# Application of SECI model in ideological and political education of university students

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**Abstract**

Strengthening ideological and political education of university students is of great significance to help university students establish a correct outlook on world, life and value, and enhance their political enthusiasm and quality. However, from the perspective of current situation of ideological and political course teaching for university students, the effect is not particularly desirable. SECI model theory, as a core theory of knowledge management, elaborates the process of constant interaction between tacit knowledge and explicit knowledge. With SECI theoretical model as the basis and from the empirical perspective, this paper verifies the effect of SECI theory in the process of ideological and political education, and based on this, proposes targeted measures to improve the effect of ideological and political education.

*Keywords*: SECI, ideological and political education, knowledge internalization, empirical analysis

## 1 Introduction

The four knowledge conversion modes, Socialization, Externalization, Combination and Internalization, constitute the SECI model theory, which is particularly important for knowledge management. It was first proposed by Japanese scholars Nonaka and Hirotaka Takeuchi, and immediately had a wider impact. This theoretical model elaborates the process of constant interaction between tacit knowledge and explicit knowledge. Through above-mentioned four modes, it gradually spreads to different levels such as individual, group and organization, constituting the so-called "knowledge spiral" [1-3], thus promoting knowledge diffusion, implanting and accumulation. However, the application of this model is not first in the field of education, but in the field of management [4-7]. In this regard, in the context of extensive application of this model, the author starts the following discussions by combining relevant information.

## 2 SECI model theory

Figure 1 shows the implementation model of knowledge innovation. According to this figure, knowledge acquisition and innovation depend on constant conversion between tacit knowledge and explicit knowledge. Through the forms and methods of knowledge creation spiral, individuals and organizations combine knowledge points scattered everywhere, integrate them into different carriers for further coordination, thus forming a constant recycling process of knowledge acquisition from knowledge circulation, integration, to transfer and accumulation [8-10]. Polanyi believed that the form of knowledge acquisition taken by people was essentially the process of active creation, organization and integration of personal experience. In other words, knowledge that can be expressed in the form of text or number actually only represents a tip of the iceberg of all knowledge. Therefore, Polanyi believed that, we knew more than we could say.

From the perspective of knowledge internalization mechanism, in fact, human knowledge internalization undergoes the following four processes: 1) formation of tacit knowledge; 2) conversion of tacit knowledge to explicit knowledge; 3) reconversion of explicit knowledge to explicit knowledge; 4) conversion of explicit knowledge to tacit knowledge. The four processes successively move forward from the time perspective, and advance level by level from the logical perspective. The former is the basis and foundation of the latter and the latter is the deepening and development of the former.

In summary, in the process of knowledge internalization, tacit knowledge and explicit knowledge are in a dynamic state of constant conversion. Figure 2 shows the evolution mechanism of knowledge internalization based on theory of knowledge spiral.

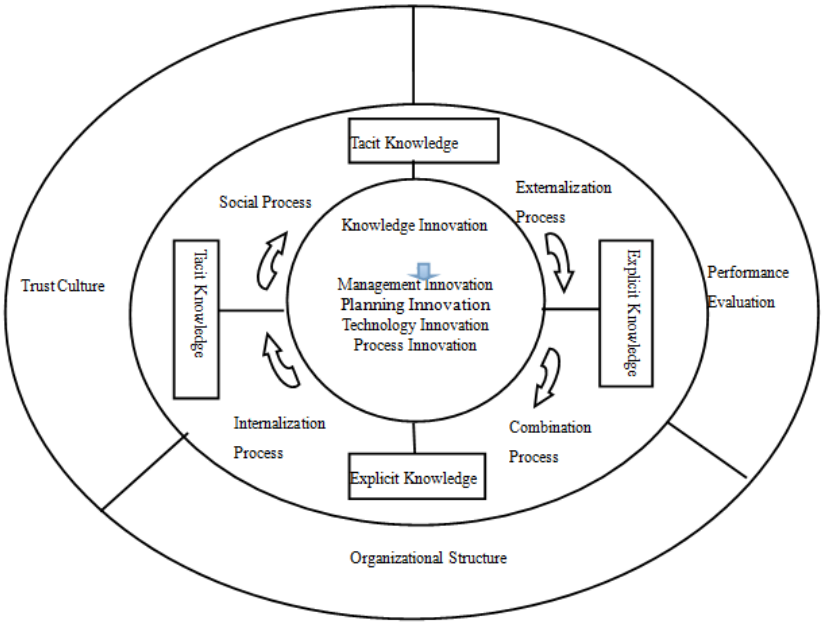


FIGURE 1 Implementation model of knowledge innovation

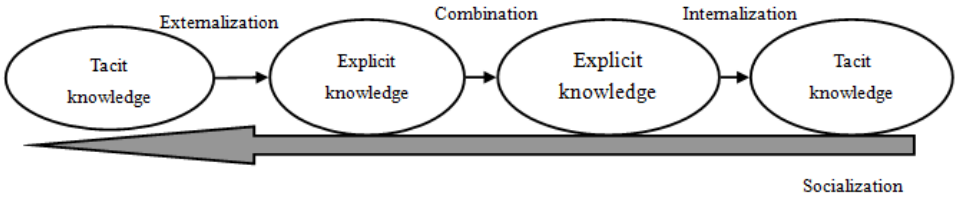


FIGURE 2 Evolution mechanism of knowledge internalization based on theory of knowledge spiral

## 3 Empirical analysis and results

### 3.1 PRELIMINARY ANALYSIS OF SURVEY RESULTS

The main objects of this survey are 2013-grade students in College of Management of a university. 210 pieces of questionnaire were released and 143 effective pieces were recovered, so the recovery rate was 68.10%. In the effective questionnaires, 31 pieces came from administrative management major, 44 pieces from information management major, 27 pieces from marketing major, and 41 pieces from business administration major. Based on the survey and statistics of 3 dimensions in the implementation process of knowledge innovation, the mean and standard deviation of each survey item were respectively calculated. The survey and statistical results are shown in Table 1.

TABLE 1 Descriptive statistics of research variables

| | Research Content | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Knowledge management | Knowledge socialization and knowledge externalization | 3.47 | 0.74 | 2 | 5 |
| | Knowledge internalization | 3.78 | 0.67 | 2.33 | 5 |
| | Knowledge combination | 3.91 | 0.66 | 2.5 | 5 |
| Organizational factors | Performance evaluation | 3.5 | 0.7 | 2 | 5 |
| | Trust culture | 3.58 | 0.66 | 1 | 5 |
| | Organizational structure | 3.32 | 0.76 | 1.5 | 5 |
| Organizational innovation | Management innovation | 2.98 | 0.76 | 1.5 | 4.5 |
| | Planning innovation | 3.41 | 0.68 | 1 | 4.67 |
| | Technical innovation | 3.41 | 0.71 | 2 | 5 |
| | Workflow innovation | 3.53 | 0.73 | 2 | 5 |

In the survey items of knowledge management, the mean values of knowledge socialization and knowledge externalization, knowledge internalization, and knowledge combination are respectively 3.47, 3.78 and 3.91, indicating that the overall situation of implementation of ideological and political teaching management of the college is good. The mean values of performance evaluation, trust culture and organizational structure in the organizational factors are respectively 3.50, 3.58 and 3.32, indicating that the college has the organizational environment available for implementation of knowledge management. The mean values of four survey items in the organizational innovation

are respectively 2.98, 3.41, 3.41 and 3.53, indicating that the college's organizational innovation capabilities are in good condition except of management innovation.

## 3.2 CORRELATION ANALYSIS OF SURVEY FACTORS

Correlation analysis is a method to dig out causal relationship between variables or common factors (two variables are the results, which have the potential common cause). Significant difference is an important indicator of correlation evaluation between the variables. Under normal circumstances, $P > 0.05$ indicates insignificant difference, $0.01<P<0.05$ indicates significant different, $P <0.01$ indicates extremely significant different. Through correlation analysis, this research verifies the incidence relations between variables such as organizational factors and knowledge management, and knowledge management and organizational innovation. The specific analysis is as follows.

### *3.2.1 Correlation analysis of organizational factors and knowledge management*

Table 3 shows the correlation analysis of organizational factors and knowledge management. Through data analysis in the table, we can find that performance evaluation and organizational structure in organizational factors are in a significant positive correlation with the four conversion models in knowledge management; trust culture shows a relatively significant positive correlation with knowledge internalization as well as combination, but insignificant correlation with knowledge socialization and externalization. However, on the whole, the positive correlation between organizational factors and knowledge management is relatively significant, indicating that organizational knowledge conversion and creation will be positively influenced by scientific performance evaluation method, flat organizational structure as well as trusted employee relations.

TABLE 2 Correlation analysis of organizational factors and knowledge management

| | **Performance evaluation** | **Trust culture** | **Organizational structure** | **Knowledge socialization and knowledge externalization** | **Knowledge internalization** | **Knowledge combination** |
|---|---|---|---|---|---|---|
| Performance evaluation | 1 | 0.533*# | 0.253+ | 0.338*# | 0.232* | 0.370*# |
| Trust culture | | 1 | 0.304* | 0.139 | 0.389*# | 0.310* |
| Organizational structure | | | 1 | 0.385*# | 0.293* | 0.287* |
| Knowledge socialization and knowledge externalization | | | | 1 | 0.45*# | 0.499*# |
| Knowledge internalization | | | | | 1 | 0.480*# |
| Knowledge combination | | | | | | 1 |

Note: *# represents p <0.01, * represents p <0.05, + represents p <0.1

### *3.2.2 Correlation analysis of knowledge management and organizational innovation*

Table 3 shows a correlation analysis of knowledge management and organizational innovation. It can be seen from the table that there is a significant positive correlation among the knowledge socialization, internalization and externalization in knowledge management as well as such four items as the management, planning, technology and workflow in organizational innovation. However, knowledge combination does not have significant correlation with management innovation, but a significant positive correlation with those three innovation contents like planning, technology and workflow. That is to say, the efficiency level of knowledge combination does not have direct impacts on the degree and performance of organizational management and innovation. But on the whole, the positive correlation between knowledge management and organizational innovation is still significant, and the better the former is, the stronger its role will be in promoting the latter.

TABLE 3 Correlation analysis of knowledge management and organizational innovation

| | **Knowledge socialization and externalization** | **Knowledge internalization** | **Knowledge combination** | **Management innovation** | **Planning innovation** | **Technological innovation** | **Workflow innovation** |
|---|---|---|---|---|---|---|---|
| Knowledge socialization and externalization | 1 | 0.450*# | 0.499*# | 0.459*# | 0.387*# | 0.426*# | 0.475*# |
| Knowledge internalization | | 1 | 0.480*# | 0.261* | 0.439*# | 0.563*# | 0.438*# |
| Knowledge combination | | | 1 | 0.235 | 0.298* | 0.376*# | 0.296* |
| Management innovation | | | | 1 | 0.595*# | 0.377*# | 0.552 |
| Planning innovation | | | | | 1 | 0.412*# | 0.572*# |
| Technological innovation | | | | | | 1 | 0.506*# |
| Workflow innovation | | | | | | | 1 |

Remarks: *# denotes p < 0. 01, * denotes p < 0. 05 and + denotes p < 0. 1

## 3.3 REGRESSION ANALYSIS

### *3.3.1 Analyses on the impact of organizational factors on knowledge management*

As shown in Table 4, independent variables are set as the performance appraisal, trust culture and organizational structure of organizational factors, and dependent variables are set as the knowledge socialization, knowledge externalization, knowledge internalization and knowledge combination of knowledge management. Next, stepwise regression method is used for an analysis, the result as shown below:

TABLE 4 Regression analysis of organizational factors and knowledge management

| | **Regression Model I: Knowledge socialization and knowledge externalization** | **Regression Model II:Knowledge internalization** | **Regression Model III:Knowledge combination** |
|---|---|---|---|
| Performance appraisal | 0.262*(0.034) | 0.039(0.775) | 0.370*#(0.004) |
| Trust knowledge | -0.144(0.314) | 0.417*#(0.001) | 0.157(0.280) |
| Organizational structure | 0.324*#(0.010) | 0.101(0.424) | 0.212+(0.092) |
| R2 | 0.186 | 0.229 | 0.122 |
| F(p) | 7.733*#(0.001) | 9.780*#(0.000) | 9.225*#(0.004) |

Remarks: *# denotes p < 0. 01, * denotes p < 0. 05 and + denotes p < 0. 1

In Regression Model I, the positive impact of performance appraisal and organizational structure on knowledge socialization and externalization is significant.

In Regression Model II, the positive impact of trust knowledge on knowledge internalization is significant.

In Regression Model III, the positive impact of performance appraisal and organizational structure on knowledge combination is significant.

### *3.3.2 Analyses on the impact of knowledge management on organizational innovation*

As shown in Table 5, independent variables are set as knowledge socialization, knowledge externalization, knowledge internalization and knowledge combination of knowledge management, and dependent variables are set as the management innovation, planning innovation, technological innovation and workflow innovation of organizational innovation. Next, stepwise regression method is used for an analysis, the result as shown below.

TABLE 5 Regression analysis of knowledge management and organizational innovation

| | **Regression Model IV: Management innovation** | **Regression Model V: Planning innovation** | **Regression Model VI: Technical innovation** | **Regression Model VII: Workflow innovation** |
|---|---|---|---|---|
| Knowledge socialization and knowledge externalization | $0.459^{*\#}$(0.000) | 0.237(0.072) | $0.216^{+}$(0.075) | $0.349^{*\#}$(0.007) |
| Knowledge internalization | 0.069(0.601) | $0.439^{*\#}$(0.000) | $0.563^{*\#}$(0.000) | $0.281^{*}$(0.029) |
| Knowledge combination | 0.009(0.950) | 0.113(0.405) | 0.138(0.267) | -0.019(0.889) |
| $R^2$ | 0.197 | 0.179 | 0.305 | 0.264 |
| F(p) | $15.446^{*\#}$(0.00) | $13.846^{*\#}$(0.00) | $26.930^{*\#}$(0.00) | $11.571^{*\#}$(0.00) |

Remarks: *# denotes p < 0. 01, * denotes p < 0. 05 and + denotes p < 0. 1

As indicated in Table 5, Regression Model IV shows that knowledge socialization and knowledge externalization have a significant positive impact on management innovation, while V, VI and VII show that knowledge socialization, knowledge externalization and knowledge internalization have a significant positive impact on planning innovation, technical innovation and workflow innovation.

## 4 Several implications for the practical teaching link of ideological and political course

The above researches and analyses indicate that the important of tacit knowledge has become more obvious. But how to enrich students' tacit knowledge in the theory teaching link of ideological and political course to the greatest extent is a matter worthy of consideration at present. For this, the author combines the related data to summarize as follows.

### 4.1 REPLENISH THE THEORY TEACHING MATERIALS FOR IDEOLOGICAL AND POLITICAL COURSE

For ideological and political education, it's not only a public basic theory course, but a theoretical basis for students to fully master the disciplinary and professional knowledge they have learned. Therefore, it's necessary to require students to intensify the studying of ideological and political course, to enrich their own tacit knowledge, so as to pave the way for the subsequent practical teaching. And in fact, ideological and political course isn't a course lack of contents. On the contrary, it's extraordinarily rich in contents. For a better teaching effect, the key is how the course teachers carry out teaching activities. To this end, firstly, teachers should get a deep understanding of ideological and political course and prepare lessons in many ways, to strengthen their own teaching ability, and then fully

mobilize students' learning initiative by the use of several teaching methods, to continuously improve teaching effect, so as to enhance students' academic performance. In this sense, "ideological and political course", actually, is a foundation course that can constitute a knowledge frame for inter-disciplinary talents.

### 4.2 STIMULATE INDIVIDUAL IMPLICIT LEARNING IN MANY WAYS

When facing problems, especially those with complex structure, exciting contents and unclear key information, people will usually adopt a single linear way of thinking consistent with logical form, and then will stop conceptual work superficially for the time being when unable to continue solving the problems after the clues are covered up. However, at this point, people's brain will often be relaxed and unconscious restriction will be relieved. Accordingly, it's likely that individual trust mechanism will be released. As a result, the key information of the problems researched will be activated and shaped like a fan to diffuse in a mapping mode. Then, it will get connected with the key informational nodes that are ignored consciously, and finally, the problems will be solved smoothly. So when the teaching method based on SECI model is adopted, it's also imperative to stimulate individual trust mechanism. Teachers should make more communication with students in the classroom and adopt discussion-based and debate-style teaching methods more frequently to foster students' thinking ability and lay a foundation for practical teaching.

### 4.3 ENHANCE TACIT KNOWLEDGE COMMUNICATION AND SHARING

Knowledge dissemination relies mainly on mutual communication, and communication is a good channel for mutual learning. Different people have different learning abilities, so they learn and master different knowledge. So the tacit knowledge based on SECI model can also be improved through mutual communication. Therefore, when applying SECI model to teaching, we should try to request students to communicate with each other and recombine their respective views, to promote the exchange of their respective understanding of theory knowledge. In addition, they can be trained through group discussion, courseware making and experience report, to protect individuals from being shackled by the traditional thinking, so that they can improve themselves mutually in communication and make preparations for practical teaching.

## 5 Conclusion

The above researches and analyses indicate that the application of SECI model to the ideological and political education of university students can well reflect the inherent law of the practical teaching of ideological and political course and help to foster university students' comprehensive quality. It's a new practical teaching model that is inclusive of teachers and students, classroom and extracurricular time, content and form. Its application to university teaching will surely improve students' comprehensive quality and promote the development of educational business.

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