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Pedagogical and Research Competence of the Pre-service Teachers

Louiesito A. Magnaye, Jr.^{1*}

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ABSTRACT

Pre-service teachers must exhibit both pedagogical and research competence in the fulfillment of their educational endeavors since they will soon be on the front line of the learning environment. To support this argument, this study assessed and ascertained the relationship between the pedagogical and research competence of pre-service teachers. I considered 130 Bachelor of Secondary Education pre-service teachers of Northwest Samar State University, the School Year 2018-2019 using a researcher-made questionnaire. Mean response and standard deviation statistics were used to measure pedagogical and research competence; while Linear Regression was used to quantify the relationship between the two constructs. In addition, moderator analysis was used to compute the extent of the effect of the sex and field of specialization on pedagogical and research competence. I found out that the respondents perceived themselves as “competent” in both pedagogical and research competence. Moreover, the empirical test revealed that there is enough evidence to claim that pedagogical skills in terms of classroom management and classroom assessment have a significant effect on research competence. However, their sex and specialization were found to be not affecting with their pedagogical and research competence. Thus, it was suggested that the pre-teachers must undergo intensive training in both pedagogy and research for them to advance their skills as future teachers.

INTRODUCTION

The importance of knowledge cannot be overstated. Humanity considers it from every angle. It is understood that the nation's quality depends on the educational attainment and achievement of its citizens. The quality of its citizens depends most of the time on how they are educated by their teachers. Teachers, therefore, are very important in the pursuit of knowledge. In pursuing knowledge, instruction and research must take their way. Teaching and research are among the fundamental aspects across learning institutions. It is vital that student-teachers must be able to have teaching and research competence and skills in the fulfillment of their educational endeavor, thereby producing productive learning conditions in their career in the future. The expertise, knowledge, interest, devotion, commitment, and passion of a teacher, as well as their professional preparation, attitude, and personality, make a difference and significantly impact the caliber of the services they offer. Seemingly, research engagement is conceptualized as part of the teacher's role and active research engagement is likely to have better outcomes vis-à-vis teachers' professional development (Firth, 2016). Concomitantly, as it boosts motivation, research-based learning encourages a significant influence on professional knowledge. Furthermore, learning that is spread out, like research projects, improves the recall of knowledge and ideas (Cepeda et al., 2016). This understanding was also emphasized by Klein (2014), and according to him, things that are related to one's own behaviors and interests, particularly those that are related to future intentions, like research endeavors, are easier to recall.

The Australian Institute for Teaching and School

Leadership (2011) developed the Australian National Professional Standards for Teachers, which outline seven essential components for effective teacher educators. These include (1) knowing the students and how they learn; (2) understanding the content and how to present it; (3) establishing effective teaching and learning strategies; (4) maintaining a supportive and safe learning environment; (5) assess, provide feedback and report on student learning; (6) engage in professional learning; and (7) engage professionally with colleagues, parents and the community.

In line with this mandate, the Department of Education - Teacher Education Council (2017) formulated the Philippine Professional Standards for Teachers (PPST) which has enumerated the following breadth characteristics of the seven (7) domains. To be effective in the 21st century, teachers in the Philippines must be able to do the following: (a) recognizing the significance of mastering subject matter knowledge and its interconnectedness within and across curriculum areas, coupled with a sound and critical understanding of the application of theories and principles of teaching and learning; and (b) creating learning environments that are secure, fair, and supportive in order to encourage learner responsibility and achievement; (c) creating learning settings that are sensitive to the variety of learners; (d) engage in interactions with local and national curricular standards; (e) using a range of assessment methods and techniques to track, measure, record, and report learners' needs, progress, and accomplishments; (f) creating relationships between the community and the school to improve both the learning environment and community participation

¹ Northwest Samar State University, Philippines

* Corresponding author's e-mail: louiesito.magnaye@nwssu.edu.ph

in the educational process; and (g) sustaining traits that uphold the dignity of teaching, such as a caring attitude, respect, and honesty. These have changed the scenario of teacher-quality requirements in the Philippines today. Research competence is deemed important for teachers for it is included in Domain 1 of the new Philippine Professional Standards for Teachers, specifically in Strand 1.2 which is “research-based knowledge and principles of teaching and learning”. As a teacher, one is expected to present a thorough understanding of research-based knowledge and principles of teaching and learning, to use these principles in improving professional practice, engage in research, and work with peers to further their own understanding of pedagogy and content.

Alongside, Maryam and Maryam (2011) enumerated the most important competencies of a teacher namely: (1) knowledge of various thinking techniques and their use; (2) understanding of and use of novel teaching and learning techniques; (3) effective classroom management and student communication techniques; (4) knowledge of and ability to use communication and information technology in the classroom; (5) research abilities; (6) capable of assessing academic success. It is noticed that aside from the pedagogical competence mentioned that a teacher should possess, research abilities were also highlighted. Conducting scientific research enables the individual to become competent and experienced in the use of transferable skills which is highly valued by employers (Finn & Crook, 2003). With that Finn & Crook (2003) mentioned that the ability in conducting research is an important attribute of education, especially in science-based disciplines.

Along with this assertion, in ensuring the research competence of Psychiatric Residence Training, Gomez &

Panaligan (2013) emphasized that all residents should be obliged to create research projects. Freestone & Wood (2006) emphasized that research-teaching connections are relevant in Australian Universities.

In this regard, pedagogical competence and research competence of the Bachelor of Secondary Education (BSEd) pre-service teachers of the Northwest Samar State University (NwSSU) must be assessed thereby strengthening their ability to teach and produce research outputs.

Research Questions

NwSSU’s BSEd pre-service teachers were evaluated for their pedagogical and research competence. I sought to answer the following research questions: (1) What is the level of pedagogical competence of the BSEd pre-service teachers of Northwest Samar State University in terms of teaching personality, teaching competencies, classroom management, and classroom assessment?; (2) What is the level of the research competence of the BSEd pre-service teachers of the Northwest Samar State University?; (3) Is there a significant relationship between pedagogical competence and research competence?; and (4) What is the effect of the student teacher’s sex and field of specialization on their pedagogical competence and research competence?

Null Hypotheses

The following null hypotheses were tested in the study:

H_{01} : There is no significant relationship between the pedagogical competence and research competence of the pre-service teachers of Northwest Samar State University.

H_{02} : Sex and field of specialization do not affect the pedagogical and research competence.

Paradigm of the Study

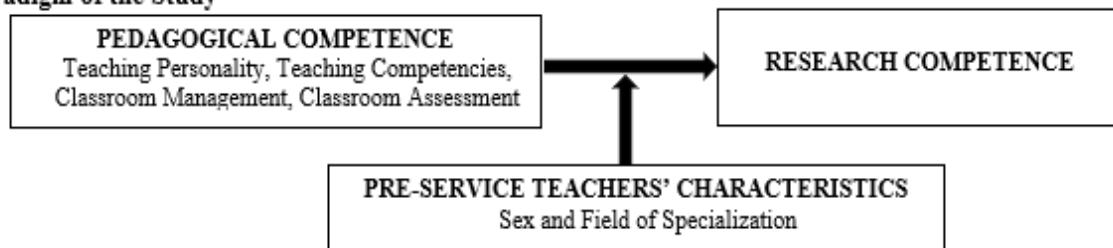


Figure 1: The Relationship of the Student-Teacher’s Pedagogical Preparedness to their Research Competence

LITERATURE REVIEW

The SEAMEO INNOTECH (2010), identified the common domains of teaching competency standards for Southeast Asia, namely: (1) Professional knowledge - which refers to the mastery of subject matter and instructional design; (2) Professional skills - including pedagogies, classroom administration, and learner evaluation; (3) Personal qualities - includes qualities like responsibility, punctuality, etc.; (4) Professional/Personal ethical standards and values - adheres to high moral and ethical standards, serve as positive role models for students and the community; (5) Professional development and lifelong learning - covers the professional development

and lifelong learning activities that teachers engage in, such as joining professional teacher organizations and participating in activities, as well as other actions that show a desire to advance the teaching profession. In addition, based on the result of the study, SEAMEO INNOTECH (2010) Competency Framework for Southeast Asian Teachers of the 21st Century was identified. These competencies were as follows: (1) assisting students in developing their life and professional skills; (2) improving the learning environment; (3) making learning easier; (4) creating pertinent lesson plans in accordance with the goal and vision of the institution; (5) increasing higher-order cognitive abilities; (6) creating and exploiting resources

for teaching and learning; (7) strengthening moral and ethical principles; (8) measuring and analyzing student performance; (9) making an effort to advance one's career; (10) establishing connections with stakeholders, particularly parents; and (11) overseeing the wellbeing of pupils and other duties.

Correspondingly, Stronge (2007) enumerated the qualities of successful teachers such as (1) having a solid understanding of the material, which they may then translate into sound learning objectives; (2) are able to choose and use the most efficient teaching techniques and resources to convey the defined subject objectives; (3) use formative assessment data to inform instructional decisions; (4) truly encourage their pupils' study and all-around growth; and (5) carry out their work in a way that is ethical and professionally sound.

DepEd Order No 32. s. 2009 provided policy provisions for the implementation of the National Competency-Based Teaching Standards (NCBTS). The NCBTS outlines the competencies expected of each prospective teacher and offers the core curriculum for teacher education and professional development. Furthermore, it is also made part of the Teacher Induction Program (TIP). The NCBTS Framework is distributed into seven domains: (1) Social Regard for Learning; (2) Learning Environment; (3) Diversity of Learners; (4) Curriculum; (5) Planning, Assessing, Reporting; (6) Community Linkages; and (7) Personal Growth and Professional Development.

European Commission (2013) emphasized the importance of measuring and assessing the development of teachers' competencies such as (1) making teachers more conscious of the need to improve their skills; (2) aiding in renovating the culture and methods of teaching; (3) enabling the acknowledgment of newly produced or acquired abilities; (4) contributing to training and development's quality assurance and control, which will enhance and assist in attaining excellence; (5) contributing to the growth of teacher workforce trust; and (6) encouraging prompt intervention to enhance instruction.

It is important to realize that these mentioned principles, frameworks, and models were crucial in enhancing the teaching-learning process. Without a doubt that assessing pedagogical competence should be highlighted in educational research to give light to the issues arising relative to this.

According to Ahmad and Khan's (2016) study, the kind of school, stream, and education background of secondary school teachers affect their ability to teach. However, according to them, qualification does not influence secondary school teachers' teaching competency. They also discovered that government teachers outperform private teachers in terms of their teaching competency. A study by Siddiqui, Bukhari, and Mughal (2010) examined whether teachers at Workers Welfare Model School use pedagogical practices that are coherent with essential teacher competencies for school effectiveness. The majority of teachers' responses and the observations of this investigation were consistent in their views regarding

classroom management and using materials effectively.

On the other hand, Fernandez (2013) revealed that there is no correlation between a teacher's competency and a respondent's gender or educational background; nevertheless, there is a relationship between a teacher's years of experience teaching in ALS, compensation, and performance rating. Fernandez's (2013) study also revealed that there is no substantial relationship between learners' performance and teachers' competency. Mastery of the subject matter, instructional proficiency, and communication capabilities, according to Roxas (2015), were extremely important to learning contexts. Notably, Maryam and Maryam (2011) disclosed that there is a significant connection between teachers' viewpoints on qualitative assessment and their professional abilities.

At schools in Thailand, Achwarin (2009) assessed the degree of teacher competence and looked into the connections between teacher training, classroom experience, school size, and teacher competency. Teachership ranked highest among the nine competence areas for teachers, followed by educational measurement and assessment; classroom management; learning management; educational innovation and information technology; language, and technology for teachers; curriculum development; and educational research. A significant correlation was also found between teacher qualifications and teaching experience, as well as teacher competence in language and technology, curriculum construction, and educational research. In addition, the study also exposed a considerable correlation between teaching experience, school size, and teaching ability in terms of developing the curriculum. However, there was little correlation between teachers' proficiency in language and technology and their use of information technology in the classroom. Thus, it was suggested that a program improvement training for pedagogues of Grade 11 should be implemented.

Cabansag (2012) examined the connections between the teaching competencies of English teachers in secondary schools in Northern Isabela and their educational backgrounds, their demographic characteristics, and their problems encountered. The findings showed that (1) teacher respondents' instructional competencies were unrelated to their socioeconomic variables, such as age, gender, civil status, and the number of children they had; (2) teacher respondents' degrees, areas of specialization, years of English teaching experience, and attendance at conferences, seminar-workshops, and in-service training were also unassociated to their teaching competencies; and (3) respondents' problems experienced were unrelated to their teaching competencies. In light of the aforementioned findings, Cabansag (2012) made the following recommendations: (1) a periodic teacher demonstration should be welcomed as part of the assessment to maintain teaching quality; (2) English teachers should be involved in the preparation, establishment, and implementation of instruction competency programs; (3) English teachers should

be given a career advancement initiative to improve their effectiveness; (4) restoring team teaching and implementing it in order to share experiences among the English teachers.

Cano (2014) found that among the seven (7) personal variables she examined—including age, sex, civil status, educational attainment, teaching position, relevant training, and teachers' experience—that the educators' teaching experience is substantially correlated with their instructional competence. According to Labrague's (2017) research on the instructional competence of kindergarten teachers, a teacher's instructional domains are influenced by their level of education, their role as a teacher, and the quantity of associated training they have taken.

According to the findings of Luaton's (2014) study on the teaching abilities of Grade 1 teachers, there are differences between newly recruited teachers and experienced teachers in terms of their anxieties and challenges in carrying out their teaching assignments. Further, this research revealed that while experienced educators are more competent than newly hired educators in terms of time management and routine establishment, newly hired teachers are more competent than experienced teachers in terms of classroom structuring.

Even though most teachers are aware of the requirements of teaching for school success, they are not putting these standards into practice in their classrooms, according to Siddiqui's (2010) study on teaching skills and teaching practices for school effectiveness. In addition, he enumerated that content knowledge and pedagogical competencies are important for teachers to become competent and effective.

Engaging in teaching promotes research skills while indulging in research may enhance teaching skills (Gilmore & Feldon, 2010). Additionally, according to the results of their study, oral communication abilities, information gathering abilities, and methodological understanding were among the particular research skills that graduate students reported having grown the most in. Furthermore, their research emphasized that graduate students' judgments of their research and teaching abilities were affected by individual values, research, and teaching practices.

Moreover, Boerma, De Jong, and Griffioen (n.d.) argued that teachers serve as the intermediary between research efforts and the students who must develop into critical professionals, thus, it is essential to consider how teachers view their own capacity for doing and executing research. Their research employed the following research skills: (1) reading, locating, and comprehending research literature; (2) implementing research findings; (3) planning research; (4) data collection; and (5) analyzing and reporting outcomes. The study's findings also showed that the direct executives' standard for research competency was ranked similarly to educators' perceptions about students' abilities: research activities involving students were the most crucial, while those involving external organizations were the least crucial. Further emphasized in their study is

the correlation between executive managers' expectations for research competence and teachers' perceptions of their own research self-efficacy. As a result, executive managers focus on the same prerequisites for research competency as teachers do.

The researcher believed that the above-cited literature gave light to the present study and enlightened the readers with the different variables that were included in this study. The researcher further believed that the previously cited literature gave aid in identifying the research gap which were the main variables of this present study – pedagogical competence and research competence.

METHOD

Research Design

A descriptive design was utilized by the researcher in the conduct of the study relative to the pedagogical and research competence of BSEd pre-service teachers of Northwest Samar State University. Descriptive design is a type of quantitative research that describes the possible relationship among variables and the degree to which two or more quantitative variables are related (Fraenkel & Wallen, 2006). In particular, it sought to determine the profiles in terms of sex and area of specialization of pre-service teachers. Additionally, the pre-service teachers' pedagogical competence was evaluated in terms of a number of components, including teaching personality, teaching competencies, classroom management, classroom assessment, and research competence.

A researcher-made questionnaire was the primary tool in gathering relevant data needed to answer the research questions posed in the study. The questionnaire used in the study was answered by the BSEd pre-service teachers as the respondents. The entire study was conducted during the School Year 2018-2019.

Respondents of the Study

BSEd pre-service teachers taking the course, practice teaching were the respondents of this study. These pre-service teachers are taking English, Mathematics, and Biological Science as their fields of specialization. Through Slovin's formula with a 0.05 % margin of error, the sample size was determined. Stratified random sampling was used to fairly distribute the respondents with respect to the three fields of specializations. After this, the researcher used the random sampling technique through the fishbowl technique to thoroughly identify the respondents as to their sex. The table below shows the distribution of the respondents:

Table 1: Number Distribution on the Respondents of the Study

Field of Specialization	N	n	%
Biological Science	58	39	30
English	88	59	45
Mathematics	47	32	25
TOTAL	193	130	100

Research Instrument

A questionnaire was utilized by the researcher in gathering the needed data for the study. The tool is a researcher-made questionnaire that was adopted from the different questionnaires developed by previous researchers.

The instrument has three parts. Part I measures the demographic profile of the respondents in terms of sex and field of specialization. This section will be answered by the respondents either by filling out the exact information or by checking the options provided by the researcher. Part II measures the pedagogical competence as to teaching personality, teaching competencies, classroom management, and classroom assessment. The pedagogical competence indicator category was adopted from Tupa (2018) in her study on the pedagogical preparedness of the senior high school teacher in Samar Island. This part was answered by the respondents by rating the statements following a 5-point rating scale where 5 was very competent (VC); 4 was competent (C); 3 was slightly incompetent (SI); 2 was incompetent (I), and 1 was very incompetent (VI). Part III, on the other hand, assesses the research competence of the respondents. The attributes were adopted from Magnaye (2018) in his study about the research competence and productivity of the secondary school teachers in the Schools Division of Calbayog City. This contains a competency rating scale of 1 to 5: 1 - very incompetent (VI), 2 - incompetent (I), 3 - slightly incompetent (SI), 4- competent (C), and 5 - very competent (VC).

Data Analysis

The researcher utilized the statistical tools such as frequency, percentage distribution, mean, standard deviation, linear regression and moderator analysis in handling the data and in constructing valid and reliable interpretation.

Frequency and percentages distribution was involved to define the profile of the respondents in terms of sex and field of specialization. Mean and standard deviation was computed to pronounce the pedagogical competence in terms of teaching personality, teaching competencies, classroom management and classroom assessment. The mean and standard deviation were also used to describe the level of research competence.

Linear regression was used to calculate the extent of the effect of pedagogical competence on the research competence of the pre-service teachers. Moderator analysis was used to compute the extent of the effect of the sex and field of specialization on pedagogical competence and research competence. Further, a 0.05 level of significance was set to decide on the statistical significance of the relationships of the relevant data gathered through the aid of computerized statistical software in the course of the study.

RESULTS AND DISCUSSION

Pedagogical and Research Competence of BSED pre-service teachers as Perceived by the Respondents

The perception of the respondents on their level of pedagogical competence in terms of teaching personality; teaching competencies; classroom management; and classroom assessment, and research competence are illustrated in Table 2.

Table 2: Mean and Standard Deviation on the Perception of the Respondents on the Pedagogical and Research Competence of Pre-service Teachers of Northwest Samar State University

COMPETENCE	Perceptions of the Respondents		
	M	Int.	SD
Pedagogical Competence	3.97	C	0.32
Teaching Personality	4.01	C	0.31
Teaching Competencies	4.02	C	0.39
Classroom Management	4.00	C	0.44
Classroom Assessment	3.84	C	0.44
Research Competence	3.74	C	0.40

Legend:	Scale	Interpretation
	4.51 - 5.00	Very Competent (VC)
	3.51 – 4.50	Competent (C)
	2.51 – 3.50	Slightly Competent (SC)
	1.51 - 2.50	Incompetent (I)
	1.00 – 1.50	Very Incompetent (VI)

As reflected in the table, all of the indicators are rated “competent” with an average mean of 3.97 and standard deviation of 0.32 for pedagogical competence and an average mean of 3.74 with a standard deviation of 0.40 for research competence. Thus, the pre-service teachers-respondents believed that they have manifested pedagogical and research competence.

Relationship Between the Pedagogical Competence of Pre-service Teachers and their Research Competence

To determine the relationship between the pedagogical competence of pre-service teachers and their research competence, a Regression test was used. Table 3 presented the results.

In totality, it can be gleaned from the table that pedagogical competence ($t = 3.038$, $p = 0.003$) has shown significant relationship with research competence. Nevertheless, it can also be seen from the table that there is no relationship between the pedagogical competence in terms of teaching personality ($t = -0.268$, $p = 0.789$) and teaching competencies ($t = 0.566$, $p = 0.572$) yet only classroom management ($t = 3.149$, $p = 0.002$) and classroom assessment ($t = 4.378$, $p = 0.000$) as components of pedagogical competence have shown highly significant relationship with research competence. Therefore, the study has rejected the null hypothesis stating that there is no significant relationship between the pedagogical competence and research competence of the pre-service teachers of Northwest Samar State University.

Table 3: Linear Regression Test Between Pedagogical and Research Competence of BSED Pre-service Teachers

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.141	0.376		3.038	0.003
	Teaching Personality	-0.030	0.111	-0.023	-0.268	0.789
	Teaching Competencies	0.057	0.101	0.055	0.566	0.572
	Classroom Management	0.285	0.091	0.310	3.149	0.002
	Classroom Assessment	0.350	0.080	0.381	4.378	0.000

a. Dependent Variable: RC

The data suggest that classroom management is an aspect that describes the research competence of the pre-service teachers. Oliver, Wehby, and Reschly (2011) defined classroom management as the strategies teachers employ to maintain their students' order, concentration, attention, on-task behavior, and academic productivity. These manifestations are actually related to research competence in the sense that research competence refers the capacity to apply a teaching reflection to enhance the educational material using the findings from research activities; incorporating knowledge of all forms of professional activity; detecting and formulating problems; identifying the aims and objectives of the issue and possible solutions; creating a hypothesis by examining phenomena or laws; carrying out the inductive formulation of hypotheses based on the facts and phenomena discovered via experiments and observation; evaluating, compiling, and synthesizing basic and applied research; and taking any risks (Ivanenko et al., 2015).

Aside from classroom management, classroom assessment is also an aspect that describes the research competence of the respondents. Classroom assessment can be

used privately by the teacher in an effort to analytically reflect upon student learning in the classroom and adjust to student needs (Wolfel, 2009). This is related to research competence in terms of the operational-activity component. This component comprises the following skills: using and disseminating new information; finding a "dynamic equilibrium" while resolving issues related to research activities and become proficient in the abilities of preparation, execution, processing, and analysis of experimental data; understanding of team management techniques; bringing research findings to development outcomes and their implementation; looking for information about cutting-edge initiatives leveraging information technology; and possessing knowledge of the concerns surrounding competitiveness in the present and uses them in research efforts (Ivanenko et al., 2015).

Effect of the Profile "Sex" on the Pedagogical and Research Competence of BSED pre-service teachers

In order to determine the effect of the profile "sex" on the pedagogical and research competence of pre-service teachers, a Regression test was used. Table 4 presented

Table 4: Linear Regression Test on the Effect of Profile "Sex" on the Pedagogical and Research Competence of BSED Pre-service Teachers

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.358	.386		0.927	0.356
	PC	.854	.097	0.680	8.800	0.000
2	(Constant)	1.886	0.774		2.436	0.020
	PC	0.461	0.194	0.368	2.374	0.023

the results.

a. Dependent Variable: RC

1. Selecting only cases for which SEX = female

2. Selecting only cases for which SEX = male

Table 4 shows that in both cases for male and female, the p-value is lower than 0.05 level of significance, for female ($t = 8.800$, $p = 0.000$) and for male ($t = 2.374$, $p = 0.023$). This data means that the profile "sex" is not a factor in determining pedagogical and research competence. Consequently, the study has failed to reject the null hypothesis stating that the profile "sex" does not affect the pedagogical and research competence.

Effect of the Profile "Field of Specialization" on the

Pedagogical and Research Competence of BSED pre-service teachers

In order to determine the effect of the profile "field of specialization" on the pedagogical and research competence of pre-service teachers, a Regression test was used. Table 5 presented the results.

Table 5 shows that in cases for the different field of specialization, the p-value is lower than 0.05 level of significance, for biological science ($t = 7.514$, $p = 0.000$), for math ($t = 4.569$, $p = 0.000$) and for male ($t = 3.328$, $p = 0.002$). This data means that the profile "field of specialization" is not a factor in determining pedagogical and research competence. Therefore, the null hypothesis stating that the profile "field of specialization" does not

Table 5: Linear Regression Test on the Effect of Profile “Field of Specialization” on the Pedagogical and Research Competence of BSEd Pre-service Teachers

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.249	0.452		0.552	0.584
	PC	0.863	0.115	0.777	7.514	0.000
2	(Constant)	0.904	0.653		1.385	0.176
	PC	0.725	0.159	0.641	4.569	0.000
3	(Constant)	1.347	0.717		1.879	0.065
	PC	0.606	0.182	0.403	3.328	0.002

a. Dependent Variable: RC

1. Selecting only cases for which FS = Biological Science
2. Selecting only cases for which FS = Math
3. Selecting only cases for which FS = English

affect the pedagogical and research competence is not rejected.

CONCLUSIONS

From the findings of the study, the following conclusions were made:

1. In general, the BSEd pre-service teachers perceived themselves to have possessed the necessary pedagogical and research competence to carry out teaching and research works.

2. The pedagogical competence in terms of classroom management and classroom assessment of the pre-teachers was related to research competence.

3. Profile variables such as sex and field of specialization are not a factor in determining the pedagogical and research competence of pre-service teachers.

Thus, the following are hereby recommended:

1. The university should intensify the conduct of training, seminars, conferences, and workshops for the pre-service teachers to keep them abreast with the latest development in the academe, thereby, improving their skills especially in undertaking research and helping them bridge their learning gaps in doing research.
2. Another study may be conducted by future researchers to find out the differences and relationships among the profile, research competence, and productivity of the BSEd pre-service teachers in the university, as well as in the private sectors.

REFERENCES

- Achwarin, N. (2009). The Study of Teacher Competence of Teachers at Schools in the Three Southern Provinces of Thailand. *AU Graduate School of Education Journal*, 1(1), 154-157. <https://repository.au.edu/handle/6623004553/12698>
- Ahmad, J. & Khan, M. (2016). A Study of Teaching Competency of Secondary School Teachers in Relation to Their Educational Qualification, Stream and Type of School. *International Journal of Applied Research*, 2(2), 68-72. <https://www.allresearchjournal.com/archives/2016/vol2issue2/PartB/2-1-36.pdf>
- Australian Institute for Training and School Leadership (2011). National Professional Standards for Teachers. http://www.aitsl.edu.au/verve/_resources/AITSL_National_Professional_Standards_for_Teachers.pdf
- Boerma, J., De Jong, U., Griffioen, D. (n.d.). The Executives' Standard on Research Competence of Teachers in Dutch Non-university Higher Education Institutions. *University of Applied Science of Amsterdam, Afghanistan*. <https://www.srhe.ac.uk/conference2011/abstracts/0174.pdf>
- Cabansag, J. (2012). Competencies Teachers in English of Northern Isabela and Selected Variables. *Asian EFL Journal. Professional Teaching Articles*, 60. <http://asian-efl-journal.com/wp-content/uploads/mgm/downloads/58266100.pdf>
- Cano, C. (2014). *Instructional Competence of the Grade 1 Teachers based on NCBTS*. Master's Unpublished Thesis. Christ the King College, Calbayog City
- Cepeda, N. J., Pashler, H., Vul, E., Wixted, J. T., & Rohrer, D. (2006). Distributed practice in verbal recall tasks: A review and quantitative synthesis. *Psychological Bulletin*, 132(3), 354-380. <https://doi.org/10.1037/0033-2909.132.3.354>
- Department of Education – Teacher Education Council (2017). Philippine Professional Standards for Teachers. https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf
- DepEd Order No 32. Series of 2009. National Adoption and Implementation of NCBTS-TSNA and IPPD for Teachers, and Integration of its System Operations in the Overall Program for Continuing Teacher Capacity Building. https://www.deped.gov.ph/wp-content/uploads/2018/10/DO_s2009_32.pdf
- European Commission (2013). Supporting Teacher Competence Development for Better Learning Outcomes. http://ec.europa.eu/education/policy/school/doc/teachercomp_en.pdf
- Fernandez, R. (2013). Teachers' Competence and Learners' Performance in the Alternative Learning System towards an Enriched Instructional Program. *International Journal of Information Technology and Business Management*, 22(1). DOI:10.13140/RG.2.2.26402.15042
- Finn, J., & Cook, A. (2003). Research Skills Training for

- Undergraduate Researchers: the Pedagogical Approach of the STARS Project. *Bioscience Education*, 2(1), 1-12. <https://doi.org/10.3108/beej.2003.020000002>
- Firth, J. (2016). Research engagement for the school teacher and its role in the education community. *Education in the North*, 23(2), 161-166. <https://doi.org/10.26203/9n65-7362>
- Fraenkel, J. & Wallen, N. (2006). How to design and evaluate research in education (6th ed.). New York, NY: McGraw-Hill.
- Freestone, R. & Wood, D. (2006). Exploring Strategies for Linking Research and Teaching. *Journal for Education in the Built Environment*, 1(1), 94-111. <https://doi.org/10.11120/jebe.2006.01010094>
- Gilmore, J., & Feldon, D. F. (2010, March). Measuring graduate students' teaching and research skills through self-report: Descriptive findings and validity. Paper presented at the Annual Meeting of the American Educational Research Association. Denver, CO. <https://files.eric.ed.gov/fulltext/ED509407.pdf>
- Gomez, M. & Panaligan, C. (2013). Level of Research Competencies and Satisfaction of the Faculty Members from the College of Criminology. *Asian Academic Journal of Social Science & Humanities*, 1(14). <https://research.lpubatangas.edu.ph/wp-content/uploads/2014/04/AARJSH-LEVEL-OF-RESEARCH-COMPETENCIES-AND-SATISFACTION-OF-THE.pdf>
- Ivanenko, N., Mustafina, G., Sagitova, V., Akhmetzyanov, I., Khazratova, F., Salakhova, I. & Mokeyeva, E. (2015). Basic Components of Developing Teachers' Research Competence as a Condition to Improve their Competitiveness. *Review of European Studies*, 7(4). <http://dx.doi.org/10.5539/res.v7n4p221>
- Klein, S.B. (2014). Evolution, memory, and the role of self-referrant recall in planning for the future. In B.L. Schwarz, M.L. Howe, M.P. Toglia and H. Otgaar (Eds.) *What is Adaptive About Adaptive Memory?* (pp. 11-34). Oxford: OUP.
- Labrague, M. (2017). *Instructional Competence of Kindergarten Teachers*. Master's Unpublished Thesis, Christ the King College, Calbayog City
- Luaton, M. (2014). *Teaching Experience of Grade 1 Teachers*. Master's Unpublished Thesis. Christ the King College, Calbayog City
- Magnaye, L. (2018). *Research Competence and Productivity of Secondary School Teachers of the Schools Division of Calbayog City*. Master's Unpublished Thesis, Northwest Samar State University, Calbayog City.
- Maryam, I. & Maryam, Z. (2011). Professional Competencies of Teachers and the Qualitative Evaluation. *Procedia - Social and Behavioral Sciences* 29, 1143 – 1150. <https://cyberleninka.org/article/n/1217871.pdf>
- Oliver, R.M., Wehby, J.H., & Reschly, D.J. (2011). Teacher Classroom Management Practices: Effects on Disruptive or Aggressive Student Behavior. *Society for Research on Educational Effectiveness*. <https://doi.org/10.4073/csr.2011.4>
- Roxas, A. (2015). Teaching Competencies of Mathematics Professors in Higher Education Institutions (HEIs) In the Province of Capiz: Basis for Instructional Enhancement Program. *Journal of Research in Humanities and Social Science*, 3(6), 25-32. <http://www.questjournals.org/jrhss/papers/vol3-issue6/E362532.pdf>
- SEAMEO INNOTECH (2010). Teaching Competency Standards in Southeast Asian Countries: Eleven Country Audit. SIREP: SEAMEO INNOTECH Regional Education Project Series. https://www.seameo.org/SEAMEOWeb2/images/stories/Publications/Centers_pub/2012TeachingCompetencyStandards/TeachingCompetencyStd.pdf
- Siddiqui, T. (2010). *A Study of Teacher Competencies and Teaching Practices for Schools Effectiveness in Workers Welfare Model Schools*. Unpublished Dissertation: Foundation University College of Liberal Arts and Sciences, Rawalpindi, Pakistan.
- Siddiqui, T., Bukhari, M. & Mughal, A. (2010). Instructional Process Competencies: An Analysis of Classroom Practices in Workers Welfare Model Schools [Special issue]. *Pakistan Journal of Education*, 27(f). <http://dx.doi.org/10.30971/pje.v27i1.149>
- Stronge, J. (2007). *Qualities of effective teachers* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Tupa, A. (2018). *Pedagogical Preparedness of Senior High School Teachers in Samar Island*. Unpublished Dissertation. Northwest Samar State University, Calbayog City.
- Wolfel, R. (2009). Classroom Assessment: The Confusion of Many Voices. http://www.usma.edu/cfe/Literature/Wolfelre/Wolfel_09.pdf