A STUDY OF MODERATING EFFECT OF THE INNOVATION ON THE STUDY OF SCHOOL REFORM AND EFFICIENCY

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-----------------------------------ABSTRACT-----------------------------------

Today, education environment with declining birthrates, schools should not only emphasize how to improve the quality of education, arouse students' interest in learning, stimulate their learning potential, and achieve educational goals; instead, they need to seek strategies to stabilize school management.

This study takes college students as the research object, adds elements of the students' perceptual innovation atmosphere, and explores the impact of school reform on school effectiveness; and discusses its reconciling effect between school reform and school effectiveness.

The results of the study show that, school changes was positively and significantly affect school effectiveness; and the innovation atmosphere had moderating effects on school effectiveness, there are in school software changes and school hardware changes, respectively.

KEYWORDS: *School Change, Innovation Climate*--

MOTIVATION

There are many colleges and universities, coupled with the phenomenon of declining birthrates, resulting in competition among schools with high homogeneity. In order to be competitive, in addition to emphasizing the improvement of teaching quality, the school should focus on finding the characteristics of the school's differentiation, so that the school's operation can continue to maintain or break through the predicament.

The reform of the school is a trend that meets the teaching needs of modern students. Many studies have also confirmed that school changes will have a significant impact on school effectiveness (Du Qiwang, 2001; Huang Yulin, 2006). In addition to the reform of the school in accordance with the current teaching ecology, it is also necessary to seek a niche where the school can survive in order to operate stably. Innovation as a factor is can a new concept to enhance school effectiveness.

Innovation is a new concept applied in the school industry. Through the development of innovative activities, schools can differentiate their teaching services, which can not only attract students' interest, improve teachers' teaching opportunities, and increase the effectiveness of schools. Therefore, innovation is an important key to the school's differentiated management.

LITERATURE REVIEW

School change refers to the change of the school's internal situation to promote the school to achieve the school's educational goals more effectively (Fidler, 1996).

For school organizational change to be successful, Leslie (2000) believes that the school organizational change strategy it implements must be systematic and connected.

After conducting actual research and investigation on the school. Leslie (2000) believes that the direction of school organizational change should be as following:
1. Develop a culture and context that supports school organizational change.
2. Develop and communicate a common vision for the development of the school organization.
3. Plan and provide the necessary resources for school organizational change.
4. Support and assist the professional development of school organization members.
5. Monitor and review the promotion process of school organizational change.
6. Continue to provide relevant support to school organization members.

From an economic perspective, innovation is defined as the concept of using inventions and discoveries to promote economic development (Drucker, 1986). Damanpour (1991) believes that innovation can be viewed by a variety of indicators. It is the use of activities that are naturally generated within the organization or purchased from outside the organization, and this activity covers equipment, systems, policies, programs, processes, products, and services.

Organizational innovation is a process, an organized, systematic, and rational work (Schumpeter, 1928). Wycoff (2002) pointed out that innovation is a planned change in order to acquire the ability to engage with new opportunities. Robbins (1996) believes that innovation should be a new idea that can be applied to initiate or enhance a product, process, or service. Therefore, organizational innovation should also include product innovation, new production process technology, new structure, management system, new plans and management solutions, etc.

The development of organizational innovation activities is nothing more than to enhance organizational effectiveness.

Effectiveness is the degree to which an organization can effectively achieve its goals within a certain period of time (Robbins and DeCenzo, 1995). Mondy et al. (1986) proposed that effectiveness is the degree to which a process must achieve results.

Weber (1971) uses seven points to measure school effectiveness:
1. Strong curriculum leadership.
2. High expectations for students.
3. Good weather.
4. Pay more attention to reading.
5. The use of pinyin.
6. Individualized teaching.
7. Carefully evaluate the progress of students.

Chance (1991) uses five points to measure school effectiveness:
1. Strong teaching leadership.
2. High expectations for students.
3. Active and orderly learning environment.
4. Pay attention to teaching activities.
5. Regularly evaluate five variables including students' learning achievements.

Reid et al. (1987) believe that school effectiveness can be divided into eleven ranges:
1. School Leadership.
2. School Management.
3. School Atmosphere.
4. Discipline.
5. Teachers and Teaching.
6. Curriculum.
7. Student Learning.
8. Reading.
9. Student Care.
10. School Architecture
11. School Size.

Related the organizational will changes, the learning experience of employees can be enhanced (Taut, 2005). The important factors for the success of organizational change, managers, promoters and actors, must learn from each other. School reorganization will positively affect school effectiveness (Du Qiwang, 2001; Huang Yulin, 2006). Therefore, it is worthy of research to add the atmosphere of innovation to the research model to explore its impact on school transformation and school effectiveness.

RESEARCH FRAMEWORK AND HYPOTHESIS DERIVATION
This research uses the three constructs of school change, innovation atmosphere, and school effectiveness to play the research framework, and shown in Figure 1; and proposes the following research hypotheses.
H1: School changes will positively affect effectiveness.
H2: The atmosphere of innovation will have a significant effect between school reform and effectiveness.
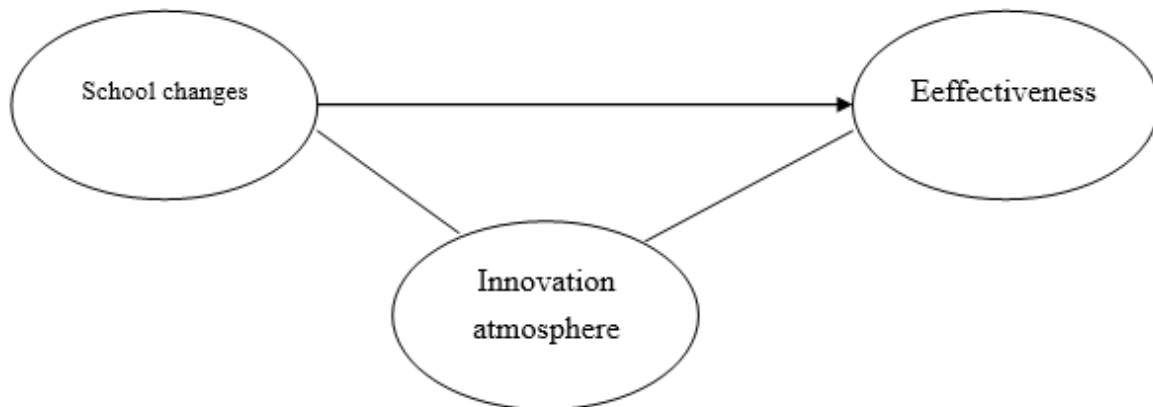

Figure1   Research framework

QUESTIONNAIRE DESIGN ITEMS

School change
1. The functions of the various rooms and organizations of the school are properly performed
2. The school has established a sound teacher evaluation system
3. The school purchases various equipment in a timely manner
4. The school maintains various equipment in a timely manner
5. The school has made full use of the Internet to convey various messages
6. School information is transparent
7. The school has the ability to improve teachers' application of Internet technology
8. School teachers adopt a step-by-step approach to explain the course
9. School teachers form different learning teams to enhance teacher growth
10. The school teachers and students have established a vision of common development

Innovation atmosphere
1. The school has a clear development vision to guide students' innovative thinking
2. The school stimulates students' creativity through innovative campus layout
3. The school handles multiple club activities to inspire students' multiple intelligences
4. The evaluation methods of school creativity are diversified
5. The school provides creativity-related courses to students
6. The school organizes various innovation activity competitions
7. The school has a unique cultural identification flag
8. The activities organized by the school are distinctive
9. Students can show their creativity in activities inside and outside the school
10. The school continues to develop special courses (such as art, exploration, green technology and other related courses)

Effectiveness
1. The school communicates smoothly with parents
2. The campus is full of learning atmosphere
3. Teachers are serious in teaching
4. Outstanding performance of students in off-campus competitions
5. Teachers' professional knowledge continues to improve
6. The teaching resources provided by the school can meet the needs of students
7. The school's operation is affirmed by the community and parents
8. The rate of student repetition or drop-out is reduced due to remedial teaching measures
9. Parents can be informed of students' movements instantly

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4. Empirical Verification

In this study, 400 questionnaires were distributed. After eliminating invalid questionnaires, 343 valid questionnaires were returned, and the effective response rate was 86%.

For the analysis of the items in each aspect, the aspects of the school reform are shown in Table 1.

The average degree of agreement among the interviewed students is between "No opinion" and "Agree" except for the item "The school maintains various equipment in a timely manner". The question that interviewed students most agree with the school reform is ``The school has made full use of the Internet to convey various messages". "The school maintains various equipment in a timely manner" and "The school purchases various equipment in a timely manner" are the school change items with the least recognition from students' perception.

Table 1   Students' perception of school change

Items	mean
4. The school maintains various equipment in a timely manner	2.97
3. The school purchases various equipment in a timely manner	3.04
1. The functions of the various rooms and organizations of the school are properly performed	3.21
6. School information is transparent	3.27
10. The school teachers and students have established a vision of common development	3.29
2. The school has established a sound teacher evaluation system	3.40
7. The school has the ability to improve teachers' application of Internet technology	3.41
8. School teachers adopt a step-by-step approach to explain the course	3.45
9. School teachers form different learning teams to enhance teacher growth	3.46
5. The school has made full use of the Internet to convey various messages	3.48

Among the dimensions of innovation atmosphere, as shown in Table 2, " The school organizes various innovation activity competitions " was most recognized by the interviewees (m=3.54). The next ones are "The school continues to develop special courses (such as art, exploration, green technology and other related courses)" (m=3.50), "The school provides creativity-related courses to students" (m=3.46), " Students can show their creativity in activities inside and outside the school" (m=3.44), and "The school has a clear development vision to guide students' innovative thinking" (m=3.36). And ``The school stimulates students' creativity through innovative campus layout" and ``The school handles multiple club activities to inspire students' multiple intelligences" are the two items with relatively low recognition from respondents (m=3.20).

Table 2   Students' perception of innovation atmosphere

Items	mean
2. The school stimulates students' creativity through innovative campus layout	3.20
3. The school handles multiple club activities to inspire students' multiple intelligences	3.20
8. The activities organized by the school are distinctive	3.20
7. The school has a unique cultural identification flag	3.33
4. The evaluation methods of school creativity are diversified	3.34
1. The school has a clear development vision to guide students' innovative thinking	3.36
9. Students can show their creativity in activities inside and outside the school	3.44
5. The school provides creativity-related courses to students	3.46
10. The school continues to develop special courses (such as art, exploration, green technology and other related courses)	3.50
6. The school organizes various innovation activity competitions	3.54

In terms of school performance, "Outstanding performance of students in off-campus competitions" (m=3.57) is the most recognized by respondents, followed by "Teachers' professional knowledge continues to improve" (m=3.50), and "Teachers are serious in teaching" (m=3.47). "The campus is full of learning atmosphere" (m=2.88) was the item most disagreed with by the interviewees, indicating that the interviewees generally felt that the learning atmosphere on campus was not that strong (Table 3).

Table 3   Student's Perceived Efficac

Items	mean
2. The campus is full of learning atmosphere	2.88
1. The school communicates smoothly with parents	3.12
6. The teaching resources provided by the school can meet the needs of students	3.15
7. The school's operation is affirmed by the community and parents	3.19
9. Parents can be informed of students' movements instantly	3.20
8. The rate of student repetition or drop-out is reduced due to remedial teaching measures	3.23
3. Teachers are serious in teaching	3.47
5. Teachers' professional knowledge continues to improve	3.50
4. Outstanding performance of students in off-campus competitions	3.57

MODEL ANALYSIS

The initial model has been verified, and its RMSEA is greater than 0.08, which exceeds the acceptable value; therefore, the model needs to be corrected.

The correction procedure of the model is based on the correction procedure suggested by Baggzo and Yi (1988). The largest standardized residual value SRC in the model is deleted.

As shown in Figure 1. The research model has deleted 4 items of school effectiveness (SE5, SE6, SE7, SE8), and the overall model has been optimized. Its RMR=0.03, CFI=0.97, GRI=0.97, AGFI=0.93, RMSEA=0.07. The revised mode is the most suitable model.

The test results of the research show that, as shown in Table 5, school reform has a positive and significant impact on school effectiveness (p<0.01). After adding the innovation atmosphere as a reconciling variable, it also reaches Significant impact (p<0.01).

CONCLUSION

This study demonstrates that school reform has a positive and significant impact on school effectiveness; and, the atmosphere of innovation also has a reconciling effect in school reform and school effectiveness.

The results of the study show that, in order to increase competitiveness, schools, in addition to changing the school's internal organization, and focusing on the development of innovative activities, their innovative activities will further increase the school's operating performance; this will also put the school in fierce competition. In the environment, differentiated features are produced.

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