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Exploring teachers' experiences with capability level in performing each objective of content knowledge and pedagogy domain

Saturnino E. DALAGAN Jr.*, Ethel Jane V. DAGANSAN

Davao Oriental State University, Department of Education, Philippines: ORCID Saturnino E. Dalagan Jr., https://orcid.org/0000-0002-0442-7744, Ethel Jane V. Dagansan, https://orcid.org/0009-0007-8992-729X

Corresponding author: monteluckast1205@gmail.com

ABSTRACT. This research analyzed the teacher's capability level in performing each objective of the content knowledge and pedagogy domains, as well as the lived experiences of teachers. In this study, a convergent parallel mixed-method research design was used. From the medium school category of the Caraga North and South District, Division of Davao Oriental, there were 81 teachers in the quantitative aspect of the study and 20 participants in the qualitative part, for a total of 101 participants. The researchers used a survey questionnaire that was adapted from the Results-Based Performance Management System of 2018. Data analysis revealed that the teacher's capability level in performing each objective of content knowledge and pedagogy domain was high, which has an overall mean of 2.94. Qualitative findings revealed that teachers applied content knowledge across curriculum teaching areas; similarly, they aligned lessons from the curriculum guide's learning competencies, provided interactive activities, and used visual presentations, pictures, songs, stories, and videos. The teachers enhanced literacy and numeracy skills; correspondingly, they integrated worksheets for numeracy concepts and the Marungko approach as basic steps in teaching reading and writing. The teachers developed higher-order thinking skills; identically, they provided real-world problems and created or innovated activities as teaching strategies. Based on the results, it is recommended to conduct a similar study, emphasizing the remaining indicators of content knowledge and the pedagogy domain.

Keywords: *Pedadogy, quantitative method, and qualitative method*

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INTRODUCTION

Teacher quality is the foundation of a learner's learning development, as it determines gains in student achievement (Guerriero, 2014). Teachers were expected to continuously improve their knowledge and skills to enhance their teaching practices (Lucenario et al., 2016). Teachers' success is deemed by how effectively they allocate time and resources (Archibald et al., 2011), supervise the teaching and learning process, and deliver pedagogical content knowledge (Hill et al., 2004).

Several studies concluded teachers' weak results in teaching content were explained by their lack of study, teaching experiences and practices, and access to information (Estrella et al., 2015). This is greatly influenced by how they break down content knowledge for student understanding. Teacher teaching quality and teacher knowledge about content and pedagogy equate to student achievement (Metzler and Woessmann, 2012).

Moreover, Odden et al., (2001) mentioned that knowledge- and skills-based compensation could be another significant strategy for enhancing teacher quality. Policies must be attentive to improve content knowledge and pedagogy that attend to the conditions, resources, and collaborative learning opportunities (Stosich and Bristol, 2018) and that teachers' quality ensures the quality of output and outcome (Jusuf, Ikip, and Gorontalo, 2005).

In addition, Donnelly and Berry (2019) believed that pedagogical knowledge provided a way to study how teachers approach many teaching practices. Blömeke et al., (2016) also did the same by actively giving a closer link to practicing teachers to professional development activities, teaching by continuing the organization of training programs and developing strategies to raise awareness of the teacher community (Bicaj and Treska, 2014).

Meanwhile, Sibuyi (2012) added that pedagogical content knowledge can be facilitated using procedural knowledge, drill work, and knowledge of subject matter. On the other hand, Ngussa (2015) shared the information that there were no teachers who specialized in teaching reading, writing, and counting (arithmetic) as essential requirements. It was supported by Al-Zoubi et al., (2015), who reported that traditional methods contribute to low academic achievements.

In the local setting, the Philippines adopted the Department of Education Order No. 42, s. 2017 as new professional standards for teachers. Luna and Aclan (2012) claimed that the improvement of teachers' pedagogy and content knowledge was achieved when they underwent more trainings and seminars on curriculum, content, pedagogy, and technology. Moreover, Ramos (2015) encouraged teachers to explore and view other effective teaching strategies to entice other students to challenge themselves to create their own approaches to use in the field.

Despite its standardization, Espinosa et al., (2018) reiterated that it would take a long time and continued practice before a teacher could master the skill of integrating the dimensions of productive pedagogy into their research lessons. Moreover, Gonzales (2018) seconded that teachers have uncertainties in delivering their lessons. According to Shahroom and Hussin (2018), in order to deal with Industry 4.0 transformation challenges, an organization needs to have a successful strategy. Thus, teachers need to involve themselves in learning new trends in education to provide meaningful activities to learners.

Furthermore, due to the limited research studies conducted in this area and the lack of articles on content and pedagogy domains applying the mixed method, the researchers decided to survey teachers' capability level in

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performing each objective of the content knowledge and pedagogy domain.

This study aimed to determine the capability and development priorities of the content knowledge and pedagogy domains in the schools of Caraga North District and Caraga South District. Specifically, the study aimed to answer the following questions: What were the demographic profiles of the teachers? What is the teachers' level of capability in performing each objective of the content knowledge and pedagogy domain in terms of content knowledge and its application? What are the practices experienced by the teachers in performing each objective of the content knowledge and pedagogy domain objectives?

METHODOLOGY

A parallel mixed-method research design was used in which both quantitative and qualitative methods were conducted simultaneously, merged the data, and used the result to understand the problem (Creswell, 2020). The quantitative part was used to determine the demographic profile as well as the teachers' level of capability in performing each objective of the content and pedagogy domains. This study utilized a complete enumeration sampling technique for the number of teachers belonging to the medium school category. There were only one hundred eleven teachers (111) from the medium school category of the Caraga North and South District, Division of Davao Oriental. A frequency count was used to determine the demographic profile of the respondents. The mean was used to determine the teachers' capability level in performing each objective of content and pedagogy domain. A standard deviation was used to determine the consistency of responses.

The qualitative method was used to determine the lived experiences and practices of teachers in their capability level in performing each objective of the content and pedagogy domain when they applied knowledge of content across curriculum teaching areas, used a range of teaching strategies that enhance achievement in literacy and numeracy skills, and applied a range of teaching strategies to develop critical and creative thinking as well as higher-order thinking skills. This was measured using interviews and focus group discussions. Ten participants were selected from each medium school category using random sampling techniques for the focus group discussions. In the same manner, ten participants were randomly chosen for an in-depth interview. Codes of the participants were done based on the acronym of the school where the participants were teaching and the one who conducted the interview and FGD. The researchers also used a survey questionnaire that was adopted from the Results-based Performance Management System of 2018 to survey the teachers (n = 80).

RESULTS AND DISCUSSIONS

Demographic profile of the respondents

Table 1 shows the demographic profile of the respondents. Most of them belonged to the age bracket of 21 to 30 years old, and they were mostly female. All of them were employed as regular permanents, and the majority of them had Teacher I plantilla position. Also, the majority of them rendered teaching services for more than 10 years. Most of the respondents had a bachelor's degree as their highest degree obtained. The female respondents were also computer literate, and a lesser number of them had attended seminars and training for their continuing professional development. The teachers under study had a class proficiency level of 80% to 84%, which means, as discussed in DepEd Order 31, s. 2012 students here had developed knowledge, skills, and core understandings and, with little guidance from the teacher and/or with some

assistance from peers, could transfer these understandings through authentic performance tasks.

Teacher's level of capability for each objective of the content knowledge and pedagogy domain

The teacher's level of capability in performing each objective of the content knowledge and pedagogy domain was measured through a survey questionnaire adapted from the Results-based Performance Management System Manual for Teachers and School Heads of DepEd 2017 with the following indicators: content knowledge and its application within and across curriculum areas; strategies for promoting literacy and numeracy; and strategies for developing critical thinking as well as other higher-order thinking skills.

It could be noted that the standard deviation in all indicators of content knowledge and pedagogy domain reflected

Table 1. Respondents' demographic profile.

Items	Frequency	Percentage
Age	30	37%
21 - 30 years old		
31 - 40 years old	24	30%
41 - 50 years old	13	16%
51 -60 years old	11	14%
61 years old and above	3	4%
Sex		
Male	19%	23%
Female	62%	77%
Rank/Position		
Teacher I	63	78%
Teacher II	15	19%
Teacher III	3	4%
Highest Degree obtained		
Bachelor's	74	91%
Master's	7	9%
Doctor's	0	0%
Length of Service		
0 - 3 years	24	30%
4 - 6 years	23	28%
7 - 9 years	27	33%
10 years	7	9%
Employment Status		
Regular/Permanent	81	100%
Substitute	0	0%
PTA Fund	0	0%
LSB Fund	0	0%
Computer Literate		
Yes	73	90%
No	8	10%
Seminar/ Training attended		
None	45	54%
Yes	36	44%
Class Proficiency Level		
74% and below	0	0%
75% - 79%	21	26%
80% - 84%	44	54%
85% - 89%	11	14%
90% and above	5	6%

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in Table 2 is less than 1.00, which is the typical standard deviation (Wittink and Bayer, 1994). This indicates that there is consistency in responses among the respondents. The data revealed that the overall mean for the teacher's level of capability of performing each objective is 2.94, described as high level, which means that the teachers in Caraga Districts perceived most of the behavioral indicators. The respondents have provided a thorough response, which demonstrated capability at this level. For conformity, Blömeke et al. (2016) suggested that teachers' readiness is related to instructional quality as well as content knowledge and content preparation, suggesting that instructional quality may have an indirect effect on student learning.

As indicated, it can be gleaned from Table 2 that the strand on content knowledge and its application within and across curriculum areas has the highest mean rating of 3.00 for the teacher's level of capability in performing each objective of the content knowledge and pedagogy domain, which denotes a high level. This indicates that the teachers perceived the most behavioral indicators. The teachers manifested a substantial understanding of the subject matter's contents and the discipline's structure. They also emphasized the subject matter content accurately and made connections to the different disciplines. This was supported by Milner IV (2013), who said that teachers need to know their subject matter content and understand their subject matter, just like in mathematics, science, art, language arts, or history.

Meanwhile, the strand on strategies for promoting literacy and numeracy has a mean rating of 2.97, which denotes a high level. This indicates that the teachers perceived the most behavioral indicators. The teachers can utilize activities that promote skills needed for reading and writing in most parts of the lesson. They were also able to use skills that consist of understanding and applying fundamental mathematical operations. Hence, Doyle et al., (2017) encouraged a collaborative whole-school approach to literacy (and numeracy), highlighting 'collective responsibility for the achievement of every student within a school community.

Finally, the strand on strategies for developing critical thinking and other higher-order thinking skills has a mean rating of 2.86, which denotes a high level. This indicates that the teachers perceived the most behavioral indicators. The teachers provided work for several strategies that enable most learners to give opinions to each lesson and to have opportunities to respond to others' arguments. The findings from this study were confirmed by Abd Rahman et al.,

Table 2. Teacher's level of capability for each objective of the content knowledge and pedagogy domain.

Item	Standard Deviation	Mean	Descriptive Level
1. Applied knowledge of content within across curriculum teaching areas	0.46	3.00	High
2. Used a range of teaching strategies that enhance learner achievment in literacyand numeracy skills	0.51	2.97	High
3. Applied a range of teaching strategies to develop critical and thingking as well as other higher order thinking skills	0.60	2.86	High
Overall	0.52	2.94	High

(2010) that the most challenging practices that applied to teaching strategies were based on learners' learning styles, teaching materials matching students' backgrounds, and designing assessments that were significant for all students.

Practices of teachers in the level of capability and development priority

The results of the present study were discussed according to the themes that emerged within the given problem. Within this area, two root codes emerged that highlighted facets of the participants' practices and experiences in school in applying the content knowledge and using teaching strategies to enhance literacy and numeracy skills as well as to develop critical, creative, and higher order thinking skills. Further analysis produced branch codes that created textural understanding of the experiences. Names mentioned were not their real names.

The first root code emerged was focused on application of content knowledge. Participants acclaimed that they *gave motivation in presenting the lesson using pictures, songs, and stories.* Furthermore, another participant *motivated students when presenting lessons with the use of videos.*

> *"Ahh cgeh, heheh, basic from ano you will give motivation as always, may it be pictures, songs or even stories or sharing to open your new lesson, dbuh"* (##SJCESEJVD_IDITC03)

> *So, in a in a manner ... I present my lesson well using motivations, using videos after because we are now in a 21st century ano teaching teaching diba so ahmm I show to them more on like videos so my content is more on like videos then then manipulative skills.* (##EJVDSJCES_ FGDFD004)

In addition, other practices experienced by participants in applying content knowledge were *using ICT integration, contextualizing the lessons, mastering the lessons, utilizing teaching methods, and aligning lessons to curriculum guides and content standards.*

> *"I present my lesson to my pupils through the use of ICT integration. Of course, first and foremost, you will discuss the objectives and the competencies that will thatthey will learn for that day. And then, the process goes on".* (##SJCESEJVD_IDITB02)

> *"Of course, I need to contextualize my lesson para mas maging interactive ang mga bata".* (##SJCESEJVD_IDITD04)

> *". . . and before presenting the lesson I always study very well the DLL for the particular week . . "* (##SJCESEJVD _FGDFF006)

> *". . . I always recognize the deductive and inductive method, based on the given topic I see to it that I use either of these two methods. . ."* (##SJCESEJVD_ IDITX24)

> *". . . in terms of the presentation of my lesson, first and for most we have the diba sa aaa curriculum guide we need to follow the content standards so that is the basis of how we present our lesson. Now in my own experience and the way I present my lessons of course first I make sure that it is based on the content standards"* (##EJVDSJCES_FGDFA001)

The second root code was strengthening literacy and numeracy skills. Participants experienced enhancing the literacy and numeracy skills of the students. Consequently, this can increase academic achievements of the learners.In terms of

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this, the participants *provided board work and worksheets, used Marungko approach in reading, and applied peer reading strategy.*

> *"Maam naa koy naa koy board boardwork nila na didto sila magtry ug sulat then naa pod koy instruction ay kanang worksheet individual pod na. Na how to write the letters para makuan pod nila ma mapractice gyud nila. Everyday gyud ng writing, especially kung first day of the class. Everyday gyud na ang mga how to WRITE letter, number and then how to write their names"* (##SJCESEJVD _IDITA01)

> *"Based on my experience, well sang reading, I use ngiyang mga like marungko approach. At the same time, yaka anchor gihapon sya sang MTB na mga alphabets kay connected, somehow pare-pareho man silan…"* (##SJCESEJVD_IDITC03)

> *"I have a peer reading strategy. Like for example, magpabasa ng eng maghatag ako ng ahh isa ka ng e assign ko na ya awon kanak ipa awon kanak reading ahh PEER reading strategy in which yang duha ka iso eng tapad kay expert and neophyte ngiyang matigamay dili gud sya `yang matigamay mubasa pero matigam gayud sya"* (##SJCESE JVD_IDITF06)

Data Corroboration

The results of the study on determining the teacher's level of capability and the lived experiences and practices of teachers in performing each objective of the content knowledge and pedagogy domain were compared and interpreted.

The result in objective 2, which was the quantitative part, revealed that the overall mean for the teacher's level of capability of performing each objective was described as high, which means that the teachers in Caraga Districts perceived most of the behavioral indicators. They provided a thorough response, which demonstrated capability at this level.

This was strongly supported by the respondents during the key informants' interviews and focus group discussion: they motivated their pupils to ensure the application of the content knowledge they learned. To mention some manifestations, key informants were using pictures, songs, stories, use videos, and integrating ICT in opening a lesson. Correspondingly, other key informants showed capability levels by stating questions, following lesson plans, and contextualizing lessons to encourage learners to learn. The study of Yuliarini (2022) proved that songs improve listening skills of learners and a better strategy to motivate students. Moreover, Issa et al. (2023) concluded in their study that integration of e-learning made teaching and learning processes effective.

Further, the high capability level of teachers in performing each objective of the content and pedagogy domains matched their lived experiences when they enhanced the content knowledge and used teaching strategies that increased the literacy and numeracy skills of students. Gubalani, et al. (2023) revealed in their study that peer tutoring improved reading comprehension.

CONCLUSIONS

The demographic profile of the respondents showed an age bracket of 21 to 30 years old, mostly females; all of them were employed as regular or permanent; the majority had a Teacher I plantilla position. They attended a smaller number of seminars and trainings; the majority were computer literate, and most of them had a class proficiency level of 80%–84%. The teachers of Caraga District who belonged to the medium school category had a high level of capability in

Table 3. Salient quantitative and qualitative findings.

Focal Points	Quantitative Findings	Qualitative Findings	Nature of Data Integration	Implications
Capability Level in Performing Each Objective of the Content Knowledge and Pedagogy Domain	Table 2 in Teacher's Level of Capability for Each Objective of the Content Knowledge and Pedagogy Domain on item about applied knowledge of content within across curriculum teaching areas (item 1) is rated high at M = 3.00	Root code 1 is parallel in terms of the findings in quantitative data. It emerged in the thematic analysis like gave motivation in presenting the lesson using pictures, songs, and stories; motivated students when presenting lessons with the use of videos; and, using ICT integration, contextualizing the lessons, mastering the lessons, utilizing teaching methods, and aligning lessons to curriculum guides and content standards.	Merging – converging	Motivation sustained the learning interest of the learners. It is utilized to stay longer in capturing the interest to learn the content.
		Root code 2 is parallel in terms of the findings in quantitative data. It emerged in the thematic analysis like provided board work and worksheets, used Marungko approach in reading, and applied peer reading strategy.	Merging – converging	Teaching strategies and approaches promoted authentic learners' performance for the learning to take place.

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RECOMMENDATIONS

It is recommended to replicate this study with kindergarten teachers since they already have the class proficiency level by the following school year.

It is a remarkable description of teachers' level of capability in performing each objective in the content and pedagogy domains; however, it is still in demand to conduct research, particularly on the other indicators not covered in this study.

Since there is a new DepEd order for RPMS, it is highly suggested to conduct more studies utilizing the new indicators specified for SY 2022-2025 to see other directions of the study.

Similar studies are encouraged to conduct Master Teacher positions to see the difference between Teacher I to Teacher III positions. Further, extend the same investigations to the lived experiences of administrators regarding the domains of learning.

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