and targets were achieved above the established standards.

Sex plays a necessary role in different job performances, whether teaching or fieldwork. However, this finding contradicts Stone et al. [27] whose study showed that women perform better in teaching than male teachers. The result further denies the hypothesis that female teachers are more favored than male ones in the teaching profession because of their teaching performance [27].

When grouped according to educational qualifications, Physics majors yielded a higher mean (M=4.49; SD=0.24) than non-Physics majors (M=4.44; SD=0.27). Despite their differing means, both displayed a very satisfactory level of teaching performance, which means their performance exceeded expectations, and all goals, objectives, and targets were achieved above the established standards.

This finding is supported by Salvan and Hambre [28] who averred that teachers participate in specialized development to improve their qualifications, thus providing them with more opportunities and skills to perform their teaching responsibilities thoroughly. Moreover, Yin et al. [29] stated that students' performance also improves when teachers perform well at the level of their student's needs; thus, it is necessary to continue their development as part of their educational qualification.

When grouped according to years in teaching Physics, respondents who have taught Physics for 16 and above years obtained the highest rating (M=4.54; SD=0.13), followed by those who have taught Physics for 5-10 years (M=4.51; SD=0.28) and for 11-15 years (M=4.51; SD=0.24); all these mean scores were interpreted as outstanding. Those who have taught Physics for 0-4 years (M=4.32; SD=0.25) obtained the lowest rating interpreted as very satisfactory. Those rated outstanding are deemed to have performed at an extraordinary level of achievement and commitment in terms of quality and time, technical skills and knowledge, ingenuity, creativity, and initiative. They have demonstrated exceptional job mastery in all major areas of responsibility, and their achievement and contributions to the organization are of marked excellence. On the other hand, those with very satisfactory level of teaching performance are deemed to have exceeded expectations, and all goals, objectives, and targets were achieved above the established standards.

Table 2. Extent of Work Engagement of Physics Teachers

Variable	Vigor			Dedication			Absorption			Work Engagement		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Age												
Adulthood	4.97	1.01	VO	5.08	1.13	VO	4.82	1.02	VO	4.95	1.02	VO
Middle age	4.82	0.96	VO	4.86	1.03	VO	4.71	0.89	VO	4.79	0.95	VO
Sex												
Male	5.02	0.80	VO	5.09	0.91	VO	4.90	0.71	VO	5.00	0.77	VO
Female	4.86	1.05	VO	4.94	1.15	VO	4.73	1.04	VO	4.84	1.06	VO
Educational Qualification												
Major in Physics	4.93	1.03	VO	4.98	1.14	VO	4.84	0.95	VO	4.91	1.02	VO
Non-Physics major	4.89	0.97	VO	4.98	1.07	VO	4.74	0.97	VO	4.86	0.98	VO
Years in Teaching Physics												
0-4 years	4.65	1.21	VO	4.82	1.38	VO	4.44	1.14	VO	4.63	1.21	VO
5-10 years	5.14	0.82	VO	5.19	0.95	AI	5.01	0.86	VO	5.11	0.85	VO
11-15 years	4.62	1.10	VO	4.53	1.03	VO	4.56	0.96	VO	4.57	1.02	VO
16 years and above	5.06	0.60	VO	5.25	0.72	AI	5.00	0.68	VO	5.10	0.65	VO
Whole	**4.90**	**0.98**	**VO**	**4.98**	**1.09**	**VO**	**4.77**	**0.96**	**VO**	**4.88**	**0.99**	**VO**

Mean Range: 0.00-0.86=Never (Ne), 0.87-1.71=Almost Never (AN), 1.72-2.57=Rarely (Ra), 2.58-3.43=Sometimes (So), 3.44-4.29=Often (Of), 4.30-5.14=Very Often (VO), 5.15-6.00=Always

Table 3. Level of Teaching Performance

Variable	M	SD	Interpretation
Age			
Adulthood	4.46	0.28	Very Satisfactory
Middle age	4.46	0.23	Very Satisfactory
Sex			
Male	4.54	0.20	Outstanding
Female	4.43	0.28	Very Satisfactory
Educational Qualification			
Major in Physics	4.49	0.24	Very Satisfactory
Non-Physics major	4.44	0.27	Very Satisfactory
Years in Teaching Physics			
0-4 years	4.32	0.25	Very Satisfactory
5-10 years	4.51	0.28	Outstanding
11-15 years	4.51	0.24	Outstanding
16 years and above	4.54	0.13	Outstanding
Whole	**4.46**	**0.26**	**Very Satisfactory**

Mean Range: 1.00-1.49= Poor, 1.50-2.49= Unsatisfactory, 2.50-3.49= Satisfactory, 3.50-4.49=Very Satisfactory, 4.50-5.00=Outstanding

These findings oppose studies that performance and effectiveness decline after years in the service, particularly among high school teachers. These also run contrary to the findings of Ladd [30] that the most experienced high school teachers are less performing and effective. Harris and Sass [31] and Salvan and Hambre [28] however found that inexperienced colleagues tend to perform less and that more years of teaching experience are needed to work efficiently and perform at the utmost level.

3.3 Relationship between Work Engagement and Teaching Performance

Spearman rank correlation was used to determine the significant relationship between work engagement and teaching performance.

Data on Table 4 show that there is a significant relationship between work engagement and teaching performance [ρ(62)=0.331, p=0.008]. A strong correlation was found between work engagement in the areas of vigor, dedication, and absorption and the level of performance Physics teachers displayed at work. This implies that the more engaged the teachers are at work, the better is their teaching performance.

As theorized, work engagement influences the level of performance enacted by teachers in education. Teacher enthusiasm is important due to its effects on the level of teaching performance. Presumably, the quality and motivated faculty are likely to engage students as excellent education must draw on considerable motivation in work engagement.

This finding is supported by Sittar [32] who found that all factors of work engagement, such as the respondents' vigor, dedication, and absorption, have a positive relationship with job performance.

3.4 Challenges in Teaching Physics

Data on Table 5 show that 64 or 75% of the respondents found voluminous paperwork and extended working hours to be their greatest challenges in the field during the pandemic. This was followed by diversity of learners (45.3%), adaptability to educational trends, such as manipulations of gadgets/computers (39.1%), effective use of instructional materials (37.5%), time management and lack of professional development programs (35.9%), pressure from school administrators (29.7%), and ineffective classroom management (12.5%).

Despite the preparations teachers make in making the teaching and learning experience worthwhile, challenges abound, which are beyond their control. The voluminous paper works and the extended working hours, diversity of learners, learners' adaptability to educational trends, use of instructional materials, and the many others mentioned as challenges are external to the Physics teachers. They emanate either from the learners or from the environment that Physics teachers could not control. Thus, their teaching performance can at times be affected, keeping them from delivering the best in teaching Physics to their students.

Table 4. Relationship between Work Engagement and Teaching Performance

Variables	r	df	P
Work Engagement x Teaching Performance	0.331	62	0.008
Note: the difference is significant when $p \leq 0.05$			

Table 5. Challenges in Teaching Physics

Items	f	%
Voluminous Paperwork which requires extended working hours	48	75.0
Diversity of Learners	29	45.3
Adaptability to Educational Trends such as Manipulations of Gadgets/Computers (Use of technology such as…)	25	39.1
Effective Use of Instructional Materials	24	37.5
Time management	23	35.9
Lack of Professional Development Programs	23	35.9
Pressure from School Administrator	19	29.7
Ineffective Classroom Management	8	12.5

Tan and Chen [33] support this by highlighting how the current teaching methodology has created both a gap and tension in terms of successful and engaging content delivery, where traditional modes of synchronous content delivery were forced online. Mwambela et al. [34] also found similar challenges in using technology to complement and support the Physics teaching and learning process. The biggest challenge was how to transform students' learning process to provide students with the skills to function effectively in this information-rich and dynamic environment.

4. CONCLUSION

This study discovered a significant relationship between work engagement and teaching performance. In other words, when the work engagement of teachers is greater, their teaching performance level also escalates. Vigor, dedication, and absorption are all contributory to work engagement, which influences teaching performance. Age, as well as years of teaching experience, matters a lot in work engagement. The longer one stays in the teaching profession, the more he or she becomes adept at work. Also, the educational qualification or preparation of a teacher is another factor influencing work engagement as seen clearly in the difference in the scores between Physics majors and non-Physics majors.

Work engagement and teaching performance are influenced by variables such as age and years of teaching Physics. Teaching a subject matter for quite some time results in mastery and competence, which can also be developed with sufficient background and training. One's field of specialization is also contributory to a higher level of teaching performance, since the training and exposure provided can somehow prepare adequately the teacher for his or her profession.

CONSENT

In view of international and university standards, respondents have been requested to sign written consents, which are now in the custody and safekeeping of the authors.

ACKNOWLEDGEMENTS

The authors are most thankful to the Recoletos de Bacolod Graduate School, the Physics teachers in the large division in Central Philippines during the school year 2021-2022, editors, statistician, and everyone who helped in making this paper possible.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Bakker AB, Albrecht S. Work engagement: current trends. Career Dev Int. 2018;23(1):4-11.
Available: https://doi.org/10.1108/CDI-11-2017-0207
2. Zhang D, He J, Fu D. How can we improve teacher's work engagement? Based on Chinese experiences. Front Psychol. 2021;12:721450.
Available:https://doi.org/10.3389/fpsyg.2021.721450
3. Sawchuk S. Teacher evaluation: an issue overview. Educ Week. 2015;35(3): 1-6.
Available:https://www.edweek.org/teaching-learning/teacher-evaluation-an-issue-overview/2015/09
4. Europass Teacher Academy. How teachers can Improve their Performance in the Classroom; 2022.
Available:https://www.teacheracademy.eu/blog/improve-teacherperformance/#:~:text=We%20use%20the%20term%20teacher,achieving%20educational%20goals%20for%20students.
5. Suelto-Cordovilla RV, Cruz ROD. Performance-based bonus on the efficacy of public high school teachers in the Philippines. Erzincan Univ Eğitim Fak Derg. 2021;23(1):236-47.
Available:https://doi.org/10.17556/erziefd.779942
6. Briones MR, Yazon AD, Sarmiento MB, Ang-Manaig K, Alexis C, Buama C, Tesoro JFB. Examining the work engagement, job satisfaction, and performance of faculty in one state university in the Philippines. 2021;58(5).
7. Burić I, Macuka I. Self-efficacy, emotions and work engagement among teachers: A two wave cross-lagged analysis. J Happiness Stud. 2018;19(7):1917-33.
Available: https://doi.org/10.1007/s10902-017-9903-9
8. Li M, Wang Z, Gao J, You X. Proactive personality and job satisfaction: the mediating effects of self-efficacy and work

engagement in teachers. Curr Psychol. 2017;36(1):48-55.
Available: https://doi.org/10.1007/s12144-015-9383-1

9. Iyer RD. A study of work engagement among teachers in India. Glob Bus Manag Res. 2016;8(1):34.
Available:http://www.gbmrjournal.com/pdf/vol.%208%20no.%201/V8N1-3.pdf
10. Wang J, Jou M, Lv Y, Huang CC. An investigation on teaching performances of model-based flipping classroom for physics supported by modern teaching technologies. Comput Hum Behav. 2018;84:36-48.
Available:https://doi.org/10.1016/j.chb.2018.02.018
11. Cauet E, Liepertz S, Borowski A, Fischer HE. Does it matter what we measure? Domain-specific professional knowledge of physics teachers. Schweiz Z Bildungswissenschaften. 2015;37(3):462-79.
Available:https://doi.org/10.25656/01:12746
12. Minghui L, Lei H, Xiaomeng C, Potměšilc M. Teacher efficacy, work engagement, and social support among Chinese special education school teachers. Front Psychol. 2018;9:648.
Available:https://doi.org/10.3389/fpsyg.2018.00648
13. Comighud SMT, Arevalo MJ. Motivation in Relation to Teachers' Performance; 2021.
Available: https://knowledgecenter.ubt-uni.net/conference/2021UBTIC/all-events/507
14. Huang C, Li L, Liu Y. To what extent is shared instructional leadership related to teacher self-efficacy and student academic performance in China?; 2022.
Available:https://www.tandfonline.com/doi/abs/10.1080/09243453.2022.2029746.
15. Christensen T, Lægreid P. Performance management: experiences and challenges. Handbook of public. Administration. 2021:210-22.
16. Good CV, Scates DE. Methods of research: educational, psychological, sociological; 1956.
Available:https://www.journals.uchicago.edu/doi/10.2307/2126682.
17. Montalbo AF, Agong HM. Employee engagement and areas of worklife of call center agents in the Philippines. Int Lett Soc Humanist Sci. 2017;77:44-55.
Available:https://doi.org/10.18052/www.scipress.com/ilshs.77.44
18. Sharma A, Goel A, Sengupta S. How does work engagement vary with employee demography?—revelations. Procedia Comput Sci. 2017;122:146-53.
Available:https://doi.org/10.1016/j.procs.2017.11.353
19. Bilgel N, Bayram N, Ozdemir H, Dogan F, Ekin D. Work engagement, burnout and vigor among a group of medical residents in Turkey. BJESBS. 2012;2(3):220-38.
Available:https://doi.org/10.9734/bjesbs/2012/1496
20. Johnson M. The new rules of engagement: life-work balance and Employee Commitment; 2004.
21. Barkhuizen EN, Rothmann S. Work engagement of academic staff in South African higher Education Institutions; 2006.
Available:https://www.researchgate.net/publication/236822521_Work_Engagement_of_academic_staff_in_South_African_higher_education_institutions.
22. Mhlanga TS, Mjoli TQ, Chamisa SF. Personality and job engagement among municipal workers in the Eastern Cape Province, South Africa. SA J Hum Resour Manag. 2019;17(1):1-11.
Available:https://hdl.handle.net/10520/EJC-1faf0aaf44
23. Conti-Ramsden G, Durkin K, Toseeb U, Botting N, Pickles A. Education and employment outcomes of young adults with a history of developmental language disorder. Int J Lang Commun Disord. 2018;53(2):237-55.
Available: https://doi.org/10.1111/1460-6984.12338
24. MacArthur HV. Forbes: why tenure matters for employee engagement; 2019, September 25.
Available:https://www.forbes.com/sites/hvmacarthur/2019/09/25/why-tenure-matters-for-employee-engagement/?sh=1b851cfd2731.
25. Mohapatra M, Sharma BR. Study of employee engagement and its predictors in an Indian public sector undertaking. Global Business Review. 2010;11(2):281-301.
Available:https://journals.sagepub.com/doi/abs/10.1177/097215091001100210
26. Bungai J, Perdana I. Evaluation of teachers' performance based on group of age in implementing learning process in Central Kalimantan. In: International Conference on Teacher Training and

Education. Vol. 2017 (ICTTE 2017). Atlantis Press. 2017:807-13.
Available: https://doi.org/10.2991/ictte-17.2017.92

27. Stone DN, Deci EL, Ryan RM. Beyond Talk: creating autonomous motivation through self-determination theory. Journal of General Management. 2009;34(3):75-91.
Available:https://journals.sagepub.com/doi/abs/10.1177/030630700903400305
28. C Salvan VJ, M. Hambre M. Teachers' demographic profile on the learners' performance using K-12 earth and space module. JESP. 2020;7(4).
Available:http://jespnet.com/journal/index/2689
29. Yin M, Condelli L, Ogut B, Cronen S. The Importance of Teacher Background Qualifications for Student Learning; 2015.
Available:
https://www.air.org/sites/default/files/downloads/report/2Adult-Learning-Importance-of-Teacher-Background-Qualifications-Sept-2015.pdf.
30. Ladd HF. Why experienced teachers are important – and what can be done to Develop Them; 2008.
31. Harris DN, Sass TR. Teacher training, teacher quality, and student achievement. Journal of Public Economics. 2011;95(7-8):798-812.
32. Sittar K. Relationship of work engagements and job performance of university teachers. Bull Educ Res. 2020;42(1):167-83.
Available:https://eric.ed.gov/?id=EJ1258031
33. Tan DY, Chen JM. Bringing physical physics classroom online–challenges of online teaching in the new normal. Phys Teach. 2021;59(6):410-3.
Available:https://doi.org/10.1119/5.0028641
34. Mwambela C, Mondoh H, Thoruwa T. Challenges in using ICT in teaching secondary school physics and effect of teaching using ICT on students' physics academic achievement in Mombasa County, Kenya. J Educ Pract. 2019;10.

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/93129