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Development and Application of the Measures of School Value, Teacher Autonomy, and Teacher Motivation

Abstract

Psychometrically sound and practical measures of school value, teacher autonomy, and teacher motivation were developed. Further, this study examined relationships among school value, teacher autonomy, and teacher motivation and compared the differences between elementary and secondary school teachers in those variables. Findings showed that those measures are reliable and valid. Also, elementary school teachers scored higher in those three variables than secondary school teachers. Particularly, school value and teacher autonomy were significant predictors of teacher motivation. The implication for school organization is to enhance positive school value and provide teachers with more autonomy, which will encourage teacher motivation.

Keywords: *school value, teacher autonomy, teacher motivation*

Introduction

School culture indeed influences school effectiveness, whereas school value may serve as the cornerstone for school improvement. In the study on school effectiveness (Scheerens, 1992), factors reflecting a school's culture include achievement orientation, a shared ideology or mission, cohesion and collaboration among teachers. The culture of a school is shaped by beliefs and values of organizational members towards school vision, curriculum, instruction, evaluation, and organizational structure (Maslowski, 2001). Value is the embedded belief system that

shapes organizational culture. School value is defined as the acceptable standard which governs the behaviors of individuals within the school organization. Without such a school value, individuals will pursue behaviors that are consistent with their own individual value systems, which may affect the growth of school organization. Thus, examining school value is one of the significant challenges for school improvement.

Organizations create mission statements and emphasize core values. A sample of 239 employees from eight organizations responded to a questionnaire which measured the effectiveness of employee development practices and cherished organizational values. The organizational values measured were collaboration, creativity, quality, delegation, trust, and humane treatment (Hassas, 2007). Pang's School Values Inventory (2001) includes subscales of school organizational values as formality and control, participation and collaboration, collegiality, goal orientation, communication and consensus, professional orientation, and teacher autonomy. Based on Heck & Marcoulides (1996), the components of the school value are the time used for collaboration, encouragement of innovation, and participation in decisions. Hence, school value consists of hierarchy, participation, collaboration, communication, professional orientation, and innovation, as perceived by school teachers.

Currently, there has been a strong movement in education renewal toward the view that the teacher is of primary importance. With the advent of education reform, there is a greater emphasis on teacher autonomy. Autonomy seems to be emerging as a key variable when examining educational reform initiatives, with some arguing that granting autonomy and empowering teachers is an appropriate place to begin in solving the problems of today's schools. Thus, deeper exploration of teacher autonomy is of particular interest. Teacher autonomy is defined as the teachers' feelings of whether they control themselves and their work environments. Pearson & Hall (1993) developed a reliable and valid measure that yielded curriculum autonomy and general teaching autonomy dimensions. Curriculum autonomy was defined by the items that measured the selection of activities and materials and instructional planning and sequencing, whereas general teaching autonomy was defined by the items that measured classroom standards of conduct and personal on-the-job decision making. Also, study on educational reform generally suggests that teachers are eager to augment their authority over curriculum and instruction (Cranston, 2000). Teacher autonomy in this study is composed of curriculum autonomy and general teaching autonomy.

Chen (2004) examined the interactive mode of teacher autonomy and junior high school administration under the influence of campus democratization in

the wake of educational reforms. Results showed that it is necessary to stress the rights of the school administration and teacher autonomy. Then, both can be adequately interactive in collaborating on developing the value of campus organizations, and creating a campus culture of warmness, harmony, and quality. Characteristics of school value are probably linked to teacher autonomy. Hence, the presented study attempts to explore the relationship between school value and teacher autonomy.

The success of schools in attaining their goals and objectives depends more on teachers' willingness to go above and beyond the call of duty (Somech & Ron, 2007), namely, to exhibit teacher motivation and autonomy. Autonomy is one facet of teacher motivation (Losos, 2000). Teacher autonomy is a common link that appears when examining teacher motivation, job satisfaction, stress, professionalism, and empowerment (Pearson & Moomaw, 2005). If teachers are empowered and regarded as professionals, their motivation is encouraged. Particularly, teacher motivation, in a similar way as teacher autonomy, is important for the advance of educational reforms. Motivated teachers are more likely to work for educational reform and progressive legislation (De Jesus & Lens, 2005). Therefore, this study is to explore the relationship between teacher autonomy and teacher motivation.

Teacher motivation is considered as an essential factor for classroom effectiveness and school improvement. Teacher motivation naturally has to do with teachers' attitude toward work (Ofoegbu, 2004). Teachers have both intrinsic and extrinsic needs. A teacher who is intrinsically motivated may undertake a task for its own sake, for the satisfaction it provides or for the feeling of accomplishment and self-actualization. An extrinsically motivated teacher may perform an activity or duty to obtain some reward such as salary. Both the intrinsic and extrinsic motivations play important parts in people's lives and are pre-eminent in influencing a person's behavior. Teacher motivation is measured as intrinsic and extrinsic motivation.

It is more difficult now for schools to attract good teachers and also to retain them in schools. However, many teachers would even sacrifice higher pay in other jobs if they could work in schools with motivated students, supportive administrators, and self-achievement. Further, autonomy gives teachers more opportunity to display a wider range of extra-role behaviors than when they feel restricted and perceive little freedom to assist others (Gellatly & Irving, 2001). If teachers have higher autonomy to deal with teaching, curriculum, and students, they may have more enthusiasm and motivation to participate in school work. Also, when school values allow teachers to have more autonomy, teacher motivation may be encouraged to contribute to the school's success. Thus, this study aims to examine

some of the possible links connecting school value and teacher autonomy with teacher motivation.

Since elementary and secondary schools have more educational reforms than other ones, teachers in those schools encounter more pressure and various challenges. They also have made contributions to the foundation of education and to the development of nine-year compulsory education and to the upgrading of educational quality. However, few recent studies focus on the connections among school value, teacher autonomy, and teacher motivation. Hence, the presented study is also to compare differences between elementary and secondary school teachers on perceived school values, teacher autonomy, and teacher motivation.

Method

Sample and Data Analyses

Participants were recruited from 17 elementary schools and 14 secondary schools located in southern Taiwan. The sample comprised 570 teachers, including 301 elementary school teachers and 269 secondary school teachers.

The presented study first involved the development, design and implementation of three psychometric instruments to measure perceived school value, teacher autonomy, and teacher motivation. Cronbach's α coefficient was used to test the reliability of the scale and the principle component analyses were used to test the validity of the scale. Also, the Multivariate Analysis of Variance (MANOVA) design was formulated to test differences between elementary and secondary school teachers. Finally, intercorrelation matrices among all the variables and stepwise multiple regression analyses were computed to explore relationships among school value, teacher autonomy, and teacher motivation.

Measures

School Value Scale

School Value Scale was developed based on the studies of Hassas (2007), Pang (2001), and Heck & Marcoulides (1996). It was designed to measure six-factor hierarchy, participation, collaboration, communication, professionalism, and innovation. School value was measured by the teacher's responses on the questionnaire, termed perceived school value. All 20 item responses are scored on a 5-point scale. Once the scale was developed, the wording of a few items was rewritten after

being evaluated by two experts. Also, a pilot study on 410 teachers, including 210 elementary school teachers and 200 secondary school teachers, was conducted to test the reliability and validity of the scale. After an exploratory factor analysis of the 20 items using the maximum likelihood method with Varimax rotation had been conducted, all items only loading on four factors had eigenvalues greater than unity, accounting for 66.62% of the total variance. Results showed that the items of participation and communication clustered together on the same factor. The items of both professionalism and innovation loaded on the same factor. The 20-item scale consisted of four components, including hierarchy, participation and communication, collaboration, and professionalism and innovation. The Cronbach alpha coefficients of these four subscales were .90, .83, .76 and .88, and .94 for the total scale.

Teacher Autonomy Scale

Teacher Autonomy Scale was developed and composed of curriculum autonomy and general teaching autonomy based on the studies of Pearson & Hall (1993) and Pearson & Moomaw (2005). All 15 item responses were scored on a 5-point scale. Once the scale was developed, the wording of a few items was rewritten after being evaluated by two experts. Then, a pilot study on 410 teachers was conducted to test the reliability and validity of the scale. An exploratory factor analysis of the 15 items using the maximum likelihood method with Varimax rotation was conducted. All items loading on two factors had eigenvalues greater than unity, accounting for 63.05% of the total variance. Therefore, a 15-item scale comprised curriculum autonomy and general teaching autonomy. The alpha reliability coefficients for these two factors were all .90 and .93 for the total scale.

Teacher Motivation Scale

Teacher Motivation Scale was developed based on the studies by Sanchez-Perkin (2002) and Ofoegbu (2004). In the presented study, teacher motivation included intrinsic and extrinsic dimensions. All item responses were scored on a 5-point scale. Once the scale was developed, two experts were invited to revise some of these items. Then, a pilot study on 410 teachers was conducted to test the reliability and validity of the scale. After an exploratory factor analysis of the 10 items using the maximum likelihood method with Varimax rotation had been conducted, all items loading on two factors had the largest eigenvalues, accounting for 68.64% of the total variance. A 10-item scale comprised intrinsic and extrinsic motivation. The Cronbach alpha coefficients of these two subscales were .90 and .85 and .88 for the total scale.

Results

Differences between School Types

A multivariate analysis of variance compared the mean scores of school types (elementary and secondary schools) on the scores of the perceived school value, teacher autonomy, and teacher motivation. The test for school type (Wilks'l=.83, F=14.68) was significant (p<.0001). Then, univariate F tests were further performed to investigate which variables contributed to the overall multivariate significance. As shown in Table 1, except in curriculum autonomy, elementary school and secondary school teachers differed significantly in the other variables. Based on mean scores, elementary school teachers scored higher on hierarchy, participation and communication, collaboration, professionalism and innovation, total scale of school value, general autonomy, total scale of teacher autonomy, intrinsic motivation, extrinsic motivation, and total scale of teacher motivation than secondary school teachers.

Correlations among School Value, Teacher Autonomy, and Teacher Motivation

Table 1. Means, standard deviation, and univariate F tests on school value, teacher autonomy, and teacher motivation (N=570)

Variable	Elementary School Teachers	Secondary School Teachers	F
	M SD	*M SD*	
Hierarchy	19.23 3.28	17.38 3.88	37.89**
Participation and Communication	23.35 3.20	21.23 3.60	55.56**
Collaboration	12.21 1.34	11.19 1.84	57.99**
Professionalism and Innovation	24.31 3.64	22.07 3.65	53.15**
Total Scale of School Value	79.09 9.32	71.87 10.93	72.45**
Curriculum Autonomy	36.81 4.71	36.25 4.74	2.05
General Teaching Autonomy	24.62 3.16	22.87 3.49	39.51**
Total Scale of Teacher Autonomy	61.44 7.39	59.16 7.34	13.98**
Intrinsic Motivation	20.86 2.45	19.65 2.89	29.22**
Extrinsic Motivation	19.59 3.01	18.66 2.84	14.27**
Total Scale of Teacher Motivation	40.45 4.67	38.31 4.81	28.95**

Note: * p<.05 ** p<.01

Correlational analyses were first made to analyze the relationships among school value, teacher autonomy, and teacher motivation. Correlation analyses showed that there were statistically significant positive relationships among all of them. Therefore, school value and teacher autonomy were highly correlated with teacher motivation.

Table 2. Summary of stepwise multiple regression for school value predicting teacher autonomy

Criterion Variables	Predictor Variables	*Beta*	Multiple R	Multiple R^2	*t*
Curriculum Autonomy	Hierarchy	.35	.45	.20	4.95**
	Professionalism and Innovation	.19	.47	.22	3.26**
	Participation and Communication	.18	.48	.23	2.27*
General Teaching Autonomy	Participation and Communication	.26	.49	.24	4.86**
	Professionalism and Innovation	.15	.52	.27	3.68**
	Hierarchy	.15	.53	.28	3.08**
Total Scale of Teacher Autonomy	Participation and Communication	.44	.49	.24	3.76**
	Hierarchy	.50	.53	.28	4.70**
	Professionalism and Innovation	.34	.55	.30	3.87**

Note: Multiple R and Multiple $R2$ (cumulative values) * $p<.05$ ** $p<.01$

Table 3. Summary of stepwise multiple regression for school value and teacher autonomy predicting teacher motivation

Criterion Variables	Predictor Variables	*Beta*	Multiple R	Multiple R^2	*t*
Intrinsic Motivation	General Teaching Autonomy	.13	.46	.21	3.36**
	Collaboration	.32	.54	.29	4.35**
	Curriculum Autonomy	.11	.56	.32	3.86**
	Professionalism and Innovation	.08	.57	.33	2.66**
	Hierarchy	.08	.58	.34	2.24*
Extrinsic Motivation	Participation and Communication	.09	.37	.14	1.90*
	Curriculum Autonomy	.13	.43	.18	4.72**
	Professionalism and	.11	.44	.20	2.92**
	Innovation Hierarchy	.09	.45	.21	2.08*
Total Scale of Teacher Motivation	Curriculum Autonomy	.22	.47	.22	4.55**
	Professionalism and Innovation	.21	.57	.32	3.90**
	Hierarchy	.22	.58	.34	3.60**
	General Teaching	.18	.59	.35	2.60**
	Autonomy Collaboration	.31	.59	.35	2.39*

Note: Multiple R and Multiple $R2$ (cumulative values) * $p<.05$ ** $p<.01$

Then, stepwise multiple regression analyses were computed to determine whether school value could predict teacher autonomy and whether both school value and teacher autonomy could predict teacher motivation. As summarized in Table 2, except for collaboration, the other three dimensions of school value, hierarchy, professionalism and innovation, participation and communication, were the significant predictors of curriculum autonomy, general teaching autonomy, and the total score of teacher autonomy.

The results of the multiple regression analyses for predicting teacher motivation are presented in Table 3. Except in participation and communication, three dimensions of school value and two dimensions of teacher autonomy were the significant predictors of the intrinsic motivation, whereas three dimensions of school value, participation and communication, professionalism and innovation, hierarchy, and one dimension of teacher autonomy, curriculum autonomy, were the significant predictors of the extrinsic motivation. Particularly, three dimensions of school value-professionalism and innovation, hierarchy, collaboration, and two dimensions of teacher autonomy-curriculum autonomy and general teaching autonomy, all combined to predict the total score of teacher motivation. Hence, both school value and teacher autonomy were the best predictors of teacher motivation.

Discussion

Regarding the measures of school value, teacher autonomy, and teacher motivation, the reliability and validity tests indicated that those scales have mostly adequate properties.

Since a series of educational reforms have been executed both at elementary and secondary schools in Taiwan, teacher autonomy and accountability both have become the focus of attention. Study on educational reforms generally suggested that teachers were eager to augment their authority over curriculum and instruction (Cranston, 2000). However, the role of an autonomous teacher requires investments of time and effort. Owing to the competition from the entrance examination, secondary school teachers have a heavier workload and more stress than elementary school teachers. Also, according to Maslowski (2001), the culture of a school is shaped by beliefs and values of organizational members towards school vision, curriculum, instruction, evaluation, and organizational structure. Then, to compare with secondary schools, elementary schools may create the conditions in which teachers, as empowered actors, can freely exercise their expert judgment, deal effectively with non-routine challenges, and, in turn, depend on

changed values and structures for self-advancement. Hence, the elementary school teachers scored higher on the values of hierarchy, participation and communication, collaboration, professionalism and innovation than the secondary school teachers. This finding was consistent with the study of Chung (1997), stating that elementary school teachers demonstrated higher teacher autonomy than secondary school teachers. Also, the elementary school teachers showed higher work motivation which supported the study of Dee, Henkin & Duemer (2003), indicating empowered teachers with increased task motivation. In terms of teaching and teacher education, motivation may determine what attracts individuals to teaching, how long they remain in their initial teacher education courses and subsequently the teaching profession, and the extent to which they engage in or concentrate on their courses and the profession (Sinclair, 2008). Particularly, the most important psychological factor that impacts on the efficiency of work performance is motivation (Bedny & Karwowksi, 2006). As a result, teacher motivation is considered as an essential factor for classroom effectiveness and school improvement (Ofoegbu, 2004).

As expected, school value correlated with teacher autonomy. Based on Pang (2006), teacher autonomy was considered as one component of school value which indicated that school value links to teacher autonomy. Another finding was that school value and teacher autonomy were the best predictors of teacher motivation. According to the studies of Pang (2001, 2006), most teachers indicated a greater preference for participation and collaboration, increased communication and consensus about the school goals, and greater discretion over professional decisions in their daily work. Also, Buelens & Van den Broeck (2007) found that public sector employees are less extrinsically motivated. Differences in hierarchical level are more important determinants of work motivation than sector differences. Therefore, if teachers can work in an environment with a more positive school value, they probably will show greater motivation towards their school work. Thus, school value was the best predictor of teacher motivation. Moreover, autonomy is a facet of teacher motivation (Losos, 2000). As such, autonomy enhances employees' motivation to put extra effort into their work (Chen & Chiu, 2009). Then, this finding supported the increasing attention being paid to the important effect of autonomy in the way teachers perceive and react to their work (Runhaar, Konermann, & Sanders, 2013). It was similar to other studies, which had demonstrated a link between teacher autonomy and teacher motivation, job satisfaction, stress, professionalism, and empowerment (Pearson & Moomaw, 2005). In short, school value and teacher autonomy were strongly associated with teacher motivation.

Conclusion

The measures of school value, teacher autonomy, and teacher motivation are reliable and valid, indicating that they would be useful tools for examining school organizations and teachers. Also, elementary school teachers demonstrated higher perceived school value, teacher autonomy, and teacher motivation than secondary school teachers. Finally, school value and teacher autonomy were the best predictors of teacher motivation. The implication for school organizations, particularly secondary schools, is that they should build up more positive school value and provide teachers with more autonomy, which in turn will evoke teacher motivation.

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