

FACTORS AFFECTING SECONDARY AND HIGH SCHOOL TEACHERS' PROFESSIONAL COMPETENCE IN ETHNIC MINORITY AREAS – A CASE OF TAY NGUYEN, VIETNAM

BY

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ABSTRACT

Teachers' professional competence has significant impact on the educational quality. In recent years, the teaching forces in Tay Nguyen, Vietnam have faced the difficulties in teaching the ethnic minority students. To progress the achievements of this group of students require the development of teachers' professional competence. This paper investigates 235 teachers in three provinces of Tay Nguyen, Vietnam for the factors affecting their professional competence. This finds six factors affects teachers' professional competence, including professional environment, building and facility, elements relating to students, elements relating to teachers, teachers' linguistic ability, and compensation policy. Amongst these factors, the elements relating to teachers have the greatest effects while the Compensation policy has the lowest one. From these results, this study have several implications for enhancing the teaching quality and students' achievement in ethnic minority areas.

KEY WORDS: Teachers' professional competence, factors, ethnic minority, Tay Nguyen.

1. INTRODUCTION

The quality of education is always a concern of society due to the contribution of education to the countries' development. Education supplies a vast number of high-skilled labor forces and shapes the ethics of workers. In the education and training system, teachers play the key role. With the passing of time, teachers are not only the providers of knowledge, but also contribute to the students' comprehensive development in intelligence, personality, and social level. A study in Tennessee and Dallas, the USA has proved that the appropriate teaching methods lead to students' consciousness enhancement, better learning attitude and better characteristic formation (Ministry of Education and Training, 2008). Hill, Rowan and Ball (2005), Baumert et al. (2010) and Voss, Kunter and Baumert (2011) have provided evidence of the influence of teachers' knowledge on students' achievements. Velasco (2014) illustrates the importance of innovation in teaching methodology in

students' competence development. Consequently, of many critical factors that force the quality of education is the teacher's professional competence.

Development of teachers' professional competence is an important strategy to improve educational quality. Christopher&Partners (2006) indicates that an thorough understanding of factors influencing professional competence is a first essential step to this strategy. Nevertheless, elements are quite different for different levels of school, different countries, regions or culture.

Tay Nguyen is one of ethnic minority areas of Vietnam with ethnic people accounting for 54% of the population. In such condition, the multicultural classes or schools which involve ethnic minority and majority students are the main characteristics of the educational environment in Tay Nguyen. The gap in performance between two cultural groups of students causes in the main difficulty in improving educational quality. Furthermore, other factors are the low economic condition (eg, low household income) and the scattered allocation of the population in which the ethnic minority people usually living in remote and forested areas. As a result, requirements of teachers' professional competence and factors impacting it are specific.

Awareness of the significance of determining factors affects teachers' professional competence in educational quality enhancement strategy leads us to continue this issue for three provinces Kon Tum, Gia Lai, Dak Nong in Tay Nguyen, Vietnam. Using both qualitative and quantitative methods (include Cronbach's Alpha assessment, exploratory factor analysis, and a linear regression), this paper aims to determine the important factors that affect the professional competence of teachers in ethnic minority region of Tay Nguyen.

The remainder of this study is organized as follows: Section 2 briefly introduces the concept of teachers' professional competence as well as several pieces of literature on factors affecting teachers' professional competence. Section 3 outlines the data and methodology. The results of the study are discussed in section 4. The conclusion follows in section 5.

2. LITERATURE REVIEW

2.1. Overview of teachers' professional competence

The concept of "professional competence" is defined as the interactive form of understandings, prowess, attitudinal variables and motivational variables for implementing a specific task or work (Epstein & Hundert, 2002; Kane, 1992, see review in Kunter et al, 2013). To be specific, Epstein and Hundert (2002) give the definition of professional competence as "the habitual and judicious use of the communication, knowledge, technical skills, clinical reasoning, emotions, value and reflection in daily practice for the benefit of the individual and community being served". Basing on such definition, professional competence is not inborn, but can be accumulated via studying.

In the teaching field, many studies share the view of teachers' professional competence as the integration of "knowledge and understanding, skills, and abilities, teachers' beliefs and moral value" (see review in Tang et al. (2016), Konig (2014), Kunter et al., 2013).

Before the concept of professional competence, there are two main strands of literature on the teacher competence. The first one called “Bright Person Hypothesis” (BPH) argue the importance of general cognitive characteristics, for example, intelligence or thoughtfulness (Kenedy et al., 2008; Aloe & Becker, 2009; Yeh, 2009). According to this arguments, the people who have the strong cognitive ability are flexible and good at problem solving. That is of necessity for dealing with complicated and unexpected tasks in teaching process (Feldon, 2007). The studies on this strand underline the policies to motivate teacher for preventing their career leave (OECD, 2005).

The second hypothesis is “the knowledge teacher hypothesis” which emphasizes the teachers’ profession-specific understandings (Shulman, 1998). The professional-specific knowledge includes content knowledge, pedagogical content knowledge and psychological-pedagogical knowledge. Hill et al (2007) indicate the positive influence of teacher knowledge on student learning via giving effective instruction. Many papers highlight the advantage of experienced teachers compared to beginning ones (Berliner, 1992). Accordingly, the learning opportunities, as well as the self-studying greatly, contribute to the teachers’ competence (Desimone, 2009).

Blomeke and Delaney (2012) have suggested a model of professional competence with two key components of profession-specific knowledge and affective-motivational characteristics. The professional knowledge comprises general pedagogical knowledge, content knowledge and pedagogical content knowledge. The elements relating to emotional-motivational characteristics are motivation, self-regulation, professional beliefs about teaching and learning and the subject content. Kunter et al. (2013) propose a similar model.

2.2. Factors affecting teachers’ professional competence

As mentioned above, the concept of professional competence comprises two main components: profession-specific knowledge and emotion and motivation. Therefore, the factors affects professional competence via two key channels: effects on professional knowledge improvement and effects on motivation.

There are many pieces of research focusing on the effects of learning on professional competence. Knowledge is the basic of conducting teaching activities, therefore, the professional learning is of an vital elements of professional development (Putnam and Borko, 2000, Slegers et al, 2005, Smylie and Hart, 1999).

Although cultivating knowledge can be implemented in many way, for example, formal studying course, self-studying or knowledge sharing network, studying is the responsibility of the own teacher. Hence, it relies on the individual learnable capacity. The study by OECD (2010) reviews several factors impacting on teachers’ learning, for instance career incentive, self-concept, self-efficacy, teachers’ independence, etc.

A study by Kane (1992) has revealed that teachers’ professional competence is positively affected by teaching environment, and teachers’ personal competence which is only revealed in a corresponding teaching environment. Of the two factors, Kane (1992) also points out that the more importance of personal competence. Working in a good environment, but without the capability of knowledge, skill and social developments cannot result in professional success.

In the domain of emotion and motivation, Leithwood&Louis (1998), Toole and Louis (2002) assert the role of organizational environment to the professional development. These studies describes workplace environment in three extents: structural, cultural and political ones. Among many organizational condition factors, Geijsel et al. (2003), Leithwood et al. (1999), Nguni et al. (2006) stress the key role of school leadership. Zwart (2007) points out the relavance of relationship among colleagues, especially the collegial co-operation and friendly relationship. Clement and Vandenberghe (2000), Slegers et al. (2002) point out the dependence of the extent of collaboration and studying on the creation level of professional learning opportunities.

Great works of literature have shown several common and unique factors affect teachers' professional competence in secondary and upper secondary schools in Vietnam. Nong (2012) has come up with several factors affecting teachers' motivation. These are working environment, achievement evaluation procedure, and compensation. The working environment involves building and facilities, organization and collaboration in working place, etc,. A good working environment has an effect on teachers' safety and facilitates them to innovate their curriculum and teaching methodology. The achievement evaluation progress and compensation shows a motivational aspect, encompassing recruitment, work evaluation, training and development, benefits and awards policy, promotion and designation. This may give implications to educational managers in motivating teachers.

A research by Vu (2007) for An Giang province concludes that the students' placement results and their characteristics have an influence on the professional competencies in the aspect of teaching effectiveness. Lo (2011) finds the effects of the geographical and eco-social factors, while Doan et al. (2009) detect the negative effects of family weak cognisance of education, difference in culture, linguistic barriers on teachers' professional competence. Duong (2012) specifies the close relationship between professional competence and professional adaptation capacity.

3. RESEARCH METHODOLOGY

3.1. Research methods

3.1.1. Qualitative method

20 principals of schools in the ethnic minority areas in three provinces take part in the survey. The qualitative result provides 47 measures of Professional Competence concept. It also determines 6 factors affecting the professional competence of teachers in high schools and secondary schools in given areas.

3.1.2. Quantitative method

For quantitative evaluation, the authors apply several quantitative methods, including Cronbach's Alpha assessment, exploratory factor analysis (EFA,hereafter) and a linear regression.

The regression model is:

$$PC = \beta_0 + \beta_1 \times ES + \beta_2 \times BF + \beta_3 \times CP + \beta_4 \times LA + \beta_5 \times ET$$

Dependent variable: Professional Competence (PC)

This research studies the professional competence of teachers in high schools and secondary school in ethnic minority area in Kon Tum, Gia Lai and Dak Nong. The concept

”Professional competence” used in this paper is measured by the teachers’ average self-assessed score using a scale from 1 to 4 (*in which 1: weak, 2: average, 3: good, 4: excellent*). This survey applies 6 standards and 25 criteria by Circular No. 30/2009/TT-BGDĐT dated 22 October 2009 of the Ministry of Education and Training.

Standards	Criteria
Standard 1: Political quality, Morality, and mode of life	Criterion 1: Political quality Criterion 2: Professional ethics Criterion 3: Attitudes toward students Criterion 4: Attitudes toward colleagues Criterion 5: Mode of life and manner
Standard 2: Ability to study educational objects and environment	Criterion 6: Studying the educational objects Criterion 7: Studying educational environment
Standard 3: Teaching ability	Criterion 8: Teaching plan Criterion 9: Assurance of subject knowledge Criterion 10: Assurance of syllabus Criterion 11: Application of teaching methods Criterion 12: Application of instruction materials Criterion 13: Construction of learning environment Criterion 14: Management of teaching profiles Criterion 15: Examination and Evaluation of Student’s result of learning
Standard 4: Instructional ability	Criterion 16: Planning of educational activities Criterion 17: Instruction through course Criterion 18: Instruction through educational activities Criterion 19: Instruction through community activities Criterion 20: Application of educational principles, educational methodology, and form of organization Criterion 21: Evaluation of student’s practice of ethics
Standard 5: Political and social capability	Criterion 22: Collaboration with student’s family and community Criterion 23: Engagement with political and social activities
Standard 6: Career Development capability	Criterion 24: Self-evaluation, Self-Study, and Self-practice Criterion 25: Problem detection and solving in educational reality

Independent variables: Basing on the qualitative research, the authors use 6 independent variables for the qualitative model. These variables are Professional environment (PE), Buildings and facilities (BF), Teacher's Language Ability (LA), Elements relating to Teachers (ET), Elements relating to Students (ES) and Compensation Policy (CP). The variables are generated via a set of 5-point Likert questions (*in which 1: strongly disagree, 2: disagree, 3: undecided, 4: agree; 5: strongly agree*). After information collection, we process data with the help of SPSS 21.

3.2. Research sample

This research uses a sample size of 235 responses from Kon Tum, Gia Lai and Dak Nong following the convenience sampling.

4. RESULTS

4.1. Cronbach's Alpha test for Sample of teachers in high schools and secondary schools.

We carry out a pilot-test for 30 responses to test the reliability of scales before performing detailed analysis for the whole sample of 235 ones. The result proves that the variables formed by such rating scale question set are reliable.

The factors that have effects on the professional competence of teachers in high school and secondary school are displayed in Table 1.

Table 1: Reliability of scale assessment – Sample of Teachers in high schools and secondary schools

Variables	Scale mean if Item deleted	Scale variance if item deleted	Corrected item – Total correlation	Cronbach's Alpha if item deleted
<i>Professional environment (PE) Cronbach's Alpha = .904</i>				
I have a good work relationship	17.79	17.561	.715	.891
I have good conditions to improve my career	18.01	17.941	.726	.889
There is good collaboration among colleagues	17.96	18.300	.701	.892
Teachers have equitable opportunities to improve career	17.85	17.479	.747	.887
I receive much support from specialty leader	17.86	18.769	.795	.884
I receive much supports from the managers	17.82	20.087	.569	.905
The manager always cares about teachers' work and living	17.75	18.001	.787	.882

<i>Buildings and Facilities (BF): Cronbach's Alpha = .874</i>				
The classroom are well-equipped	18.29	22.135	.647	.859
There are enough classrooms	18.42	21.404	.808	.835
The classrooms are spacious	18.39	21.388	.768	.840
The student desks meet requirements	18.51	28.713	.115	.917
The laboratory is well-equipped/ There are enough test facilities	18.41	22.741	.804	.839
There are enough office desks	18.44	22.188	.797	.838
The school health service is quality-assured	18.58	23.500	.712	.850
<i>Teacher's Language Ability (LA): Cronbach's Alpha = .846</i>				
I have good communication in local languages	8.64	4.801	.757	.770
I have good indigenous language listening skills	8.61	5.187	.729	.785
I have good indigenous language writing skills	8.91	5.565	.625	.828
I have enough ability to do dual language taught	8.76	5.379	.624	.829
<i>Elements relating to Students (ES) Cronbach's Alpha = .893</i>				
The student's placement results are poor	21.69	24.001	.576	.888
The rate of quitting studies is high	21.74	23.356	.667	.880
The household income is low	21.69	22.249	.755	.872
The number of family members goes to school	21.52	22.499	.719	.875
Parents' conciousness of children' studying is low	21.71	23.094	.691	.878
Studying motivation is low	21.53	22.109	.767	.871
Student's acquisitiveness is weak	21.69	22.332	.587	.890
Student's cognitive ability is low	21.94	22.073	.648	.883
<i>Elements relating to Teachers (ET): Cronbach's Alpha = .936</i>				
I have many years of experience	50.14	60.556	.762	.930
I have good pedagogic maner	50.16	66.880	.576	.935
I can well adapt to changes	50.06	59.499	.849	.927
I always have new goals and challenges for myself	50.16	62.931	.729	.931
I always make reference to my colleagues for better teaching	50.30	65.004	.632	.933
I always consider opinions to cultivate myself	49.97	61.496	.815	.928
I always participate in training programs	49.64	67.523	.577	.935
I always participate in program for	50.48	63.056	.672	.933

enhancing my professional qualification				
I love my work	49.79	64.807	.780	.930
I have full responsibility	49.84	63.606	.792	.929
I always sympathize with ethnic minority students	49.74	66.918	.598	.934
I always support my students to overcome difficulties for better study and morality	49.94	69.374	.342	.940
I always seek teaching methods that suit minority students	49.65	66.595	.619	.934
I have good communication with my students	49.88	63.363	.802	.929
I have good interaction with students in lessons	49.85	65.231	.669	.932
Compensation Policy (CP): Cronbach's Alpha = .796				
There is right pay policy	12.14	13.708	.306	.812
There is allowance or extra support for teachers	12.74	13.592	.331	.807
Policy of commendation and reward is appropriate	13.14	10.169	.659	.736
There is study encouragement policy	13.83	11.148	.641	.742
The innovation is commended and rewarded	13.72	10.923	.673	.734
Insurance policy, maternity policy, and sick leave policy are well implemented	12.55	10.308	.681	.730

As can be seen from Table 1, the Cronbach's Alpha for all variables is relatively high. In particular, variables "Professional environment", "Buildings and Facilities", "Teacher's Language Ability", "Elements relating to Students", "Elements relating to Teachers" and "Compensation Policy" have Cronbach's alpha of 0.904, 0.874, 0.846, 0.893, 0.936 and 0.796 respectively. Most of these indexes are higher than 0.8 that indicates the good scales. According to Peterson (1994), the variables having the Cronbach's alpha of over 0.6 can be applied to the case that the measurement is first used or totally new to respondents in the context of research.

The Corrected item – Total correlation index of most variables are pretty high and greater than 0.3, except for variable BF4, which have this index of 0.115. Additionally, the Cronbach's alphas indexes of "Professional environment" and "Elements relating to Teachers" increase to 0.905 and 0.940 respectively if dropping variable PE6 and ET12. Factor "Compensation Policy" has an increase when deleting CP1 and CP2. Thus, we do not include PE6, ET12, CP1, CP2 in EFA.

4.2. EFA results

Using SPSS to extract factors, we decide to delete the factors that have factor loading under 0.5. The KMO coefficient equals to 0.65, greater than 0.5. Moreover, the Bartlett test is significant with the small p-value. These results confirm adequate sample and the

correlations amongst variables in population. Six factors with Eigenvalue >1.162 are extracted and explains for 57.908% of the variation of data. Promax rotation in Principal Axis Component allows extracting six factors whose coefficients are higher than 0.5.

In conclusion, these factor analyses advocate six initially stated factors, including:

Professional environment: PE1, PE2, PE3, PE4, PE5, PE7

Building and Facilities: BF1, BF2, BF3, BF5, BF6, BF7

Teacher's Languages Ability: LA1, LA2, LA3, LA4

Elements relating to Students: ES2, ES3, ES4, ES5, ES6, ES7, ES8

Elements relating to Teachers: ET1, ET2, ET3, ET4, ET5, ET6, ET7, ET8, ET9, ET10, ET11, ET13, ET14, ET15.

Compensation Policy: CP3, CP4, CP5, CP6

4.3. Linear regression analysis

4.3.1. Correlation analysis

Before doing regression, the authors test the correlation among variables, including dependent variables and independent variables. The small p-value which is less than significance level of 0.05 illustrates the relation between response variables and each of explanatory variables. This is a necessity for regression analysis.

The Pearson test is used to investigate the correlation amongst explanatory variables. The result points out the tight correlation amongst variables with a p-value lower than 0.05. Therefore, a later section of this study will check the multicollinearity.

4.3.2. Regression analysis

In this section, we make linear regression for in-depth analysis of the effects of six factors: "Professional environment", "Buildings and Facilities", "Teacher's Language Ability", "Elements relating to Students", "Elements relating to Teachers" and "Compensation Policy" on the "Professional Competence". Also, we test the model appropriation and do parameter hypothesis testing.

❖ Testing the Goodness of fit

Table 2: Goodness of Fit of Model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.776 ^a	.602	.587	.58377	1.604

a. Predictors: (Constant), ET, CP, ES, PE, LA, BF

b. Dependent Variable: PC

Table 3: ANOVA analysis
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84.036	6	14.006	41.099	.000 ^b
	Residual	55.548	163	.341		
	Total	139.584	169			

a. Dependent Variable: PC

b. Predictors: (Constant), ET, CP, ES, PE, LA, BF

Table 2 shows if the sample regression function is a good fit to the data through adjusted R-squared. The adjusted R-squared is of 0.587. This means the independent variables in this model could explain 58.7% of the variation of dependent variable “Professional competence”, leaving 41.3% explanation capability to other unstated factors.

Table 3 displays the F-test for the appropriation of the regression model. The null hypothesis is that coefficients of regressors simultaneously equal to 0. The F-statistics equaling to 41.099 with extremely small p-value indicates the rejection of such null hypothesis. This means the model is significant and for that reason, well fits the data.

Table 4: Regression Analysis result
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-1.119	.281		-3.985	.000		
ES	.337	.063	.278	5.380	.000	.912	1.097
BF	.271	.059	.262	4.630	.000	.764	1.309
CP	.097	.046	.106	2.104	.037	.958	1.044
PE	.068	.059	.061	1.148	.252	.868	1.151
LA	.178	.054	.171	3.273	.001	.893	1.120
ET	.406	.056	.402	7.184	.000	.779	1.284

a. Dependent Variable: PC

Table 4 exhibits the regression analysis results. According to this table, the Variance Inflation Factors (VIFs) are very small. Experientially, all VIFs are under 10, proving no existence of multicollinearity.

❖ Hypothesis testing of coefficients

The unstandardized regression model is as follows:

$$PC = -1.119 + 0.337 \times ES + 0.271 \times BF + 0.097 \times CP + 0.178 \times LA + 0.406 \times ET$$

The standardized regression model is as follows:

$$PC = 0.278 \times ES + 0.262 \times BF + 0.106 \times CP + 0.171 \times LA + 0.402 \times ET$$

As can be seen from Table 4, except for “Professional environment”, other estimated coefficients are of highly statistical significance. The coefficient of ‘Professional Environment’ has a p-value of 0.252. This demonstrates that ‘Professional Environment’ has no effect on ‘Professional Competence’. In contrast, “Building and Facilities”, “Elements relating to Students”, “Elements relating to Teachers”, “Teacher’s Language Ability” and “Compensation Policy” are significant and have positive effects on “Professional Competence”. Among these five variables having statistically significant parameters, the factor “Elements relating to Teachers” have the greatest effects while “Compensation Policy” has the lowest effects.

5. CONCLUSIONS AND RECOMMENDATIONS

This study measures factors that have significant effects on the professional competence of teachers in secondary and high schools in an ethnic minority area of three provinces in Tay Nguyen, Vietnam. The result shows the determination of six factors including professional environment, building and facility, elements relating to students, elements relating to teachers, teachers’ linguistic ability, and compensation policy. Of these factors, except for professional environment having no effects on professional competency, other factors demonstrates opposite results. This study can lay the foundation for the next quantitative research of evaluating the level of meeting professional competence standards of teaching forces in the characteristic base of ethnic minority area of Tay Nguyen.

Recommendations

The findings of this study can give several implications to both educational managers and teachers.

For headmasters of schools in ethnic minority area :

Investment in training and cultivating teachers professional competence is of necessity. The content of training should focus on: (1) study learners information, (2) developing community activities; (3) communication in local linguistics skills. depending on the particular conditions, each school can hold soft skill class, short-term training course, or seminar, etc,

Besides, establishing the network amongst local schools is essential. With the support of internet and other technological tools, teachers in the network can exchange knowledge and experience.

For teachers in secondary schools and high schools in ethnic minority areas

The teachers in secondary schools and high schools should make reference to the teachers’ professional standards to self-evaluate their own competence. Basing on an understanding of their real competence, teachers can have a plan of professional qualification improvement and pedagogical practice.

Teachers should actively adopt new and positive teaching methods to their classes. The eager of applying new teaching methods will create the motivation for learning and cultivating new knowledge, skills, and aptitudes. In the case of ethnic minority students, teachers should focus on methods that raise students’ sense of initiative.

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