



Teachers' Competency in Content Knowledge and Pedagogy in Buhi South District, Philippines

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ABSTRACT

This study investigated the competency of teachers in content knowledge and pedagogy. This involved the forty-five Elementary teachers teaching Grade levels 1 to 3 in the nine selected public elementary schools in the Department of Education (DepEd), Division of Camarines Sur, Buhi South District, Philippines, for the School Year 2022-2023. The study results revealed that teachers are Highly competent in content knowledge and pedagogy except in the utilization and application of research-based knowledge and principles of teaching and learning. The results further revealed that their professional peers were the most influential factor that affects them. Quantitative data shows that teachers' competency along content knowledge application within and across the curriculum areas, as well as the utilization of Mother tongue, Filipino, and English language, were significant in their demographic characteristics. It recommends that DepEd officials prioritize teachers' professional development that is tailored to their needs to continuously improve their teaching competencies to augment classroom instructions.

Keywords:

Teachers' Competency; Content knowledge; Teaching pedagogy; Professional development programs

INTRODUCTION

The Philippine government enacted the Republic Act 10533 also known as the Enhanced Basic Education Act of 2013 to improve the nation's educational system. This law served as the foundation for the creation of sustainable educational systems that would improve the existing educational systems in the Philippines to advance and safeguard the right of all Filipinos to equitable access to high-quality education. The main purpose of these modifications was to free up classroom space and give students enough time to learn and develop the necessary competencies and skills in all learning areas. Likewise, it intends to produce graduates who are holistically developed, equipped with 21st-century skills, prepared for tertiary education, and acquired middle-level skills through obtaining national certificates (NCs), employment, and entrepreneurial skills (Republic Act No. 10533; Magno & Piosang, 2016). Hence, it cultivates lifelong learners.

Learners can obtain a quality education with the assistance of teachers who serve as facilitators of learning. Teachers play a pivotal role in the teaching and learning process as they impart subject matter expertise through various instructional techniques. Teachers develop lesson plans based on the learning competencies that



students should acquire for each learning area to inculcate knowledge, skills, and attitudes to enhance their learning outcomes and achievements. To provide students with high-quality learning experiences, teachers must possess sufficient competencies to utilize diverse teaching methodologies that assess students' learning and address their learning gaps in the classroom.

Acknowledging the value of understanding topic knowledge and its connections within and outside of curriculum areas, as well as the application of solid and critical concepts and teaching and learning strategies, is what is meant by content knowledge and pedagogy or pedagogical content knowledge (Guerriero, n.d.). Hence, teachers need intensive guidance, continuous support, and a well-designed program to facilitate their development in content knowledge and teaching pedagogy (Widodo, 2017). The ability of teachers to use subject-specific knowledge (content and pedagogical knowledge) in teaching situations is deemed necessary to improve the teaching and learning process by using instructional technology, presenting the lessons more effectively, and offering supportive learning tools (social media) in an online learning environment. (Jeschke et al., 2021; Briones, 2018; Widodo, 2017; Avila & Cabrera, 2020). Teachers should deliver educational strategies that are relevant, developmental, and suitable. Additionally, they should exhibit proficiency in their mother tongue, Filipino, and English to facilitate teaching and learning. They possess the necessary skills for using technology, instructional methods, and communication techniques that serve as their teaching pedagogy and practice to support successful learning outcomes (DepEd Order no. 42, s. 2017). Teachers also promote student success and responsibility and offer safe, impartial, fair, and motivating learning environments. They do this by promoting an environment that is centered on learning, which effectively controls students' behavior in both real-world and virtual settings. Teachers use a variety of resources and provide cognitively demanding and entertaining activities to foster constructive classroom interactions that are focused on reaching high levels of learning. Further, through the utilization of information and communication technology (ICT), teachers are given the technical skills they need to effectively manage the delivery of their lessons, facilitate teaching and learning process as well as assessment and evaluation to improve students' performance in a particular learning area (Briones, 2018). Due to the complexity of the subjects, the wide range of teaching duties, and the lack of sufficient knowledge due to insufficient professional practices or training, time constraints, and target class classification, teachers had limited proficiency in content knowledge and pedagogy (Padagas, 2018; Morallo and Abay, 2019; Roberto and Madrigal, 2019).

According to UNESCO- International Institute for Educational Planning (n.d.), teachers had inadequate content knowledge necessary for their instruction in many countries around the world. Insufficient professional training, according to Tawalbeh and Ismael (2014), prevents teachers from demonstrating their proficiency in instruction and assessment. They identified that teachers had a subpar performance in terms of instruction that include instructional pedagogy and curriculum content. To measure teachers' effort, knowledge, and skills, Bold et al. (2017) conducted a research study in seven Sub-Saharan African nations. The results of the study showed





that a large proportion of teachers lack a fundamental understanding of the curricula of the students. The study results further revealed that teachers had poor levels of basic pedagogical understanding and have limited good teaching practices. Al-Samarrai, (n.d.) undertook research in the Philippines to evaluate the quality of basic education. The study's findings showed that teachers need good quality professional development opportunities to increase their competencies to improve students' learning outcomes. It was supported by Morallo and Abay's (2019) study on the gaps in quality teaching by assessing teachers' needs to develop a framework for an extension program on teachers' professional development. According to the study's key findings, most instructors agreed that professional development training in pedagogy and content knowledge is strongly needed, with a weighted mean of 3.36.

To address this gap, Nilsson and Vikström (2015) claimed that teachers' teaching practices should be examined to advance their professional teaching knowledge. It simply means that teachers must respond to the urgent call to improve their knowledge and adapt their practices in a way that affects the learning environment. Teachers are essential to ensure that students learn in their academic encounters. Indeed, teachers must possess the necessary skills to develop students' learning foundations in all areas of education by their professional standards (DepEd Order no. 42, s. 2017).

With all of the insights provided, the researchers are confident that carrying out this study was necessary, timely, and relevant to ascertain the level of teachers' pedagogical and content knowledge competency at present as well as the factors affecting them to capture empirical data and serve as inputs and bases for improved policy recommendations in these schools and lay the groundwork for enhancing teachers' professional development to raise their competence level to ensure quality education.

METHOD

This study used the descriptive-comparative research design to give light on teachers' competency in content knowledge, and pedagogy. This study utilized the purposive sampling technique to satisfy the research objectives, it only enumerates all Grade 1 to 3 teachers in nine (9) elementary schools in Buhi District, Camarines Sur District, Philippines. Forty-five (45) teachers participated in this study this school year 2022-2023. Study permits and informed consent were obtained before the actual conduct of this study. The objectives of this study were to determine the teacher's level of competency along content knowledge and pedagogy using the modified indicators of the Philippine Professional Standard for Teachers (PPST); factors influencing their classroom implementation of content knowledge and pedagogy; and significant differences between their level of competency and demographic characteristics such as age, gender, marital status, sex, the status of employment, educational attainment and teaching experiences. A modified researchers-made instrument was used to collect data from the respondents, and it was statistically treated using a computer statistical application. Weighted mean, Rank order, and Analysis of Variance were employed in this study. Further, to avoid bias and preserve the integrity of the



respondent schools, the researchers utilized the average weighted means of the entire study population.

RESULTS AND DISCUSSION

This section provided the significant findings generated in this study to give light on the research objectives.

a. Competency of Teachers in Content Knowledge and Pedagogy

Table 1 shows the results of the 25-item test given to the forty-five (45) teachers' respondents of this study from nine selected public elementary schools in the Buhi District. The findings of the study depict that the majority of the respondents perceived themselves as Highly Competent in almost all indicators of content knowledge and pedagogy. However, they perceived themselves as Moderately Competent in research-based knowledge and teaching-learning principles.

The study results imply that teachers are competent enough in utilizing teaching pedagogies to deliver their content knowledge in teaching their lessons but results further imply that they need to participate in professional development training in the research field to improve their knowledge in utilizing research-based knowledge during the teaching-learning process. Therefore, Elementary teachers in Buhi District are competent enough but they need professional training to continuously capacitate and improve their teaching abilities (Morallo and Abay, 2019).

Along with content knowledge and its application within and across curriculum areas, most of the respondents confirmed that they apply content knowledge in their lessons by giving realistic situational examples and demonstrating it by illustrating effective application within and across curriculum teaching areas that garnered weighted means of 3.98 and 3.84 respectively. But respondents agreed that they have insufficient knowledge in content knowledge and teaching practices to improve the applications of content knowledge within and across curriculum teaching areas both indicators have 3.69 as the weighted mean. Results imply that teachers have knowledge in applying teaching pedagogy and lesson contents, but they still need room for improvement to master content knowledge application in the teaching-learning process. Also, teachers need to equip themselves with sufficient knowledge in content knowledge and pedagogy to ensure the improvement of students' learning outcomes as confirmed by the study of Guerriero (n.d.).

Table 1. Teacher's Competency in Content Knowledge and Pedagogy

Indicators	Average Weighted Mean	Verbal Interpretation
Content knowledge and its application within and across curriculum areas	3.80	Highly competent
Research-based knowledge and principles of teaching and learning	3.25	Moderately competent
Positive use of ICT	3.53	Highly competent
Strategies for promoting literacy and numeracy	3.90	Highly competent
Strategies for developing critical and creative thinking, as well as higher-order thinking skills	3.87	Highly competent
Mother Tongue, Filipino, and English in teaching and learning	4.0	Highly competent
Classroom communication strategies	3.75	Highly competent
Grand Weighted Mean	3.73	Highly competent





Relative to research-based knowledge and principles of teaching and learning, the results showed that teachers collaborated with their colleagues and possessed a sufficient understanding of the conduct and application of research-based knowledge and teaching-learning principles to improve the teaching-learning process that has 3.78 and 3.73 respectively. However, they have inadequate knowledge of demonstrating and utilizing research-based knowledge. Therefore, it implies that teachers are least competent and incapacitated to do research-based lessons since it needs technical knowledge and expertise in the field that needs rigorous training and constant application of knowledge. This finding was corroborated by the study of Gepila (2020) who stated that teachers are still incompetent in research involvement; hence, they should prioritize their research engagement to explore and apply new ideas and innovations in the teaching and learning process.

In terms of the positive use of ICT, teachers promoted effective strategies for the use of ICT in their classrooms (WM=3.67). They further revealed that they possessed adequate ICT background, skills, and competencies, and ensured the positive use of ICT both acquired 3.53 as the weighted mean. However, the study contends that mentoring their colleagues in ICT implementation and utilization was their least priority. The result infers that elementary teachers in Buhi District are competent enough in ICT utilization and implementation since it is one of the instructional tools utilized in classroom instruction. Hence, Information Communication Technology (ICT) was utilized by teachers as one of the instructional tools incorporated with their teaching strategies to improve their delivery of lessons as confirmed in the study of Briones (2018).

In strategies for promoting literacy and numeracy, the teachers perceived themselves as highly competent in demonstrating knowledge in applying different teaching strategies to promote students' literacy and numeracy; familiarizing student's literacy and numeracy background as the basis of teaching strategies; utilizing a range of different teaching strategies and exhibiting exemplary teaching strategies that promote learners' achievement in literacy and numeracy which these indicators acquired 4.0 as weighted mean. However, assisting and supporting their colleagues in this aspect was their lowest priority. The result entails that Elementary teachers are focused on promoting students' literacy and numeracy by implementing varied interventions (reading intervention and numeracy intervention) to support and improve learners' achievements. It was confirmed by the studies of Zahoor-ul-Haq, Khurram, & Bangash (2019) and Folk (2021) which highlighted those interventions improved students' literacy and numeracy of course with the proper guidance of teachers.

In addition, relative to the strategies for developing critical and creative thinking, as well as higher-order thinking skills, the results of the study showed that teachers assessed themselves as Highly competent in promoting higher-order thinking skills to the students by demonstrating knowledge, developing effective teaching strategies and collaborating with the colleagues in selecting, reviewing, modifying and expanding their teaching strategies to develop critical and creative thinking of the students. But teachers further revealed that they lack competency in



applying different teaching strategies and lack support and assistance from their colleagues to modify and expand their teaching strategies to promote students' creative and critical thinking. These findings denote that, teachers are provided with a lack of support and training coming from their colleagues. Hence, this study further suggests that teachers shall be provided with good quality professional development programs that include coaching and mentoring as well as training in curriculum implementation and teaching pedagogies to improve their teaching competency as mentioned by the studies of the Al-Samarrai (n.d.) and Morallo & Abay (2019).

Moreover, along with the Mother Tongue, Filipino, and English in teaching and learning, the findings revealed that teachers are Highly Competent in all indicators since Elementary teachers are expected to utilize these languages such as Mother Tongue, Filipino, and English in classroom instruction specifically in Grades 1 to 3 students. Therefore, the teachers mastered the use of the mother tongue, Filipino, and English language in their classroom instructions and understand the cultural background of learners during instructional delivery as part of their curriculum. The conducted study by Soriano (2017) confirmed that language was employed to create clear communication and understanding during classroom instruction. When implementing Mother Tongue Based-Multilingual Education (MTB-MLE), teachers must give instructional methodologies to effectively apply the curriculum in the classroom.

Furthermore, as findings revealed, teachers perceived themselves as Highly Competent in classroom communication strategies which means that teachers are familiar with and possess adequate knowledge of classroom management. They further exhibited that they employ and display proficient use of different classroom communication strategies; model exemplary classroom communication strategies and collaborate with their colleagues in the proficient use of these varied classroom strategies. The findings of the study imply teachers have adequate competency in classroom communication strategies to ensure proper classroom management during the teaching and learning process. Still, teachers shall reflect on their practices to continuously improve their teaching practices to effectively manage their classroom instructions as posited by the study of Nilsson and Vikström (2015).

b. Factors Influencing the Competency of Teachers

Table 2 opines the teachers' responses about the factors influencing their content knowledge and teaching pedagogies which ranked accordingly. It can be noted that teachers agreed that there are varied factors that influenced them. Teachers perceived that their colleagues in the profession and students' prior knowledge were the most predominant factors that influence them with weighted means of 3.49 and 3.36, respectively. Moreover, the availability of instructional materials and students' strengths and weaknesses moderately influenced them. However, students' intellectual differences were the least influential among all factors. The study results revealed that teachers' professional peers influenced them. Professional peers provided an opportunity such as coaching and technical assistance to improve their instructional competence. It was confirmed by the study of Cagape & Magayo (2019)





which stressed that peer coaching helped teachers to become self-reflective on their teaching practices to augment their classroom interactions.

Table 2. Factors Influencing the Competency Of Teachers

Indicators	Average Weighted Mean	Verbal Interpretation	Rank
Influenced by colleagues in the profession such as co-teachers and instructional leaders	3.49	Strongly Agree	1
Influenced by students' prior knowledge.	3.36	Strongly Agree	2
Influenced by the availability of instructional materials.	3.31	Strongly Agree	3.5
Influenced by students' strengths and weaknesses.	3.31	Strongly Agree	3.5
Influenced by differences in students' level of intelligence	3.29	Strongly Agree	5
Grand Weighted Mean	3.35	Strongly Agree	

Moreover, these findings suggest that teachers should reflect on their teaching and professional practices and shall consider these common factors that affect their content knowledge and pedagogy because teachers should intensively be focused on improving their competencies in different domains to provide wide learning opportunities to students to ensure the quality of education as posited by the study of Morallo & Abay (2019).

Table 3. Significant Differences Between Teachers' Competency And Demographic Characteristics

Indicators	Computed <i>f</i>	<i>p</i> -value
Content knowledge and its application within and across curriculum areas	3.417	0.26
Research-based knowledge and principles of teaching and learning	.222	.881
Positive use of ICT	.476	.701
Strategies for promoting literacy and numeracy	.744	.532
Strategies for developing critical and creative thinking, as well as higher-order thinking skills	2.482	.074
Mother Tongue, Filipino, and English in teaching and learning	3.735	.018
Classroom communication strategies	2.585	0.66

As depicted in Table 3, the results revealed that among the self-rated level of content knowledge and pedagogy of elementary teachers, there were significant differences in the teacher's competency in content knowledge and pedagogy along with content knowledge and its application within and across curriculum areas ($f=3.417$, $p=0.26$) and Mother Tongue, Filipino and English in teaching and learning ($f=3.735$, $p=0.18$) hence, rejecting the null hypothesis of this study. In contrast, the other variables do not flag significant differences in the respondents' demographic characteristics.



CONCLUSIONS

Based on the generated findings of this study it can be noticed that Elementary teachers in selected schools in Buhi South District, Philippines were Highly Competent in content knowledge and pedagogy but they need advanced knowledge to improve and have ample competency in the utilization and application of research-based knowledge in their delivery of instructions. Also, it was therefore concluded that teachers' competencies were influenced by different factors. Moreover, quantitative data shows that content knowledge and its application within and across curriculum areas ($f=3.417$, $p=0.26$) and Mother Tongue, Filipino, and English in teaching and learning ($f=3.735$, $p=0.18$) have significant differences according to teachers' demographic characteristics which can be assumed that teachers' competencies in content knowledge and pedagogy may differ on their profiles, teaching experiences, and educational attainment except for the status of employment because all of them are in permanent status.

Acknowledgment

The researchers would like to acknowledge the Elementary Teachers of Buhi South District, Philippines for participating in this study. Also, the authors gratefully acknowledged, Dr. Annabelle I. Mota, Public Schools District Supervisor of Buhi South District, Philippines for allowing them to conduct this study. They are also grateful to the Office of the Research Management of the School of Graduate Studies and Research of the University of Northeastern Philippines and Dr. Ernie C. Avila, Research Professor, for unending support to make this study a success and be published in their journal.

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