

## FACTORS PREDICTING KOREAN VOCATIONAL HIGH SCHOOL TEACHERS' ATTITUDES TOWARD SCHOOL CHANGE

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### Abstract

*The purpose of this study was to explain the relationship between the teachers' attitudes toward school change and their principals' perceived CFS (Change Facilitator Styles). The population studied consisted of Korean full-time vocational high school teachers (N=2,188) employed by the Daejeon and Chungnam Offices of Education during the 2003-2004 academic year. Two hundred and twenty-seven teachers were randomly selected from the 40 schools. Data were collected through a mailed questionnaire. The usable response rate was 99%. Overall, the teachers had positive attitudes toward school change in general, but they showed a relatively low level of willingness to take action in pursuing school change. Strikingly, of the 40 principals, not a single principal was perceived by teachers to be an Initiator. The majority of principals (29, 73%) were determined as Responders, and the remainder (11, 28%) were Managers. This study failed to reveal that principals' CFS was a meaningful factor for predicting teachers' attitudes toward school changes. Two points might plausibly contribute to these findings. An average of 2.5 years as a principal, with an average of 2 years in their current public vocational high school, might not have been long enough to effectively foster school change in cooperation with their teachers. Teachers with union membership tended to rate their principals as Responders while teachers without membership tended to rate their principals as Managers.*

### Introduction

Educational reform is prominent in the national agenda of almost every country. Secondary Career and Technical Education (CTE) is no exception. External and internal forces and pressures are combining to make change in the field of CTE more urgent than ever. Despite efforts to make the changes needed for educational excellence, concerns about education continue to arise, and some argue that schools remain untouched or even that some educational change efforts produce negative outcomes. Why is educational change so difficult to achieve? During the past several decades, many studies of so-called educational change theories and practices have been conducted to seek factors that have contributed to successful changes in education (Ellsworth, 2000; Evans, 1996; Fullan, 2001; Hall & Hord, 2001). One of the common pitfalls in these studies of educational change indicated is the tendency to overlook the premise that change in education is a highly dynamic and complicated process that demands much time

and commitment. Due to the need for a complementary relationship between the development and implementation of educational change, this study targeted the micro perspective of implementing educational change rather than the macro view of the policy-making process. More specifically, the key focus was the human aspects of the change process at the school level, that is, the key players such as teachers and principals who sit at the center of school change.

The teachers are the single most important factor in the successful implementation of school change (Blase & Kirby, 2000; Darling-Hammond, 2000; Evans, 1996; Fullan, 2001; Hall & Hord, 2001; Marks & Louis, 1999). Implementation is most successful when the teachers understand and agree with the reasoning behind the change (Reimers & McGinn, 1997). Teachers should be at the heart of the entire school in actively implementing school change (Sizer, 1984), but few studies have addressed teachers' attitudes about change in education, especially in the field of CTE in Korea.

### **Objectives**

The primary purpose of this study was to investigate factors predicting Korean vocational high school teachers' attitudes toward school change.

### **Research Questions**

This study was designed to answer the following research questions:

1. What are the demographic characteristics of Korean vocational high school teachers (gender, age, marital status, degree held, teaching subject, membership in teacher unions, years of teaching experience), principals (teaching subject as a teacher, total years as a principal, and years as a principal in present school), and schools (vocational program area, type of school, location of school, and size of school)?
2. What are the Korean vocational high school teachers' self-perceived attitudes toward school change?
3. What are the Korean vocational high school principals' Change Facilitator Styles (CFS) as perceived by their teachers?

### **Research Hypotheses**

This study was designed to investigate the relationship between the Korean vocational high school teachers' attitudes toward school change and their principals' change facilitator styles in Daejeon Metropolitan City and Chungnam Province. The research hypotheses were:

- There is a relationship between the principals' change facilitator styles as perceived by their teachers and the Korean vocational high school teachers' self-perceived attitudes toward school change.
- The most important predictor in explaining the variance of Korean vocational high school teachers' attitudes toward school change is the principals' change facilitator styles as perceived by their teachers.

### **Procedures**

The type of research in this study was *ex post facto* and conducted to explain the relationship between teachers' attitudes toward change and their principals' CFS, and, further, to predict the variability of the teachers' attitudes toward change from the knowledge of their principals' CFS. The dependent variable was the self-perceived attitudes toward school change of the full-time teachers. The main independent variable in this study was the principals' CFS as

perceived by their full-time teachers. The rival independent variables were selected demographic characteristics of teachers, principals, and schools.

### **Subject Selection**

The population studied consisted of full-time teachers at Korean vocational high schools, including both vocational teachers and non-vocational teachers, employed by the Daejeon Metropolitan Office of Education and Chungnam Office of Education during the 2003-2004 academic year. The total population was 2,188 teachers in the 40 vocational high schools located in the Daejeon and Chungnam areas. The sample size needed, based on the table provided by Krejcie & Morgan (1970), was 327 (15%) of the 2,188 teachers. Considering the main independent variable in this study was the principals' perceived CFS, all 40 vocational high schools were included in the sampling plan. A systematic random sampling technique, with a random starting point, was utilized to draw a sample in each school.

### **Outcome Measures**

The questionnaire consisted of three parts. Part 1 of the questionnaire, developed by Dunham, Grube, Gardner, Cummings, and Pierce (1989), measured teachers' self-perceived attitudes toward school change and contained 18 items. This questionnaire was validated as having three dimensions (cognitive, affective, and behavioral) from the previous studies by Dunham et al. (1989), Huang (1993), and Klecker and Loadman (1996). Dunham et al. (1989) reported Cronbach alpha coefficients of internal consistency for three dimensions, across the 364 student sample of 1985, using the inventory of attitudes toward change in general: .80 for the cognitive, .79 for the affective, .73 for the behavioral, and .90 for the total single dimension. In this study, internal consistency was measured using Cronbach's alpha reliability coefficient with the responses from the 322 teachers in the sample, and coefficients ranged from .72 to .88. A six-point Likert-type scale, ranging from 1= strongly disagree, 2= moderately disagree, 3= somewhat disagree, 4= somewhat agree, 5= moderately agree, to 6= strongly agree, was utilized in the questionnaire.

Part 2 was the questionnaire developed by Hall and George (1999), measuring the principals' CFS as perceived by their teachers, which included 30 items. Through many years of instrument refinement and pilot studies in many countries, the CFSQ instrument has been found to be valid and reliable, and determined to have three clusters with two scales (concepts) per cluster (Chauvin, 1992; Hall & George, 1999; Shieh, 1996; Vandenberghe, 1988). More importantly, the results of research made it clear that the CFSQ determines whether a principal is an Initiator, Manager, or Responder, based on the overall pattern of principal intervention behaviors in facilitating change at the school level. The internal consistency reliability coefficients for the six scales, based on a variety of studies from 1989 to 1994, were high, ranging from .76 to .88 (Hall & George, 1999). In this study, the researcher calculated internal consistency using Cronbach's alpha reliability coefficient with the data from 322 teachers and coefficients were from .67 to .83. A six-point Likert-type scale, ranging from 1= never or not true, 2= rarely true, 3= seldom true, 4= sometimes true, 5= often true, to 6= always or very true, was utilized.

The originally-developed English version of the questionnaires, consisting of a total of 48 items, was translated into a Korean version for vocational high school teachers. The translated Korean version was validated by a panel of experts, consisting of Korean professors and graduate students at The Ohio State University. Based on their responses, the Korean version of

the questionnaires was refined. The revised Korean version was back-translated into English in order to compare with the originally-developed English version.

Part 3 of the questionnaire collected demographic information on teachers, principals, and schools. In addition, in order to elicit more detailed information from the respondents, a space for free a comment on school change was provided.

### **Data Collection Procedures**

In order to achieve a high response rate and create respondent trust, data collection was carried out through the following procedures:

1. Obtained the lists of all vocational high school teachers (N=2,188) arranged by school, from the Daejeon and Chungnam Offices of Education in Korea.
2. Selected a random sample (n=327) in each vocational high school from the list of teachers.
3. Obtained the lists of vocational high school administrative-support staff members, arranged by school, from the Daejeon and Chungnam Offices of Education in Korea, and selected one support staff member in each school to assist in gathering data.
4. Mailed the pre-notice card to the teachers in the sample and the school support staff members selected.
5. Sent out the packages of questionnaires to the selected school support staff members.
6. Content for teachers: cover letter and Instrument, cover letter, and return envelope.
7. Content for school support staff members: cover letter and instrument, and stamped return envelope.
8. The staff member distributed the sealed questionnaire packets to each teacher whose name appeared on the envelope.
9. A phone call reminder was made to the support staff member in each school one week after the first mailing.
10. After completing the questionnaire, each teacher placed it in the return envelope, sealed it, and returned it to the staff member. The staff member placed the sealed envelope in the stamped return envelope provided.
11. The staff member completed the questionnaire concerning the demographic characteristics of his/her principal and school, and placed it in the stamped return envelope.
12. The staff member returned the stamped return envelope provided.

All data were received from the person who collected data in Korea via UPS. The data from the schools in the Daejeon area returned the questionnaire quickly, with a return rate of 100%. However, the data from the schools in Chungnam, which are spread out over a relatively large geographic area compared to Daejeon, took longer to be received, with a response rate of 98%. The overall usable response rate was 99%. In order to control for non-response error, respondents were divided into two groups (Miller and Smith, 1983). In this study, teachers in Daejeon who returned the questionnaire earlier were designated early respondents, and late respondents were those teachers in Chungnam who returned it later. At the alpha level of .05, a t-test ( $t = .21, df=320, p > .05$ ) between the two groups showed no statistically significant difference in the dependent variable. Therefore, the results can be generalized to the population of the Daejeon and Chungnam vocational high school teachers within the sampling error.

### Data Analysis

The data gathered from the responses were encoded and analyzed utilizing the SPSS Version 10.0. Both descriptive and inferential statistics were used according to the nature of the research questions and hypotheses. Relational statistics, appropriate for the scale of measurement, were calculated to determine relationships among variables. In addition, to analyzing the scaled data, the written comments to the open-ended question on school change were carefully reviewed and organized into themes that emerged across the responses.

### Results

*Research Question 1. What are the demographic characteristics of Korean vocational high school teachers, principals, and schools?*

The typical vocational high school teacher in Daejeon and Chungnam areas was a married male with an average age of 42, had education beyond a Bachelor's degree, and has been teaching for an average of 17 years. Teaching staff were comprised of vocational teachers (59 %) and academic teachers (41%). Thirty percent of the teachers had membership in teacher unions. Of the 40 principals in the study, the average years of experience as a principal was 3.8 years, the average years of experience in the present school was 7 years, and 20 had been vocational teachers and 20 non-vocational teachers. Differences were found between public and private vocational high schools. The private schools had more principals who had been non-vocational teachers (67%) than the public schools (43%). The principals working in the private schools had an longer average years of experience (6.8 years) as a principal, and stayed longer (an average of 18 years) in a current school than those in the public schools

Of the 40 schools in the study, 18 schools offered industry-related vocational programs and the same number of schools offered commercial vocational programs. Twenty-eight schools (70%) were public, 16 schools (40%) were located in big cities, and the average number of students in each school was 751, with a range of 147 to 1740 students.

*Research Question 2. What are the Korean vocational high school teachers' self-perceived attitudes toward school change?*

In terms of the total grand mean (4.1) on a six-point Likert-type scale, ranging from 1=strongly disagree to 6=strongly agree across 18 items, teachers who participated in the study had favorable attitudes toward school change in general even though the average was not at a high level (Table 1). More specifically, the cognitive dimension had the highest mean rating (4.3), followed by the affective dimension (4.1). The behavioral dimension obtained the lowest average rating (3.8).

Teaching subject and years of teaching experience among teacher demographic variables showed that the mean difference(s) of the groups was statistically significant. Non-vocational (academic) teachers showed a higher mean rating (4.2) than vocational teachers (mean=4.0). More specifically, academic teachers had more positive attitudes toward school change on cognitive dimension than their vocational counterparts. Practically, the magnitude of a mean difference between the two groups on cognitive dimension was relatively small (estimated effect size = .4). This result indicates that academic teachers recognized the need for and benefits of change more than vocational teachers did.

In addition, teachers who had been teaching for 11-20 years had a higher mean rating (4.2) than teachers with 1-10 and over 20 years in teaching (mean=4.0). A further *post hoc* analysis, using Tukey HSD, showed that the mean difference between teachers who have taught

for 11-20 and teachers with 1-10 years in teaching was significant at the .05 level. More specifically, teachers with 11-20 years in teaching had more positive attitudes toward school change on cognitive dimension than teachers with 1-10 years. In a practical manner, the magnitude of a mean difference between the two groups was medium (estimated effect size = .5). This result indicates that teachers who have taught for 11-20 years strongly perceived the rationale for school changes and their benefits than teachers with 1-10 years in teaching. The remaining demographic variables (teacher variables: gender, marital status, educational level, and membership in teachers' unions; principal variables: teaching subject as a teacher; and school variables: vocational program area, type of school, location of school, and size of school) showed that they were not good predictors of teachers' attitudes toward school change in general.

*Research Question 3. What are the Korean vocational high school principals' change facilitator styles as perceived by their teachers?*

The principals' CFS as perceived by their teachers were determined by using the change facilitator style questionnaire (CFSQ) with a 6-point Likert-type scale, ranging from 1=never true to 6=always or very true. The data from the CFSQ in the study showed similar features and patterns on the psychometric qualities of the CFSQ such as reliability coefficients, intercorrelations, means and standard deviations of the six scales, in comparison with the results of the study from the norm group of 1,189 CFSQ ratings by Hall and George (1999, p 178), who developed the CFSQ. These results indicate that the CFSQ might be applicable to Korean case.

**Table 1. Means and Standard Deviations of the Teachers' Attitudes toward School Change (n=322).**

Dimension	Item #	Item Statement	M	SD
Affective	3	*I usually resist changes	4.7	1.1
	4	*I don't like change	4.6	1.1
	13	*Most changes at my school are irritating	4.3	1.1
	18	*I usually hesitate to try changes	4.1	1.1
	12	I often suggest changes for my school	3.7	1.1
	7	*Change frustrates me	3.3	1.1
Dimension Average			4.1	.7
Cognitive	1	I look forward to changes at my school	5.0	.9
	2	Change usually benefits my school	4.8	.9
	9	I usually support changes	4.4	.9
	6	I am inclined to try changes at my school	4.2	1.0
	11	Other school staff think that I support change	4.0	1.0
	5	Most school staff benefit from change	3.6	1.2
Dimension Average			4.3	.7
Behavioral	10	Changes tend to stimulate me	4.5	.9
	14	Change helps improve unsatisfactory situations at my school	4.1	1.1
	8	Change often helps me perform better at my school	4.0	1.1
	15	I intend to do whatever possible to support change	3.9	1.1

	16	I find most changes to be pleasing	3.5	1.1
	17	I usually benefit from change	3.1	1.0
Dimension Average			3.8	.7
Total Dimension Average			4.1	.6

Note. \* Negatively stated items were reversed.

M=Mean; SD=Standard Deviation; Scale: 1=Strongly Disagree to 6=Strongly Agree.

According to the final outcome concerning the principals' CFS as perceived by their teachers, surprisingly (Table 2), no principal was designated as an Initiator. Twenty-nine (73%) of the 40 principals were identified as Responders and the rest (n=11, 28%) were Managers. In Daejeon, one-half (50%) of the principals were classified as Managers (n=6) and 50% as Responders (n=6). In Chungnam, Responder principals (n=23, 82%) outnumbered Manager principals (n=5, 18%). According to the number of teachers' ratings on principal's CFS, only six teachers (2%) out of 322 respondents rated their principals as Initiators, 106 teachers (33%) rated their principals as Managers, and the rest of the teachers (n=210, 65%) rating them as Responders.

**Table 2. Frequencies and Percentages of the Principals' Perceived CFS for Daejeon and Chungnam (n=40).**

CFS	Daejeon		Chungnam		Total	
	f	%	f	%	f	%
Initiator	0	0	0	0	0	0
Manager	6	50	5	18	11	28
Responder	6	50	23	82	29	73

A significant difference in principals' CFS ratings was found between teachers with union membership and teachers without membership by using a Chi-square test. Teachers with membership in the teachers' union tended to rate their principals as Responders while teachers without membership in teachers' union tended to rate their principals as Managers.

**Table 3. A Chi-square Test of Goodness of Fit for Membership in Teacher Unions by CFS.**

		CFS		Total
		Manager	Responder	
Teachers with membership in teacher unions	Count	19	72	91
	% within CFS	18.3%	35.5%	29.6%
Teachers without membership in teacher unions	Count	85	131	216
	% within CFS	81.7%	64.5%	70.4%
Total	Count	104	203	307
	% within CFS	100%	100%	100%

$\chi^2=9.754$ ;  $df=1$ ;  $p<.05$ .

*Research Hypothesis 1: There is a relationship between the principals' change facilitator styles as perceived by their teachers and the Korean vocational high school teachers' self-perceived attitudes toward school change.*

A t-test was appropriate to examine the relationship, rather than a one-way ANOVA, as originally planned, because no Initiator principal was found in this study. As shown in Table 4, the t-test between teachers with Manager principals and teachers with Responder principals on teachers' attitudes toward school change showed no mean difference statistically ( $t = .27$ ,  $df = 320$ ,  $p > .05$ ). This result indicates no relationship between the principal's CFS and teachers' self-perceived attitudes toward school change in general.

**Table 4. Principals' Perceived CFS and Teachers' Overall Attitudes toward School Change.**

Main Independent Variable	N	Mean	SD	t-test for Equality of Means		
				t	df	Sig. (2-tailed)
Manager principals	85	4.07	.55	.27	320	.79
Responder principals	237	4.09	.61			

*Research Hypothesis 2. The most important predictor in explaining the variance of Korean vocational high school teachers' attitudes toward school change is the principals' change facilitator styles as perceived by their teachers.*

Hierarchical multiple regression was supposed to be used to test the hypothesis, that is, to determine to what extent teachers' self-perceived attitudes toward change could be predicted from the principals' CFS. However, no further analysis was made because this study failed to reveal that principals' CFS (the main independent variable) was a meaningful factor for predicting the teachers' attitudes toward school changes (the dependent variable).

*Open-Ended Responses on School Change.* Sixty-seven teachers expressed their views by providing additional thoughts regarding change in vocational high schools. The comments were grouped into four themes: the need for school change; school change process and implementation; the current state of secondary vocational education; and suggestions for vocational education reform agendas. The majority of the respondents addressed the critical need for changes in vocational high schools. Some of the representative comments on implementation of school change were that change should be gradual, student-centered, and based on a field-oriented approach to reflect each school's unique circumstances. Many of the teachers expressed concern about declining enrollment in vocational high schools and vocational high school students' lack of academic skills. They also criticized many of the changes currently taking place in schools. They emphasized the need to change public perception of vocational education and to pursue large-scale changes based on the needs of the students. Tech-prep, national curriculum revision, more basic academic skills, and more funding for students' scholarships and up-to-date facilities and equipment were among the agenda items that emerged. One pattern that was revealed in the teachers' comments was a difference in focus between academic and vocational teachers. Academic teachers emphasized the needs of the students, whereas vocational teachers had a more labor-oriented approach.

### **Conclusions/Educational Importance**

This study failed to reveal that principals' CFS (the main independent variable) was a meaningful factor for predicting the teachers' attitudes toward school changes (the dependent variable). Even though no relationship was found between the teachers' self-perceived general attitude toward school change and their principals' CFS as perceived by the teachers, the researcher still firmly believes that a strong positive association might exist. In an interview with Goldberg (2000), John Goodlad emphasized the importance of the relationship between change and leadership, stating, "One of the major reasons why schools don't change is that change needs leadership. It needs committed, intelligent leadership, an agenda, an awareness of the conditions that have to be put in place, a grasp of the strategies that one has to use to effect change" (p. 84).

Korean schools, especially high schools, have long been criticized for the tendency to maintain stability as the most cherished norm without any system to push or motivate school leaders and teachers to initiate changes. According to the major findings of this study, the teachers in the sample had a relatively low level of intention to take action in facilitating change, and most of the principals were perceived as having the kind of intervention behaviors that are least likely to promote school change. Assuming that attitudes are often a good tool for predicting future behaviors (Ajzen & Fishbein, 1980), this result appears to show that the schools have a lack of confidence in pursuing changes. Secondary vocational education is in a state of urgency calling for major changes. If this culture of maintaining stability continues in the school community, schools will have difficulties in implementing changes. Moreover, the teachers' union movement might contribute to principals' increasing this tendency. Thus, those teachers and principals who are passionate about bringing about school changes can encounter a sense of frustration with the school norm of maintaining stability at all costs.

In sum, policymakers and administrators in national and regional educational institutions should take the necessary steps, in cooperation with major stakeholders such as teachers and principals, (a) to understand the complex nature of educational change and the time and commitment it requires, (b) to develop a system to motivate school leaders and teachers to move schools forward, (c) to provide opportunities for professional development activities for teachers and school leaders to learn more about educational change and its implementation, (d) to review the policies concerning preparation programs and selection and assignment procedures for prospective teachers and principals in light of change leadership considerations, and (e) to support and reward teachers and principals who take action to foster or lead change initiatives.

For further study, several comments can be made. This study was exploratory and descriptive in nature. Due to limited time and resources, data were gathered for a single point in time using a mailed questionnaire. However, change is by nature an ongoing process that takes place over a longer period of time. A longitudinal study that follows subjects over a long period of time, or qualitative studies such as teacher interviews, would be likely to help provide richer information to better understand the subject matter of this study.

This study used one method – teachers' perception – to investigate teachers' attitudes and their principals' change leadership styles. For comparison, other measures, such as principals' attitudes or parents' attitudes, are recommended to investigate the same factors.

This study determined the teachers' general attitude toward school change without giving a specific change initiative. Dunham et al. (1989) made it clear that "attitudes toward change in general are distinct from attitudes toward specific changes" (p.10). Therefore, if the inventory of attitudes toward school change was used in a context of specific change initiatives, with the same population used in this study, the results might be different.

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