Factors Influencing Science Teachers' Competence in Junior High Schools in Lanao Del Sur-1

Hanifah B. Lucman, Dr. Salamah M. Basher

Mindanao State University – Main Campus

DOI: https://doi.org/10.51244/IJRSI.2025.12020040

Received: 24 January 2025; Accepted: 03 February 2025; Published: 07 March 2025

ABSTRACT

This study aimed to identify the relevance of factors influencing science teachers' competence. It addressed the following objectives: (1) science teachers' competence level based on the Individual Performance Commitment Review Form (2) the perceived profile in terms of said factors (3) the relationship between the hypothesized factors and science teachers' competence (4) science teachers' perceptions of the factors' influences on teacher competency. The study employed a mixed methods research design in the analysis and interpretation of data. Fifty one (51) secondary science teachers from thirteen junior high schools in Lanao del Sur – Division 1 were randomly selected. The study utilized triangulation of data to validate the results among instruments Factors Influencing Science Teachers' Competence Questionnaire(FISTCQ) and Individual Performance Commitment Review Form (IPCRF). Pearson product-moment correlation coefficient (r) was used to verify the relationship between the hypothesized factors and teachers' competence. Based on the IPCRF evaluation, Professional Growth and Development (KRA-4) showed the highest mean result. In addition, a number of the science teachers were rated a "Satisfactory" level of performance as evaluated and confirmed by other science teachers. FISTCQ survey data displayed a strong positive response to hypothesized factors such as teachers' compensation and teachers' rapport. Contrary to this, however, the hypothesized factors showed no significant correlation to the science teachers' competence.Professional growth and development are the highly demonstrated aspects of teacher's performance. Science teachers value professional growth and development the most in their career. Moreover, science teachers in select regions on Lanao del Sur – Division 1 demonstrated satisfactory and very satisfactory performance ratings annually. Although factors such as teacher's compensation, rapport, professional development and school facilities had no significant influence on such indicators of competence, teachers' opinions say otherwise. As such, it is recommended for policymakers to strengthen their current policies on school facilities and teacher compensation, as well as to increase the frequency of seminars and conferences to improve competency.

Keywords: teacher competence, performance rating, teacher compensation

INTRODUCTION

Teachers play an essential role in the educational system, impacting the nation's development. As such, they must acquire and learn proficient teaching skills in order to serve society with quality education. However, how effectively teachers educate is determined by many factors, not the least by environment and management structures. Moreover, it is important for teachers themselves to be regarded as part of the solution. Considering this, teachers' competency in teaching can be identified as a significant factor in determining the effectiveness of the instructional implementation process. According to Drexel(2003), effective learning is based on two criteria; the teacher's expertise in the subject matter, and the student's relatively high level of motivation and how well they are engaging in the subject. However, no learning takes place if the teacher is unskilled. Varvel (2013) states that competent teachers have the necessary foreknowledge, skills and attitudes in a given context that modify and enhance with time. The Department of

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue II February 2025

Education (DepEd) has been searching for methods to address secondary students' poor performance on the National Achievement Test. Most schools in the country, particularly in the Autonomous Region of Muslim Mindanao (ARMM) obtained poor ratings (Palantig, 2016). Because the quality of teaching affects students' learning development, teacher competency can be seen as one of the most critical components in enhancing student performance. Moreover, other researchers presume that acquiring a firm understanding of the factors that affect teaching competence is the first and most significant phase in enhancing educational quality (Arifin, 2015). With this in mind, there is an urgent need to carefully examine the factors that influence teachers' competencies and to establish appropriate strategies that may minimize negative impact.

Objective of the study

This study aims to identify a variety of factors, specifically teacher's compensation, professional development, teacher's rapport, and school facilities in order to determine their relevance to teacher competency. Specifically, this study's objectives involve determining teacher competence level based on the Individual Performance Commitment Review Form (IPCRF), identifying the perceived profile in terms of the aforementioned factors, and to determine the relationship between such factors and teacher competency. Moreover, it aims to observe how a teacher's perception of factors such as teacher compensation influence their level of competence.

METHODS

The study utilized a mixed methods research design in the course of procurement and analysis of data. That is, descriptive information and quantitative aspects of survey research were present. Moreover, the proponents used data triangulation to relate other data sources such as interview and field notes to the study.

Respondents

Teacher competency was determined from science teachers ranging from fifty-one (51) junior high schools stationed at Lanao del Sur – Division 1. To assure proportionality in the selection, cluster random sampling was applied. Each high school was assigned a code number written on paper, and placed in a container. After jumbling said container, the proponents randomly selected one code number at a time until reaching an appropriate number of samples, which is thirteen (13) junior high schools eligible to participate in data gathering.

Research instruments

The primary research instrument used for gathering of quantitative data include the Individual Performance Commitment and Review Form (IPCRF), which consists of ratings of teacher performance within a given academic year. It assesses teacher competence based on common key result areas (KRA) such as "Teacher-Learning Process", "Learner's Outcome", "Community Involvement", and "Professional Growth and Development".

Table 1. Performance Rating Scale for IPCRF

ADJECTIVAL RATING	NUMERICAL RATING	DESCRIPTION
Outstanding	4.50 – 5.00	Performance exceeding targets by 30% and above of the planned targets
Very Satisfactory	3.50 – 4.499	Performance exceeding targets by 15%-29% of the planned target;
Satisfactory	2.50 – 3.499	Performance satisfactory means performance of 100% to 114% of the planned target.
Unsatisfactory	1.50 – 2.499	Performance of 51% to 99% of the planned target.
Poor	1.00 – 1.499	Failing to meet the planned target by 50% of the planned target.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue II February 2025

The study utilized the Factors Influencing Science Teachers' Competence Questionnaire (FISTCQ) as a secondary research instrument. It elicits responses for teacher competence (dependent variable) based on ratings of the aforementioned hypothesized factors (independent variable): (1) teacher's compensation (2) teacher's rapport (3) teacher's professional development (4) school facilities.

Data analysis

The data gathered was then analyzed using the Statistical Package for Social Sciences (SPSS) software. Confirmatory Factor Analysis (CFA) was applied to reduce questionnaire variables to a smaller number for FISTCQ. Descriptive statistics were used to interpret responses from said questionnaire. Furthermore, Pearson correlation was used to quantify the relevance of the hypothesized factors with regards to the science teacher's competence.

RESULTS AND DISCUSSIONS

Table 2. Mean level of competence of science teachers based on the Performance Rating on the four key result areas (KRA) of IPCRF

Key Result Area	Teacher – Respondents as Evaluator	
	Mean Score	Competence Level
Teaching-Learning process (KRA 1)	3.23	Satisfactory
Learners' outcome (KRA2)	3.71	Very Satisfactory
Community Involvement (KRA3)	3.58	Very satisfactory
Professional Growth and Development (KRA4)	3.77	Very satisfactory
Over- all	3.57	Very Satisfactory

Independent Performance Commitment Rating Form

Table 2 demonstrates that most of the KRAs display a very satisfactory competence level. Moreover, Professional Growth and Development (KRA-4) displays the highest performance rating ($\bar{x}$ = 3.77), and consequently the highest level of competence for science teachers. This implies that the selected science teachers had ample experience with training, seminars and conferences to increase their professional capability.

Factors Influencing Science Teacher Competency Questionnaire

Table 4. FISTCQ mode scores and interpretation of responses to hypothesized factors

Indicators (Teachers' compensation)	Responses (n=51)					Mode	Interpretation
	1	2	3	4	5		
[1]There is an allowance or extra support for teachers.	3	8	7	15	18	**5**	Strongly Agree
[2]Policy of commendation and reward is appropriate.	0	6	2	20	23	**5**	Strongly Agree
[3]There is graduate studies (Masters, Doctoral) encouragement policy.	1	5	5	19	21	**5**	Strongly Agree
[4]Teachers' innovations are commended and rewarded.	1	2	1	23	24	**5**	Strongly Agree
[5]Insurance policy, maternity policy, and sick leave policy are well implemented.	0	1	4	26	20	**4**	Agree

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue II February 2025

Indicators (Teachers' rapport)	Responses (n=51)					Mode	Interpretation
	1	2	3	4	5		
[1]I have good collaborations among colleagues	1	1	1	22	26	**5**	Strongly Agree
[2]I have a good work relationship with all the school employees	1	2	0	20	28	**5**	Strongly Agree
[3]I receive much support from the principal	0	4	5	21	21	**4&5**	Agree/ Strongly Agree
[4]I can always refer to my colleagues for better teaching	1	0	4	23	23	**4&5**	Agree/ Strongly Agree
[5]The principal always cares about teachers' work and living conditions.	2	0	4	24	21	**4**	Agree

Indicators (Teachers' professional development)	Responses (n=51)					Mode	Interpretation
	1	2	3	4	5		
[1]I have a good pedagogic manner.	0	0	0	34	17	**4**	Agree
[2]I can well adapt to changes	0	0	0	28	23	**4**	Agree
[3]I always have new goals and challenges for myself	0	0	0	29	22	**4**	Agree
[4]I have good conditions to improve my career	0	0	0	30	21	**4**	Agree
[5]I have equitable opportunities to improve my career	0	0	3	30	18	**4**	Agree
[6]I always consider opinions to cultivate me	0	0	0	22	29	**5**	Strongly Agree
[7]I always participate in training programs	0	0	1	29	21	**4**	Agree
[8]I always participate in the program for enhancing my professional qualifications	0	0	0	30	21	**4**	Agree
[9]I love my work	0	0	1	17	33	**5**	Strongly Agree
[10]I have full responsibility	0	0	1	22	28	**5**	Strongly Agree

Indicators (School facilities)	Responses (n=51)					Mode	Interpretation
	1	2	3	4	5		
[1]The classrooms are well-equipped	1	7	6	21	16	**4**	Agree
[2]There are enough classroom	2	7	5	19	18	**4**	Agree
[3]The classrooms are spacious	0	5	8	22	16	**4**	Agree
[4]The students' desks meet the requirements	1	9	10	20	11	**4**	Agree
[5]The laboratories are well-equipped /there are enough test facilities	4	8	10	19	10	**4**	Agree
[6]There are enough office desks	4	8	5	21	13	**4**	Agree
[7]The school health service is quality assured	2	8	12	19	10	**4**	Agree

Table 4 indicates a strong positive response with teacher compensation and teacher rapport (Mo = 5 – Strongly Agree), and teacher professional development and school facilities (Mo = 4 – Agree). Science

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue II February 2025

teacher's perception based on the given interviews on these factors indicate that, contrary to the mode response, teacher compensation is not an essential factor for competency. This is supported by related studies indicating that annual salary does not affect the performance of select public school teachers (Abarro, 2018).

Pearson product-moment correlation

Table 5. Spearman value and significance value on the relationship of science teacher's competence level and the hypothesized factors.

Relationship		Correlation coefficient (r_{rho})	p-value	Remarks
Teachers' compensation	IPCR	-0.265	0.06	Not significant
Teachers' Rapport	IPCR	-0.011	0.938	Not significant
Teachers' Professional Development	IPCR	0.029	0.838	Not significant
School Facilities	IPCR	0.017	0.904	Not significant

Table 5 indicates that there is a weak relationship of the FISTCQ values with regards to the IPCR values, despite showing a positive response, with teacher's compensation and rapport showing a weak negative correlation (r_{rho} = -0.266, -0.011), and teacher professional development and school facilities showing a weak positive relationship (r_{rho} = 0.029, 0.017), displaying little significance.

CONCLUSIONS

Professional growth and development are the highly demonstrated aspects of teacher's performance. Science teachers value professional growth and development the most in their career. Moreover, science teachers in select regions on Lanao del Sur – Division 1 demonstrated satisfactory and very satisfactory performance ratings annually. Although factors such as teacher's compensation, rapport, professional development and school facilities had no significant influence on such indicators of competence, teachers' opinions say otherwise.

RECOMMENDATIONS

It is recommended for policymakers to strengthen their current policies on school facilities and teacher compensation, as well as to increase the frequency of seminars and conferences to improve competency.

ACKNOWLEDGEMENT

The authors recognize DOST-SEI as the funding agency for the study.

REFERENCES

1. Abarro, J. (2018, November). Factors Affecting the Performance of Public School Teachers in the Division of Antipolo City, Philippines International Research Journal of Engineering and Technology (IRJET). https://www.irjet.net/archives/V5/i11/IRJET-V5I11249.pdf
2. Arifin, Muhammad (2015). The Influence of Competence, Motivation and Organisational Culture to A High School Teacher Job Satisfaction And Achievement. International Education Studies. 8(1)
3. Drexel, I. (2003). The Concept of Competence an Instrument of Social and Political Change. Bergen AS: Stein Rokkan Centre.
4. Palantig, Yasser Dimalna (2016). Management Skills of School Administrators mat MSU External Units and Teachers Competencies Based On the National Competency- Based Teacher Standards (NCBTS)
5. Varvel, C. (2013). Pedagogical Roles And Competencies Of University Teachers Practicing In The E-Learning Environment. 14(3).