Performance of Out-of-Field Teachers and the NAT MPS of Students' School Scores: Basis for Program Initiatives

Lincoln V. Tan¹ Mary Daphne P. Silvestre² Bukidnon State University

Abstract:- This study assessed the performance of outof-field teachers and NAT School Scores of students in the Division of Malaybalay City and the Division of Valencia in the school year 2019-2020. It identified the profile of out-of-field teachers, which seeks the level of mastery in teaching content knowledge, lesson design, and assessment. The descriptive method was employed using Pearson-Product Moment Correlation. Questionnaires through Google form, survey, and interview guide questions were used in the gathering of the data. A five-point Likert Scale was used in the scoring procedure for the teachers and mean school scores of students in the NAT. Findings revealed that as to the profile of the out-of-field teachers, 82% are teacher I, with the major field of specialization being Social studies. However, the content during the undergraduate studies is different from the content taught in the K-12 curriculum. Teacher's level of mastery of content knowledge, lesson design, and assessment is average. There is no significant relationship between the level of mastery of teachers and the NAT school scores of students. As to the challenges encountered by the OOF teachers, content knowledge is the most difficult teaching transaction intertwined with lesson design and assessment. Challenges encountered are all confined to the fact that their content knowledge is no longer aligned with the content taught to the K-12 curriculum. Their difficulty in content knowledge hinders them from using varied teaching strategies and assessment which is limited to paper and pen test.

Keywords:- Out-of-Field Teachers, Content Knowledge, Pedagogy, Assessment, NAT School Scores.

I. INTRODUCTION

Out-of-field teachers are one of the classifications of existing teaching personnel in some schools. They passed the qualification standards implemented by the organization and are qualified and well-trained professional educators. However, they frequently find themselves dealing with unacquainted issues in handling subjects not aligned with their competencies and gained knowledge in their major field. These teachers are outstanding in their field but unexpectedly find themselves in unfit' positions delivering the topics be taught not in their line of interest.

Firstly, in the National Achievement Test (NAT), the national target has been set at least one-third of the NAT test takers will pass, which is interpreted as "Moving towards Mastery". However, the results of the NAT in the previous years have been declining from 2005-2012, In Mathematics, 59.09% of the fourth Year High School students obtained a Low Mastery of 15-34% MPS in almost all subjects.

Secondly, in 2012 the MPS for Mathematics was much lower than in 2006 which means that there may be prevailing challenges that occur because of the successive low results of the NAT scores of the students in the locale of the study. The situation creates ambiguity and shakiness among out—of-field teachers subsequently assigned to teach a subject for which he or she has not been prepared (du Plessis, 2015). This could include being assigned to teach social studies when prepared to teach mathematics. The concept of Out-of-field teaching is related to teaching major fields considered as left out subjects since the subject title remains yet the content were no longer updated, and what was being taught was no longer aligned. (The Royal Society, 2007).

This is among the proofs that teachers can do well in the teaching and learning process specifically in teaching the assigned subjects because, during exposure to the undergrad, they are well taken care of. However, in this situation, there exists a wide gap between teaching with fresh content knowledge and within the expertise rather than teaching subjects not of their expertise. and the knowledge and skills of teaching required in the actual classroom curriculum transaction. The out-of-field teacher cannot act on the emerging needs unless he or she is trained and frequently oriented. (Verma 2019)

In the context of school performance in the national achievement test, some factors hamper the learners' performance to pass or get a high score because they lack the needed knowledge. Schools may double their time to identify factors to consider the low performance that would support the improvement of instruction. This is to meet the target of 75% mastery of the lesson according to the National Education and Research Center (NERTC, 2012).

Teachers were performing their teaching tasks however, Salingay (2015) revealed that the application of some concepts in the subject has not been fully provided during the undergraduate studies and was not internalized by the teachers. Moreover, Samillano (2007) revealed that most of the teachers who are out-of-field had problems in teaching the subject because of a lack of facilities and instructional materials. Subsequently, addressing the needs of the learners would be one of the fast vessels towards achieving lifelong learning.

In the Division of Malaybalay City and the Division of Valencia City, the level of mastery of student achievement in the NAT for the school year 2012-2013 was fifty-nine percent (59%) which is still far from the goal of DepEd which is seventy-five percent (75%) mastery. As observed, 65% of the teachers in the division were doing varied tasks aside from the teaching load.

DepEd Order No.70 series 2012 stated that teachers of all public elementary and secondary schools should have more time for the preparation of the support of instructional materials and student-centered activities. The DepEd adopts flexibility in the preparation of the lesson exemplars. For these reasons, out-of-field is an important factor to be taken into consideration. However, despite the policies and guidelines, there were still teachers handling subjects which are not their expertise. Many of the teachers find difficulty in learning gaps among students. Their major field and stock knowledge do not fall to the subjects assigned by their administrators.

Previous studies investigated students' self-efficacy (Peters, 2012), gender and socio-economic status (SES) (Ewumi, 2012; Özdemir et al., 2014), parental involvement (Sheldon & Epstein, 2005), environmental factors, such as school or classroom climate (Malik & Rizvi, 2018), are among the few factors examined and found to have significant influence on students' performance in the NAT. It is in this situation that the present study has to base its

solution on the gaps identified and that methodology must be effective in the treatment of variables and the description of results would be clear and aligned to the objectives of the study.

➤ Conceptual Framework

This study is anchored on the concept of Olitsky (2006) in the out-of-field classes that students had less access to content knowledge, but the teacher was more apt to engage in a socially situated learning process and the students were more likely to use science language. Dee and Cohodes (2008) described subject-qualified teachers were less effective in increasing engagement or comfort within their subject matter. The authors concluded that teachers were more likely to view students critically, and in-field teachers reduced achievement in the weakest students.

In the delivery of the lesson, the teacher needs to prepare what to teach and anticipate the instructional materials to be utilized. This follows a time frame so that the lesson will be attained. The teaching strategies, evaluating the students' learning, and preparation of the test questions

Teaching matters because when students take classes that are taught out-of-field, the students are generally less successful and show less academic growth (Chaney, 1995; Clotfelter, Dee &Cohodes, 2008; Goldhaber & Brewer, 2000; Ingersoll, Perda, & May, forthcoming, as cited in Ingersoll, 2019; Raudenbush, Fotiu, & Cheong, 1999; Riordan, 2009).

Using a small national dataset from the National Education Longitudinal Study of 1988 (NELS: 88), Dee and Cohodes (2008) examined Grade 8 student achievement in English, Math, Science, and Social Studies. They found that students who took Mathematics and Social Studies classes taught in-field did significantly better academically than students who took them out-of-field, and the magnitude of the benefit of in-field teaching was greater for students in urban schools, low-income students, and male students.

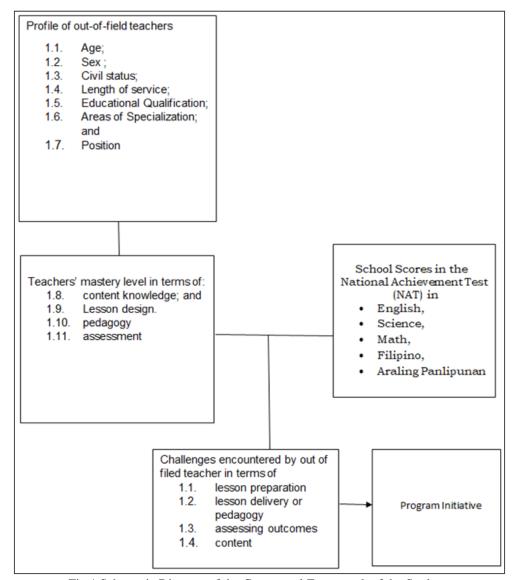


Fig 1 Schematic Diagram of the Conceptual Framework of the Students

The first box contains the variables as to the profile of the out-of- field teacher's by age, sex, civil status, length of service, educational qualification, areas of specialization, and position. The data collected on the profile of the OOF teachers give the researchers baseline data in devising the intervention program.

Box 2 is another variable that describe the mastery level of the OOF teachers in terms of content knowledge and lesson design, pedagogy and assessment. The content learned by the OOT may be aligned to the content as reflected in the curriculum to realize the alignment between the learned content of the OOT and the content taught. As observed, there are instances where the curriculum in HEIs offerings as a field of specialization is far different to the content taught.

Moreover, the lesson design is another significant component in the teaching learning process. It is a way of designing the lesson how students may learn new knowledge and skills. The goals of the lesson were being organized for students to come up with a realistic lesson engagement. The

lesson design could be materialized first in the planning of the lesson.

Pedagogy is another equally important component in learning which shows how the subject in theory and in practice was being taught. As experienced, those teachers who are honed with the experience of what to teach and how to teach share significant and productive learning to students. It is the interplay between culture and the different strategies of getting the attention of the students to learn. This is how the teachers help students to develop their higher order thinking skills.

Assessment is another important part of the lesson to measure how far the students learned and mastered the content as they experience it through the facilitation of the teacher. The assessment may come in different ways and strategies hence, it relies on the initiative of the teacher to think of ways how to assess or evaluate the learning of the students. The result of the assessment may somehow guide the teacher to process the learning needs to be taken to enhance the achievement in instruction of the learners.

The third box contains the challenges encountered by the OOF teachers how they carry the instruction as to the components described. Although there are legal basis which states that teachers need to be objective in teaching the learners but there are occurring this this phenomenon.

The fourth box is the dependent variables which comprise the School Scores in the National Achievement Test (NAT) in English, Science, Math, Filipino, Social studies in the schema represents the students' scores in the National Achievement test in the five core subjects in English, Science, Math, Filipino and Araling Panlipunan. And the fifth box is the program initiative as an intervention on the challenges encountered by the out-of-field teachers.

The NAT is administered in order to gauge the understanding and knowledge of students learning in the Junior and senior High School. Logically, when teacher's activities were focused on the improvement of the learners learning needs it would really affect the students' scores in the NAT.

The commitment of the teachers in teaching aside from multitasking can increase the achievement level of the students. This can be achieved through establishing links between education and learners output and teachers. This would show the result of the student's knowledge gained after the learning from the basic education cycle. One implication could be the commitment of teachers in teaching that will result to student's satisfactory performance. If the students learning is at its maximum level, their achievement would likely increase.

> Statement of the Problem

This study assessed the Performance of Out-of-Field Teachers and the NAT MPS of Students' School Scores: Basis for Program Initiative in the Division of Malaybalay City and Division of Valencia City in the school year 2020-2021.

- ➤ Specifically, this Study Answered the following Questions:
- What is the Profile of the Out-of-Field Teachers as to:
- ✓ Age;
- ✓ Sex;
- ✓ Civil status;
- ✓ Length of service;
- ✓ Educational Qualification;
- ✓ Areas of Specialization; and
- ✓ Position
- What is the mastery level of the out-of-field teachers in terms of:
- ✓ Content Knowledge
- ✓ Lesson Design
- ✓ Pedagogy
- ✓ Assessment

- Is there a significant relationship between the mastery level of the out-of-field teachers in terms of content knowledge, lesson design, and pedagogy and assessment and the National Achievement Test results?
- Describe the challenges encountered by the out of filed teachers in terms of:
- ✓ Lesson Preparation
- ✓ Lesson Delivery or Pedagogy
- ✓ Assessing Outcomes
- ✓ Content?
- > Null Hypothesis

There is no significant relationship between the multitasking practices of public secondary school teachers and the scores of students in the NAT.

II. METHODOLOGY

This part deals with the discussion of the methodology to be used in the study. It presents the research design, research locale, participants of the study, the sampling procedure, the administration of the instruments, the scoring procedure, and the treatment of the statistical data.

> Research Design

The study utilized a descriptive research design to describe the current profile of the out-of-field and their mastery level of content knowledge and lesson design. The study will also determine the main interaction on the mastery of content knowledge, lesson design, pedagogy, and assessment. The study utilized four instruments which are the profiling survey, questionnaire, and interviews on the challenges encountered by the out-of-field teachers.

Research Locale & Respondents of the Study

The respondents of the study out-of-field teachers were secondary school teachers from the Division of Malaybalay City and the City Division of Valencia. who are from Lilingayon NHS, Tongantongan NHS, Catumbalon NHS, Concepcion NHS, Banlag Integrated School, Dagatki Davao IS, Lourdes IS, and for Malaybalay city Division are Sila-e NHS, San Martin Agro-Industrial NHS, Managok NHS, Lalawan NHS, MiglaminNHS, Malaybalay City National Science HS, Bangcud National High School, Casisang NHS, Bukidnon NHS, Dalwangan NHS, Can-ayan IS, Kalasungay NHS, St. Peter NHS, and Busdi IS.

These are Grade 7 and 10 teachers handling English, Mathematics, Science and Technology, and Social studies, which are the 5 component subjects of the National Achievement Test (NAT). There are 111 secondary high schools in the division, with 1 school classified as a comprehensive high school and 1 general comprehensive high school. The map of Bukidnon is shown in the following figure:

This part deals with the discussion of the methodology to be used in the study. It presents the research design, research locale, participants of the study, the sampling procedure, the administration of the instruments, the scoring procedure, and the treatment of the statistical data.

➤ Research Design

The study utilized a descriptive research design to describe the current profile of the out-of-field and their mastery level of content knowledge and lesson design. The study will also determine the main interaction on the mastery of content knowledge, lesson design, pedagogy, and assessment. The study utilized four instruments which are the profiling survey, questionnaire, and interviews on the challenges encountered by the out-of-field teachers.

Research Locale & Respondents of the Study

The respondents of the study out-of-field teachers were secondary school teachers from the Division of Malaybalay City and the City Division of Valencia. who are from Lilingayon NHS, Tongantongan NHS, Catumbalon NHS, Concepcion NHS, Banlag Integrated School, Dagatki Davao IS, Lourdes IS, and for Malaybalay city Division are Sila-e NHS, San Martin Agro-Industrial NHS, Managok NHS, Lalawan NHS, MiglaminNHS, Malaybalay City National Science HS, Bangcud National High School, Casisang NHS, Bukidnon NHS, Dalwangan NHS, Can-ayan IS, Kalasungay NHS, St. Peter NHS, and Busdi IS.

These are Grade 7 and 10 teachers handling English, Mathematics, Science and Technology, and Social studies, which are the 5 component subjects of the National Achievement Test (NAT). There are 111 secondary high school

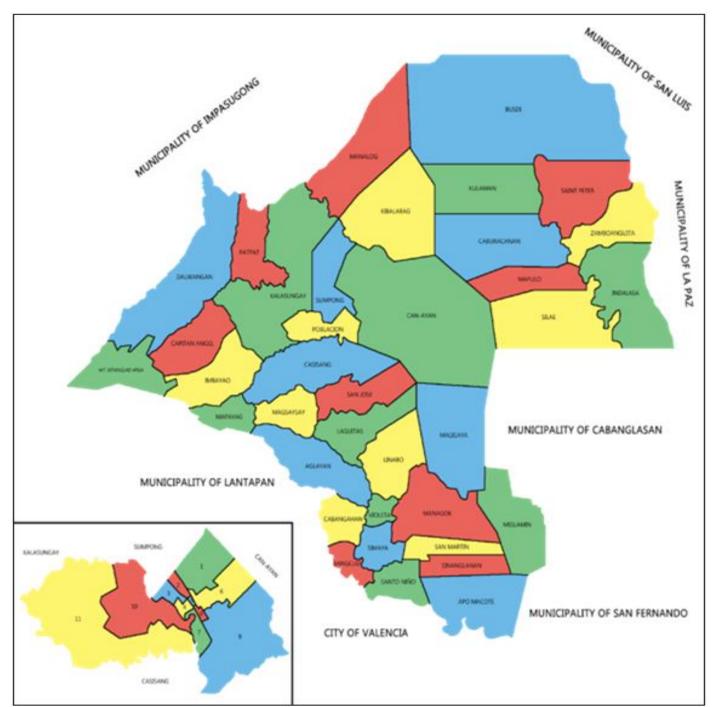


Fig 2 School map of the Research Locale

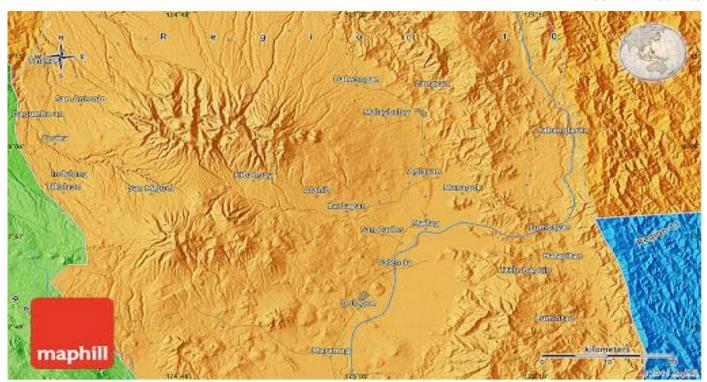


Fig 3 School map Valencia City

➤ Research Instrument and Validity

The study utilized four data gathering tools as follows: the profiling survey, content knowledge mastery test, survey questionnaire, and the interview guide question on the challenges encountered by the teachers. The survey questionnaire includes the profiling of teachers' educational attainment, and subjects taught for the last three years. The tool is a researcher-made test that is subjected to face and content validity. The survey questionnaire was geared towards the challenges encountered by out-of-field teachers on identifying the extent of the difficulty experienced by the teachers in lesson preparation, employing teaching strategies availability of instructional material, appropriateness of the assessment tools used. questionnaire will also include an open-ended question.

➤ Data Gathering Procedures

The researchers secured permission from the Schools Division Superintendent. When the permission was granted, the profiling of teachers started. Survey questionnaire through Google Forms. This is to identify the number of out-of-field teachers, length of service, and educational qualification. The questionnaire on the challenges experienced by the out-of-teachers was also done through

google forms and was given on the same schedule as the performance test. This is to ensure the 100% retrieval rate of the survey.

Moreover, the research group through the help of the education program supervisors requested the division superintendent to issue a memorandum concerning the conduct of the study. Teachers who are part of the study were given an informed consent letter to ensure confidentiality of the identity of the respondents and that the results of this research would not in any way discredit the respondents. The data gathered were analyzed and the result of the study was the basis of the formulation of the proposed program initiative for the Department of Education and extension programs of the university.

➤ Scoring Procedure

The scoring procedure adopted Likert's five-point scale, where 5 was when the teacher *mastered* content knowledge, lesson design pedagogy, and assessment. And 1 was when the teacher performed the teaching transactions with *low mastery*. A matrix containing the scale range of intervals, descriptive rating, and qualifying description is illustrated as follows:

Table 1 Scoring Procedure

Scale	Range of Intervals	Qualitative Description
5	4.21-5.00	Mastered
4	3.41-4.20	Closely approximating mastery
3	2.61-3.40	Moving towards master
2	1.81-2.60	Average mastery
1	1.00-1.80	Low mastery

For the description of students' score in the National Achievement Test The following scoring procedure was followed based on the National Education Testing and Research Center criteria.

Table	2	Scoring	Procedure
1 auto	_	DCOLLIE	1 1 Occuuit

Description of students' scores in the National Achievement Test		
National Education Testing and Research Center(NETRC)		
Percentage of Scores Qualitative Description		
96%-100%	Mastered	
86%-95%	Closely Approximating Mastery	
66%-85%	Moving Towards Mastery	
35%-65%	Average Mastery	
15%-34%	Low Mastery	
5%-14%	Very Low Mastery	
0%-4%	Absolutely No Mastery	

> Statistical Treatment

In analyzing the data gathered, the researchers utilized the following statistical measures:

- To answer problem 1, mean and percentage were used to determine the profile of the out-of-field teachers.
- To answer problem 2, mean and standard deviation were used to determine the level of mastery of the out-of-field teachers.
- To answer problem 3, Pearson- Product Moment Correlation was used to determine if there is a significant relationship between the mastery level of the out-of-field teachers and the achievement of students in the NAT.
- To answer problem 4, the responses of the participants were grouped to form a final theme which described the challenges encountered by the out-of-field teachers.

III. RESULTS AND DISCUSSION

This section provides the data gathered, analysis and interpretation. The analysis follows the sequence of the problem stipulated in the previous section of the paper; performance of out-of-field teachers in the basic education and the NAT MPS of students school scores: Basis for Program Initiatives.

- ➤ In Analyzing the Data Gathered, the Researchers Utilized the following Statistical Measures:
- To answer problem 1, mean and percentage were used to determine the profile of the out-of-field teachers.
- To answer problem 2, mean and standard deviation were used to determine the level of mastery of the out-of-field teachers.
- To answer problem 3, Pearson- Product Moment Correlation was used to determine if there is a significant relationship between the mastery level of the out-of-field teachers and the achievement of students in the NAT.
- To answer problem 4, the responses of the participants were grouped to form a final theme that described the challenges encountered by the out-of-field teachers.

> Results and Discussion

This section provides the data gathered, analysis, and interpretation. The analysis follows the sequence of the problem stipulated in the previous section of the paper; performance of out-of-field teachers in basic education and the NAT MPS of students' school scores: Basis for Program Initiatives.

➤ Profile of the Out-of-Field Teachers in the Division of Malaybalay City and the Division of Valencia City

The observations on teachers teaching subjects which are not of their major field of specialization was evident even before. Bsaed on the previous study conducted by Silvestre (2014) on the National Achievement Test Results, there were variables found to have not been considered, and thus were identified to be significant in determining the performance of out-of -field teachers. Table 1 summarizes these items.

Table 3 Profile of the Out-of-Field Teachers

Variables	Percentage	
Age	31-40 yrs.old-47.8%	
Sex	91% female, 9% male	
Civil Status	1% single, 99% married	
Length of Service	5-10 yrs. and beyond -65%	
Educational Qualification	12%-master's degree,	
	26%-on-going master's degree, 61% -have zero unit	
Area of specialization	93%-teaching social studies however the content learned from undergrad is not the same	
	in the subject taught	
	3%-SPS facilitator	
	2% SPA facilitator,	
	1% teaching humanities	

	1% teaching EP,	
	1% school research coordinator	
Teaching Position	82%-teacher I	
	16%-TII	
	1%-TIII	
	1%-MTI	
Trainings Participated	87%-related to the subject taught	
	13%-related to other subjects taught	

The table shows that the participants of the study are at the middle age who are 5-10 years in service and beyond. This would also mean that the participants are no longer new to the teaching position but rather they are also considered experienced teachers teaching the subject of social studies but their field of specialization during undergraduate is not mainly the same as the topics they handle to teach in the K-12 curriculum. Their background knowledge is no longer aligned with the content taught by the new curriculum (Silvestre, 2019). Students may be deprived of the application of some concepts, critical thinking skills, and meaningful learning experiences since the teachers are not able to internalize the content of the lesson (Salingay, 2014).

Moreover, as revealed in Table 1, most of the participants necessitate up-skill since most of them are still

new to the service. As experienced those teachers who enrolled in the master's degree demonstrated new teaching skills suitable to the learning needs of the students. When there is a lack in the content knowledge or background knowledge of the teacher, the whole teaching transactions of the teachers as to the preparation of the lesson, delivery of the lesson, the teaching strategies used, as well as the assessment will also be affected. (Dess, 2007)

It is quite significant to activate the background knowledge of the teachers through a series of activities that would make them prepare for and lead to a better comprehension of the content taught (Yule, 2000).

➤ The Mastery Level of the Out-of-Field Teachers

Table 4 Mastery Level of the out-of-field teachers

Teaching Transactions	Mean	Qualifying Statement
Content Knowledge	3.31	Average mastery
Lesson Design	3.31	Average mastery
Pedagogy	3.39	Average mastery
Assessment	3.44	Average mastery

Teacher's mastery in the field of specialization taught may be observed in the instruction. The teacher may demonstrate the following: fine-tuned lesson design, multiple strategies of presenting the concepts, effective instructional materials used, and varied assessments not on paper and pen tests only. Participation of students in the class may also be observed. This claim was also revealed by Silvestre(2019) who states that when one component of the teaching transaction is affected all components will also be affected.

Table 2 revealed that among the teaching transactions of the out-of-field teachers' content knowledge and lesson design have the lowest average compared to pedagogy and assessment. This result would somehow mean that the weakness of the out-of-field teachers lies in the insufficiency of knowledge and full understanding of the different content of the subject taught. As the teacher lacks content knowledge, it would also mean difficulty in designing the lesson. Both teaching transactions are directly intertwined since in the designing of the lesson the knowledge of the OOF teacher in the content is much more significant.

Moreover, assessment is the indicator with the highest mean in the paper and pen test. As observed, the assessment of students' output is of different types. There are oral assessments and written assessments. Results show that teachers are strong in giving evaluations after the lesson, while their weakness is "Checking by asking questions as to whether the subject matter has been understood or not" which teachers seldom do in their classes, recording then that the final output they wanted to get from their students.

➤ Relationship between the Performance of Out-of-Field Teachers and the NAT School Scores of the Students.

The NAT school scores of the students per school were among the baseline data which provided evidence on the performance of the teachers. The MPs per school were utilized to determine how far students comprehend the content knowledge as delivered through lesson design, pedagogy, and duly evaluated assessment.

Table 3 shows the relationship between the performance of the out-of-field teachers and the NAT school scores of the students. The values of the performance of the OOF were all uniformly expressed as not significant to the student's scores in the NAT. This may imply that the teaching transactions as to content knowledge, lesson design, pedagogy, and assessment performed by the teachers have no significant relationship to the NAT scores of the students. With this result, the null hypothesis will be rejected.

The result of the NAT school scores of the students within the Division of Malaybalay City as well as the Division of Malaybalay City is moving towards mastery.

This would mean that OOF teachers need to push harder as to instruction. As revealed in previous studies, the OOF teachers have average mastery levels parallel to the result of the NAT school scores. Both OOF teachers and students are called to consider the instruction to improve OOF performance and to enhance learning output through the NAT

Table 5 Relationship between the Level of Performance of OOF Teachers and the Overall NAT Scores of the Students in the Core Subjects

Teachers Multi-Tasking Practices	r	P-values	Qualifying Description
Content Knowledge	0.211	0.534	not significant
Lesson design	00373	0.258	not significant
Pedagogy	0.131	0.160	not significant
Assessment	0.127	0.111	not significant

Legend: *Correlation is significant at 0.05 levels (2-Tailed)

This implies that since the mastery level of the OOF teachers is average mastery when correlated to the student's school score in the NAT which is also average, the mastery level of the students is *moving towards mastery*. Hence, the performance of the OOF teachers has a great impact on the performance of the students in the NAT. Thus, teachers need to update and upgrade their content knowledge. Okemakinde et al. (2013) revealed that teachers could significantly impact the achievement of the student in the NAT. However, Silvestre (2014) contended that there is no significant relationship between the multitasking activities of teachers and the NAT scores of the students. These activities include the task of the teacher as planner of the lesson, designer lesson of the, and being an instructional leader.

The educational system may design a program that would expose teachers to improve the professional development of the OOF teachers. The higher institutions may design a curriculum aligned with the needs of basic education as the catch basin of almost all graduates from the HEIs. There may be new programs to be offered to address the needs of those who would like to enroll as teachers. Offerings of a Master's degree aligned to their field of specialization may somehow address the need. This result is parallel to the study of Alima (2010), who revealed that the teachers' instructional transactions did not affect the achievement of the students.

Fiore (2008) claimed that teachers know well their responsibility as a teacher since they are already familiar with what to teach, how to teach, prepare the students for practical and written tests, and organize the classroom as well as the activities at all times. However, OOF teacher's updated knowledge needs to be improved. As observed, teachers were always concerned with the improvement of instruction specifically the selection of the topic best suited to students' needs because they followed the lesson log and the curriculum guide provided.

➤ Challenges Encountered by the Out-of-Field Teachers

With the diverse learners in school from different walks of life and training to learning, it is an undeniable fact that challenges are part of their passion for teaching. However, the OOF teachers had to find interventions to address the gaps. Accordingly, as to lesson preparation: participants A to E disclosed that it was too hard to prepare

the lesson because they didn't have the full knowledge about the topic since what they had during their undergraduate studies was quite different from the topics they are teaching in the current teaching and learning situation. According to them, although the topics are accessible on the internet it made them more difficult considering that there are a lot of topics to be discussed where experience is essential. The respondents need more time to prepare lessons. Accordingly, the participants....... "need to thoroughly understand the lesson first so I can come up with the lesson design". They are "not comfortable" in preparing a lesson that is not in their field of specialization and being pressed for time.

The respondents' less familiarity with the out-of-field subjects, they mostly have "limited knowledge thus resulting to limited strategies". It is a constant challenge to "decide what approach is best suitable for a certain topic" in order "to make the lesson easier for the students to understand". Zhou et al. (2016) assert that when there are knowledge deficiency, the selection of the teaching strategies as well as the learning objective might be affected. As to the lesson delivery, the participants of the study disclosed that they used limited teaching strategies in the delivery of the lesson leading them to use the lecture method. If they find difficulty in the preparation of the lesson how much more in the delivery where they need to present carefully organized concept/s about the topics especially when they are assigned to teach students who belong to the cream section. The risk of having limited background knowledge is also a limited delivery of the lesson. Most respondents were unable to assess the learning of students effectively as they need to equip themselves "with methods of assessment that will measure the exact competencies" required for the subject. "The effectiveness/reliability of its evaluation procedures" is also a challenge. (Assessment) The assessment of the learning outcomes of the students is limited to paper and pen tests, which is the usual activity teachers have been doing.

Per the response of the participants of the study, the content knowledge is the most difficult especially since the major field of specialization of the teachers is different from the topics in the K-12 curriculum. The participants disclosed that during the schedule of the NAT, they felt guilty and worried about what could be the result of the NAT, especially since it is a national standard. The respondents find it difficult to understand the content since they are not

familiar with the subject taught as to content. Schneider et al. (2011), claimed that the improvement of the academic performance of the students depends on the expertise and effectiveness of the teacher.

One of the respondents stated "The mastery of the content of the lesson and how to contextualize the lesson since it is not our field of specialization." In effect, respondents found it hard to elaborate more about the topics to their students. "Most of the things I taught came from the book or learning material. Although the internet can be a source of information regarding a certain topic, it is a bit tricky in deciding which information is reliable", one respondent if the out-of-field teachers find it too difficult to plan the lesson, deliver the lesson, assess and content knowledge, it could also mean that the target of the NAT which is 75% will not be realized since there are challenges encountered by the end of the teachers. The type of class will also affect the result of the NAT since the participants of the study are handling heterogeneous class

The usual challenges encountered by the out-of-field teachers are topics/competencies included in NAT which are not been tackled yet". "Giving the students a bulk of information in a short period" was found to be ineffective by at least one of the respondents. The level of "uncertainties of the content of reviews given to the learners" is one reason these teachers had to "ask help from the teachers that are experts in that certain field".

IV. SUMMARY

This study assessed the performance of our teachers and students' NAT School Scores in the Division of Malaybalay City and the Division of Bukidnon in the school year 2019-2020. It answered the problems on the profile of the out-of-field teachers, the level of their teaching performance as to content knowledge, lesson design, pedagogy, and assessment. The descriptive method of research was employed using Pearson-Product Moment Correlation. The questionnaire through Google form, survey, and interview guide questions were used in collecting the data. The interview supports the data in getting authentic responses from the participants from their experiences.

A five-point Likert Scale was used in the scoring procedure for the teachers and the mean school scores of students in the NAT within the division as the locale of the study. The respondents of the study were the out-of-field teachers of the Division of Malaybalay City and the Division of Valencia City. Purposive sampling was used in choosing the teachers in every division as participants of the study. The data gathered were treated using the mean, standard deviation, and Pearson Product Moment Correlation.

V. FINDINGS

- ➤ The Salient Findings of the Study are as follows:
- As to the profile of out-of-field teachers in social studies, 47.8% of the participants of the study are 31-40 years old 91% are female, 65% have been in the teaching profession for 5-10 years and beyond, 82% are teacher, I, and 72% of them are out-of-field because although their major field of specialization is Social Studies however the content during the undergraduate studies is different from the content taught in the K-12 curriculum.
- The level of mastery as to content knowledge, lesson design, pedagogy, and assessment of the out-of-field teachers is *average mastery*
- There is no significant relationship between the level of mastery of the teachers and the NAT school scores of the students.
- As to the challenges encountered by the out-of-field teachers, they considered content knowledge as the most difficult teaching transaction. They find difficulty also in preparation of the lesson and designing the lesson since their content knowledge is no longer aligned with the content taught in the K12 curriculum. Their difficulty with content knowledge hinders them from using varied teaching strategies. The assessment is limited to paper and pen tests.

VI. CONCLUSIONS

- Based on the Findings of the Study, the following Conclusions are derived:
- Since most of the participants of the study are average in age and most of them are still teacher 1, they need to upgrade and update their content knowledge, lesson design skills, pedagogy, and assessment.
- The mastery level of the teachers in teaching is average mastery requires them to improve their professional development by enrolling master's degree program.
- Since there is no significant relationship between the level of mastery of out-of-field teachers and the NAT school scores of the students, the teaching performance of the teachers did not affect the student's school scores in the NAT.

RECOMMENDATIONS

➤ Based from the Findings and Conclusions of the Study, the following Recommendations are given:

DepEd may devise a program to help teachers who are teacher 1 to enroll in a master's degree to update and upgrade their content knowledge, lesson design, and assessment in the subject taught through scholarship grants.

The HEIs may align the content of the curriculum offered to the content taught in the different major fields of specialization to serve its need as the catch basin of almost all graduates from the HEIs.

The HEIs may devise new programs or major fields of specialization aligned with the needs of the Department of Education.

For Policy initiatives, the Department of Education and Commission on Higher Education may formulate policies that lessen the number of years to serve as teachers (50 years old/25 years in service) and/or be classified as master teacher, if the qualification for the rank warrants they may be promoted as school administrators.

REFERENCES

- [1]. Alima, M. (2010).Multitasking of Teachers and Academic Performance of the Students. Unpublished Master's Thesis, Bukidnon State University
- [2]. Du Plessis, A.E. (2015).Understanding the Out-of-Field Teaching Experience. Retrieve from space. Library. uq. edu. Av/view/UQ: 330372/s4245616_PhD submission. Pdf
- [3]. Fiore, C. (2008). *Outstanding Teachers becomes a master of multitasking*. Aug 11, 2008"Share your voice on Yahoo websites http://voices.yahoo.com/outstanding-teacher-become-master-multitasking-1755769.html
- [4]. Lacia, M.R., (2015). Examining Factors influencing students' achievement in Mathematics using hierarchical linear modeling
- [5]. Okemakinde, T., Alabi, C.O, & Adewuyi, J.O. (2013). The Place of Teacher in National Development in Nigeria, European Journal of Humanities and Social Sciences, 19 (1), 963-980
- [6]. Olitsky, S. (2006).Facilitating identity formation, group membership, and learning in Science classrooms: What can be learned from out-of-filed teaching in an urban school? In Wiley Interscience. Retrieved 2012, November 20, from http://www.interscience.wiley.com
- [7]. Özdemir, N., Ayral, M., Fındık, L. Y., Ünlü, A., Özarslan, H., & Bozkurt, E. (2014). The relationship between students' socioeconomic status and their Turkish achievements. Procedia-Social and Behavioral Sciences, 143, 726-731. doi:10.1016/j.sbspro.2014.07.472
- [8]. Peters, M.L. (2013). Examining the relationships among classroom climate, self-efficacy, and achievement in undergraduate mathematics: A multilevel analysis. International Journal of Science and Mathematics Education, 11(2), 459-480. doi: 10.1007/s10763-012-9347
- [9]. Raudenbush, S., Bryk, A., & Congdon, R. (2005). HLM6: Hierarchical linear and nonlinear modeling (version 6) [Computer software]. Lincolnwood, IL: Scientific Software International, Inc.
- [10]. Salingay, R.R., (2014) Musical skills of public secondary schools music, art, physical education and health teachers. Unpublished Master's Thesis, Bukidnon State University, Malaybalay City.

- [11]. Samillano, J.S. (2007). Competency among MAPEH teachers in teaching performing arts in selected public secondary schools in North Cotabato. A Thesis Submitted to the Secondary Schools in North Cotabato
- [12]. Silvestre, M.D. (2014), Multitasking practices of public secondary school teachers and the NAT scores of the students. Unpublished master's Thesis, Bukidnon State University, Malaybalay City.
- [13]. Silvestre, M.D. (2019) Lived experiences of teachers teaching music, arts, and physical Education and health. Published dissertation, Bukidnon State University, Malaybalay City.
- [14]. Tan, L.V. (2020).Impact of University-wide Extension Program on Intellectual Wellness of Third Agers, Structural Growth, National and International Goals.GSJ: Volume 8, Issue 7, July 2020 ISSN 2320-9186, ID 000000342515009
- [15]. Sheldon, S. B. & Epstein, J. L. (2005). *Involvement counts Family and community partnerships and mathematics achievement*. The Journal of Educational Research, 98(4), 196-207. doi: 10.3200/JOER.98.4.196-207
- [16]. Schneider, R.M & Plasma, K. (2011). Science teacher learning progressions: A review of Science teachers' pedagogical content knowledge development. Review of Educational Research, 81(4), 530-565.
- [17]. Zhou, S.; Wang, Y.; Zhang, C. Pre-Service Science Teachers' PCK: Inconsistency of Pre-Service Teachers' Predictions and Student Learning Difficulties in Newton's Third Law. Eurasia J. Math. Sci. Technol. Educ. 2016, 12, 373–385