Instructional Flexibility in Out of Field Teaching

Julieta Sto. Tomas-Fulgado, Ph. D.
University of Rizal System-Pililla
juleistfulgado.jstf@gmail.com

Abstract:

This research aimed to establish that the specialization of teachers and the subjects taught provide differences on the performance of the students in Math, Science and English subjects. This utilized the Quantitative-Qualitative method involving documentary analysis, survey and interview type involving the two-group of respondents. A significant difference was noted on the level of performance of the high school students under the instruction of specialist and non-specialist teachers and thereby illustrating the teacher's effectiveness in the subjects they are teaching. The findings had proven that academic background is not enough to positively affect the academic performance of high school students but a thorough planned professional development such as training on the specialization in teaching a subject will be a lot of help which strongly established the idea that highly-qualified, trained and specialized teachers in the classroom results in better and higher level of academic performance of students. Thus, it also proved that teachers always find ways to cater to their own needs as they deliver the lessons assigned to them.

Keywords: *specialist and non-specialist teachers, academic performance, subject-specialization, academic qualification, out-of-the field teaching, mismatched teaching*

Introduction

Education has an end goal to establish that knowledge and skills will likely help individuals solve problems as each prepared to be ready as productive members of society and among the influential factors that may likely attain this are the teachers, their qualifications and experiences as they enter the teaching field.

Teachers are known to be the foundation of a country's educational system. Ngada in Fajonyomi (2007) stated that the achievement or failure of any educational program depends on the adequate supply of professionally qualified, competent and committed educators. In any national education system, (Ohio TES, 2015), teachers are the most important element where the quality of education concerned, just as teachers are being evaluated, student learning and achievement are considered.

Valisno (2012) as cited by Ison (2017), a great teacher in every classroom is a long battle cry in the Philippine education system and elsewhere in the world. It has been an issue for changes, for nothing has a bigger impact than a teacher on the quality of a young citizen's education.

From the critical role of the teacher as a catalyst for change, a promoter of understanding, tolerance and democratic principles, and a molder of the characters and minds of the new generation, teaching was further reinforced with the passage of Republic Act 7836 or An Act to strengthen the regulation and Supervision of the Practice of Teaching in the Philippines and Prescribing a Licensure Examination for Teachers and for other purposes

Rice (2003) mentioned that teacher quality is a big issue. Teachers, from different educational levels perform varied and undeniably huge tasks of creating conditions and developing processes for building human skills and capacities that are considered to be critical for economic growth, prosperity, social well-being, and individual development.

This is attached to the subject-matter background teachers have mastered during their schooling and pre-service training. The evidences from varied studies are contradictory. Many studies revealed a relationship between teachers' preparation in the subject matter they later teach and student achievement (Darling-Hammond, 1999, 2000; Goldhaber & Brewer, 2000; Guyton & Farokhi, 1987), while others have fewer clear results. Monk and King (1994) find both positive and negative effects of teachers' actual field

preparation on student achievement. Goldhaber and Brewer (2000) find a positive relationship in mathematics, but none in science. Also, Rowan, Chiang, and Miller (1997) reported a positive relationship between student achievement and teachers' majoring in mathematics. Monk (1994), however, finds that having a major in mathematics has no effect, and a significant negative effect of teachers with more coursework in physical science. As mentioned by Syed (2009), measurement of teachers' competence related to the performance by the students is quite difficult though the evaluation procedures largely depend on the output of their students.

In this paper the researcher wanted to analyze the link between teachers' academic background and their students' achievements in the three-respondent school. Specifically, this tried to answer the following questions:

1. What is the level of performance of the students in three respondent schools under specialist and non-specialist teachers?
2. Is there significant difference of the performance of the students in three respondent schools under specialist and non-specialist teachers?
3. What are the problems encountered by the non-specialists in teaching subjects that mismatched the area of specialization?
4. How flexible were the teachers in delivering their lessons that mismatched their specialization?
5. What recommendations were derived based on the result of the study?

Theoretical Framework

According to Bourdieu's (1979) as cited by Patalinghug K, (2017), Social Field theory is being-in-the-world amounts to a non-thematic circumspective assimilation in everyday activity. The world is fathomable, immediately endowed with meaning because we have been exposed to its regularities from the start. People, therefore acquire dispositions or systems of dispositions: habitus (Bourdieu, 1990, 1997; Bourdieu & Wacquant,

There exists an adjustment then acceptance on the structures of the environment and the structure of habitus. Thus, the theory confirms the dynamism of teacher development and teacher change by focusing on the significant relationships between structure and agency within an environment.

Focusing on the result of the interviews, teachers have been flexible to the call of the classroom situations in order for their strategies, approaches and techniques to fit the instructional dilemma they are in.

Methodology

In order to determine the level of performance of the students under specialist and non-specialist teachers, the researchers utilized quantitative-qualitative method which describes trends including a systematic, actual, accurate and objective situation, problem, or phenomenon as the same time explore and understand of a central phenomenon (Garcia, 2003; Creswell, 2002). This involved documentary analysis, survey and interview. The first part of the questionnaire requested the participants' profile. The second part included the survey questionnaire checklist used during the classroom observation for both the specialist and non-specialist teachers the researchers also undertook a documentary analysis of the student-participants' records. A focus group discussion was done to complement the result of the survey and obtain the exact result pertaining to the instructional flexibility in the lesson delivery.

Findings

Table 1. The profile of the teacher-participants in terms of teaching loads.

Subject	Frequency		
	Teacher	Specialization Load	Non-Specialization Load
Math	6	4	3
Drafting	1	0	3
Science	6	3	3
Agro	1	0	3
English	6	1	3
GC	1	0	1
Filipino	1	1	1
Accounting	1	0	1
TLE	1	0	2

It can be seen that although teachers are handling subjects that they are specialized, along with the rest, there are teachers who are teaching subjects that are not their specialization. Based on the interview, they consider that other subjects are easier to teach and that they expect teachers to be flexible. This was an evidence that in the department, teachers are given other subjects to teach even though it is not their

| ISSN: 2094-0556 | ursprj@gmail.com

specialization specifically those who have just taken supplemental units in professional education.

Table 2. The level of performance of the students in School A under specialists and non-specialist teachers.

Area of Specialization	Teaching Load	Mean	Verbal Interpretation
Mathematics	Math[a]	85.60	Very Satisfactory
Mathematics	TLE[b]	82.17	Satisfactory
Mathematics	AP	82.63	Satisfactory
Science	Science[a]	85.65	Very Satisfactory
Science	English[b]	80.98	Satisfactory
English	English[a]	85.06	Very Satisfactory
English	MAPEH[b]	81.29	Satisfactory

[a]Specialist. [b]Non-Specialist.

As gleaned from the table, the performance of the students School A under specialist teachers teaching Math, Science, and English garnered a mean of 85.60, 85.65 and 85.06 respectively and verbally interpreted as Very Satisfactory.

On the other hand, the performance of the students under non specialist teachers teaching TLE, Araling Panlipunan, English, and MAPEH garnered a mean of 82.17, 82.63, 80.98 and 81.29 respectively and verbally interpreted as Satisfactory.

This supports the concept that learners' achievements are considered an exact gauge of effectiveness and has become basis for teacher's evaluation systems (Braun, 2005; McCaffrey, Lockwood, Koretz, Louis, & Hamilton, 2004; Sanders, 2000; Sanders & Rivers, 1996).

Table 3. The level of performance of the students of School B under specialists and non-specialist teachers.

Area of Specialization	Teaching Load	Mean	Verbal Interpretation
Filipino	Filipino[a]	86.45	Very Satisfactory
Filipino	MAPEH[b]	80.61	Satisfactory
Math	Math[a]	85.80	Very Satisfactory
Math	MAPEH[b]	81.52	Satisfactory
Math	ICT[b]	81.05	Satisfactory

[a]Specialist. [b]Non-Specialist.

From the table, the performance of the students in School B under specialist teachers who are teaching Filipino, and Math garnered a mean of 86.45 and 85.80 respectively and verbally interpreted as Very Satisfactory. Moreover, the performance of the students under non specialist teachers teaching MAPEH, MAPEH, and ICT garnered a mean of 80.61, 81.52 and 81.05 respectively and verbally interpreted as Satisfactory.

This is similar to the result from the study of Owolabi (2012) that students who were handled by teachers with higher credentials performed better than those by teachers with lower qualifications.

Table 4. The level of performance of the students in School C under specialists and non-specialist teachers.

Area of Specialization	Teaching Load	Mean	Verbal Interpretation
Science	Science[a]	84.08	Satisfactory
Science	TLE[b]	81.79	Satisfactory
English	English[a]	84.65	Satisfactory
English	TLE[b]	77.69	Satisfactory
English	MAPEH[b]	79.79	Satisfactory
English	Filipino[b]	81.65	Satisfactory
Math	Math[a]	83.91	Satisfactory
Math	MAPEH[b]	78.92	Satisfactory

[a]Specialist. [b]Non-specialist

Table 4 shows the performance of the students of School C under specialist teachers teaching Science, English, and Math which garnered a mean of 84.08, 84.65 and 83.91 respectively and verbally interpreted as Satisfactory. Moreso, the performance of the students under non-specialist teachers who are teaching TLE, TLE, MAPEH, Filipino, and MAPEH garnered a mean of 81.79, 77.69, 79.79, 81.65 and 78.92 respectively and verbally interpreted as Satisfactory.

Although, the performance of the students under non-specialists are satisfactory, the grades are lower than subjects taught by specialists. Out of field teaching has been also the concern of Washington State (Linn, 2003) who noted that in 1999-2000 school year 38% of all 7-12th grade school teachers who handled a math class or more did not have either a major or a minor in that subject, related disciplines About one third of all 7-12th grade teachers who taught one or more English classes had neither a major or minor in English or related subjects such as literature, communications, speech, journalism, English education, or reading education. In science, slightly lower levels—about 28% of all 7-12th teachers who taught one or more science classes—did not have at least a minor in one of the sciences or in science education. Finally, about a quarter of those who taught one or more social studies classes were without at least a minor in any of the social sciences, in public affairs, in social studies education, or in history

| ISSN: 2094-0556 | ursprj@gmail.com

Table 5. Significant difference on the level of performance of students School A under specialists and non-specialist teachers.

Teacher	df	t
Math Teacher Teaching Math[a] VS Math Teacher Teaching TLE[b]	229	9.722 *
Math Teacher Teaching Math[a] VS Math Teacher Teaching AP[b]	223	2.327 *
Science Teacher Teaching Science[a] VS Science Teacher Teaching English[b]	223	28.81 *
English Teacher Teaching English[a] VS English Teacher Teaching MAPEH[b]	223	0.666 *

[a]Specialist. [b]Non-specialist
*p < 0.05

It was revealed that there is significant difference on the performance of the students in School A between the specialists and non-specialist teachers since the obtained p-values of 0.003, 0.021, 0.000 and 0.003 respectively are less than 0.05 level of significance, hence rejecting the null hypothesis.

This is supported by the research foci of Leowenberg and Williamson (2003) that although the concept that teachers must be knowledgeable on what they are teaching appears self-evident, conformity does not exist about what belongs to subject matter background for teaching and for the sources and output teachers; this is contrasted by Zhang (2008) who clearly found out from her research that specifically in Science, teachers with advanced background in science or education radically and absolutely influenced student science achievement.

Table 6. Significant difference on the level of performance of students of School B under specialists and non-specialist teachers.

Teacher	df	t
Filipino Teacher Teaching Filipino[a] VS Filipino Teacher Teaching MAPEH[b]	98	.643*
Math Teacher Teaching Math[a] VS Math Teacher Teaching MAPEH[b]	96	.941*
Math Teacher Teaching Math[a] VS Math Teacher Teaching ICT[b]	98	.986*

[a]Specialist. [b]Non-specialist.
*p < 0.05

The table shows that there is significant difference on the performance of the students in School B between the specialists and non-specialist teachers since the obtained p-values of 0.010, 0.000 and 0.033 respectively are less than 0.05 level of significance, hence rejecting the null hypothesis. Goldhaber (2003) emphasized the point of Hanushek (1986) that there is "no strong evidence that the ratio of teacher-student, teacher education, or experience of teachers have an expected affirmative result on student achievement" which somehow jibes with the the implication of the result of this study however, a study in Columbia (2004) stated that having teachers specialized in teaching one subject might be more efficient and effective in delivering the lessons.

Table 7. The significant difference on the level of performance of students in School C under specialists and non-specialist teachers.

Teacher	df	t
Science Teacher Teaching Science[a] VS Science Teacher Teaching TLE[b]	142	3.457*
English Teacher Teaching English[a] VS English Teacher Teaching TLE[b]	142	0.884*
English Teacher Teaching English[a] VS English Teacher Teaching MAPEH[b]	142	9.257*
English Teacher Teaching English[a] VS English Teacher Teaching Filipino[b]	142	8.584*
Math Teacher Teaching Math[a] VS Math Teacher Teaching MAPEH[b]	134	5.371*

[a]Specialist. [b]Non-specialist
*p < 0.05

The table shows that there is significant difference on the performance of the students in School C between the specialists and non-specialist teachers since the obtained p-values of 0.001, 0.004 and 0.00 respectively are less than 0.05 level of significance, hence rejecting the null hypothesis. This is supported by the research result of Samillano (2015) that pedagogic competency in teaching arts specifically those who are really specialized in MAPEH has a higher competency that those which are not specialized.

From the consolidated responses obtained through interviews, the following were derived from the non-specialists.

Problems met in teaching subjects that mismatch the specialization.

1. Unavailability of complete module to execute the lessons;

| ISSN: 2094-0556 | ursprj@gmail.com

2. Skipping some lessons if there are no means to deliver it clearly and correctly.
3. Resources from the internet as stated in modules are not available.
4. Difficulty constructing questions.
5. Limited knowledge in instructional strategies to deliver lessons that are not the major subject.
6. Limited time to deliver the subjects.
7. Not confident to prepare instructional activities.
8. Activities that were asked to be answered were not checked; as these were only used for get students busy.
9. Difficulty explaining the lessons.

Flexibility in delivering Lessons that mismatched the Major/Specialization.

Outsourcing	The teachers tend to explore all available resources from printed to internet sources. ● Downloading the materials like activity sheets; ● Downloading ready made presentations ● Downloading film clips from educational sites ● Require students to download additional materials
Conducting exchange teacher plan	Teachers collaborate with colleagues who are specialists on the materials they can use; sometimes borrowing the prepared materials.
Calling a Friend	Teachers request colleagues to teach the lessons that they do not know once in a while.
Empowering students	Teachers assign students by group to explore, research and make presentations on the topics.

Conclusions

It can be concluded that the students under the instruction of specialist teachers performed better than the students under the instruction of non-specialist teachers. The presence of a highly-qualified and trained teacher in a classroom resulted in better and higher level of academic performance. There are problems encountered by the non-specialists in delivering their lessons and they make adjustments in order to cope with the challenge in teaching the subjects that are not their area of specialization, thus they are flexible in teaching the mismatched subjects.

Recommendations-

The strength of character of teachers is the backbone of the educational system. It is the teacher who influences the students. With their role, any effort aimed at maintaining and raising the standards and quality of education must start with the advancement of the quality of the teacher to ensure successful teaching and right learning.

The government should make some efforts to enhance the teaching standards. There may be some policies that may require teachers to equip themselves to demonstrate the ability to teach the academic content standards for students in case they are teaching subjects that are not their specialization .

Teachers must also take their part in upgrading themselves through graduate education, join in the networks and links with professional organizations that can provide contextualized seminar-workshops on Instructional material preparation, research fora, symposiums, and be desirous in continuous lifelong learning and experiences.

DepeEd officials should assign teachers the teaching assignments/loads that are in relation to their fields of expertise, major or specialization. School heads and administrators should provide additional capability building that shall address the inadequacies or deficiencies of classroom instruction especially in the in-service level. Some of these maybe done:

1. Modules are available, but, with the limitations of the background, there is a need to upgrade the teachers in content aspects specifically those who are teaching TLE subjects;

2. Some module contents are with videos that are supposed to be downloaded yet not available anymore; teachers are encouraged to explore more on available videos, and/or video clips should be made available to all through CD's.

3. Questioning skills should be improved since most teachers were limited to dimensional questions;

4. More trainings in instructional delivery strategies and instructional material preparations which will compensate the shortness of the allotted period per subject.

References

Aijaz Ahmed Gujjar and Muhammad Ashraf Malik (2007). Preparation 0f instructional material for distance teacher education. *Turkish Online*

Journal of Distance Education-TOJDE, 8,(1). Retrieved August 30, 2016 from http://files.eric.ed.gov/fulltext/ED494809.pdf

Anandarun P.(2011). *Modular Method of Teaching.* Retrieved on February 5, 2015 from http://anandkab.blogspot.com/2011/04/modular-method-ofteaching.html

Boiser, D.C. (2004). *Teaching made easy: Strategies and style*. Phoenix Publishing House, Inc. Quezon Ave. Quezon City.

California Teaching Performance Assessment (CALTPA), (2008). Retrieved August 29, 2016 from http://www.ctc.ca.gov/educator-prep/TPA-files/CandidateHandbook-AppendixA-TPEs.pdf

DO 13, s. 1994. *Guidelines for Matching Specialization in Teaching Preparation with Teaching Assignments for Public School Teachers*. Retrieved August 29, 2016 from http://www.deped.gov.ph/orders/do-13-s-1994

Fries-Gaither, J**.**(2008). Questioning Techniques: Research-Based Strategies for Teachers. *Ohio State University.* Retrieved August 30, 2016 from http://beyondpenguins.ehe.osu.edu/issue/energy-and-the-polar-environment/questioning-techniques-research-based-strategies-for-teachers

Goldhaber D and Brewer. (n.d.) *Evaluating the Effect of Teacher Degree Level on Educational Performance*. Retrieved August 29, 2016 from http://nces.ed.gov/pubs97/97535l.pdf.

Geronimo J. Many schools not yet training teachers for K to 12. (2013) Files from COCOPEA. Retrieved August 30, 2016 from http://www.rappler.com/nation/89892-pia-cayetano-training-teachers-k12

Hoglund B. and McClung C. (2012). *Teaching Quality Impacts Student Achievement.* ASQ Primary and Secondary Education Brief March 2012 (Vol. 5, No. 3). Retrieved August 29, 2016 from http://rube.asq.org/edu/2012/03/continuous-improvement/teaching-quality-impacts-student-achievement.pdf

Ingersoll, Richard (2003). *Out-of-Field Teaching and the Limits of Teacher Policy*. A Research Report co-sponsored by Center for the Study of Teaching and Policy and The Consortium for Policy Research in Education. Retrieved July 18, 2016 from https://depts.washington.edu/ctpmail/PDFs/LimitsPolicy-RI-09-2003.pdf

King Rice, J. (n.d.). *Teacher Quality: Understanding the effectiveness of teacher Attributes.* Retrieved July 19, 2016 from http://eric.ed.gov/?id=ED480858

Kola, A.J & Sunday, O.S. (2015). *A Review of Teachers' Qualifications and Its Implication on Students' Academic Achievement in Nigerian Schools*

Loewenberg D. and Williamson (n.d.) *The Subject Matter Preparation of Teachers*. Retrieved July 29, 2015 from http://www.educ.msu.edu/NCRTL/PDFs/NCRTL/IssuePapers/ip894. Pdf

Macarandan, Rose Marie S. *Assessment of the Araling Panlipunan Modules in the K-12 Curriculum: Enhanced Instructional Materials Development. International Conference on Economics, Social Sciences and Languages* (ICESL'14) May 14-15, 2014 Singapore. Retrieved August 29, 2016 from http://icehm.org/upload/2055ED0514045.pdf

Marzano, R., D. Pickering, and J. Pollock. (2011). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved August 30, 2016 from http://beyondpenguins.ehe.osu.edu/issue/energy-and-the-polar-environment/questioning-techniques-research-based-strategies-for-teachers

Medwell, J., Wray D., Poulson L., Fox, R. *Effective Teachers of Literacy. EducatiOn Line*. Retrieved August 29, 2016 from http://www.leeds.ac.uk/educol/documents/000000829.htm#ch2

The National Academic Press. (2015). The Critical Importance of Well-Prepared Teachers for Student Learning and Achievemen. Retrieved May 12, 2016 from http://www.nap.edu/read/9832/chapter/5

Ohio Teacher Evaluation System (2015). Retrieved August 16, 2016 from https://education.ohio.gov/getattachment/Topics/Teaching/Educator-Evaluation-System/Ohio-s-Teacher-Evaluation-System/Teacher-Performance-Ratings/OTES-Model-122315.pdf.aspx

Owolabi, O.T. (2012). Effect of Teacher's Qualification on the Performance of Senior

Secondary School Physics Students. Ekiti State University, Nigeria. Department of Curriculum Studies, Ekiti State University, Ado-Ekiti, Nigeria Retrieved August 1, 2015 from http://files.eric.ed.gov/fulltext/

EJ1079503.pdfPTFE, (2008) *The Philippine main education highway: Towards a knowledge-based economy,*

Office of the President of the Philippines Resourcing and Materials. (n.d.). Retrieved August 29, 2016 from http://www.tllg.unisa.edu.au/lib_guide/gllt_ch4.pdf

Rolluqui, G. (n.d.) *Instructional Media for Different Levels in the Philippine Educational System. Unpublished Research. Technological University in the Philippines.* Retrieved August 15, 2016 from https://www.academia.edu/9574342/The_Instructional_Media_for_Different_Levels_in_the_Philippine_Educational_System

Samillano, Joseph (2015). *Competency Among MAPEH Teachers in Teaching Performing Arts in Selected Public Secondary Schools in North Cotabato*. (Unpublished Undergraduate Thesis Writing). University of Southern Mindanao. Retrieved July 9, 2015 from http://www.academia.edu/11417973/Competency_Among_MAPEH_Teachers_in_Teaching_Performing_Arts_in_Selected_Public_Secondary_Schools_in_North_Cotabato

Seebruck, R. (2015). *Teacher Quality and Student Achievement: A Multilevel Analysis of Teacher Credentialization and Student Test Scores in California High Schools.* Sociological Review, Volume 5 (July 2015): 1-18. University of Arizona. Retrieved August 12, 2016 from https://www.mcgill.ca/msr/msr-volume-5/teacher-quality-and-student-achievement

Sockalingam N. (2011). *Questioning Skills to Engage Students. Faculty Focus, Higher Ed Teaching Strategies*. http://www.facultyfocus.com/articles/teaching-and-learning/questioning-skills-to-engage-students/

Syed Shafqat Ali Shahthe (2009). Impact of Teacher behaviour on the Academic Achievement of the Students. (Unpublished Dissertation Writing.

Valisno, M.D. (2012). *The Nation's Journey to Greatness: Looking Beyond Five Decades of Philippine Education*, FAPE.

Xiaoyan Ma. (2008). *The Skills of Teacher's Questioning in English Classes.* International Education Studies. Retrieved August 30, 2016 from http://files.eric.ed.gov/fulltext/EJ1065462.pdf

Zhang Danhui (2008). *The Effect of Teacher Education Level, Teaching Experience, and Teaching Behaviors on Student Science Achievement*. (Unpublished Dissertation Writing, Utah State University). Retrieved August 29, 2016 from http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1167&context=etd

Zuzovsky, R. (2003). *Teachers' Qualifications and their impact on student achievement, Center for Science and Technology Education*, Tel Aviv, Israel. Retrieved July 18, 2015 from http://www.ierinstitute.org/fileadmin/Documents/IERI_Monograph/IERI_Monograph_Volume_02_Chapter_02.pdf