

Learning Behavior of International Business Negotiation in Complex Network: A Chinese Case Study of Students at International Business Program

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Abstract—With development of international business program, it is important to have further understanding about the learning behavior of students involved in the education. Learning behavior is important to further understanding of the characteristics and performance of students. As an important course for integrations of learning experiences both theoretically and practically at international business program, the international business negotiation course can be further developed by concerning the learning behavior of students. The learning behavior of students can be further analyzed based on the interconnections of behavioral attributes in a complex network. This research studies the learning behavior of international business negotiation in complex network, based on Chinese graduate students involved in international business negotiation course. The 2-mode network of learning behavior is revealed, and the learning behavioral characteristics are further analyzed by hierarchical cluster analysis to the complex network. The result of this research reveals the learning behavior characteristics of international business negotiation in complex network. This research can be helpful to educators and decision makers in the further development of international business programs.

Index Terms—learning behavior, international business negotiation, complex network, Chinese student at international business program

I. INTRODUCTION

With the development of international business program, the internationalization of their business course is important in further develop of the education program. As an advanced level course at graduate of international program, the course education is expected to offer students the complexity of negotiation at cross-border business area. The graduate course of international business negotiation requires a further improvement in fulfilling the growing needs of international business area. It is also found that the education system was an integral component for improving international competitiveness of different countries [1].

The development of business programs also needs to fulfill both theoretical and practical needs at international business area. The course development at graduate of international business program also should prepare students for the learning skills with longer-term knowledge at international business area. In order to better target academic programs for the business environment, the interchange of multi-disciplinary education concerning both theoretical and practical needs is necessary. Targeting at the integration of learning competences, the courses education of international business negotiation needs to meet the needs to improve the complex effectiveness and competitiveness of students in future involvement at international business area. This is also important for the academic education to have further development in offering competitive international business education at globe. The students with similar learning styles prefer academic disciplines

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and teachers with methods of teaching that are most congruent with their learning style [2].

The development of effective education system can be important to excellent in education of international business program. The excellence can be presented by the capability to develop the competitiveness of student based on their different learning behavior. The revealing of own thinking and learning in important to business students [3]. The development of learning behavior can be important to education outcomes to students [4]. The way for students to perceive, remember, think and act is important in development of the course education [5]. Learning behavior are important contributors to the characteristics and performance of students. Especially for the course learning of international business negotiation developed in Chinese higher education system, it is vital to understand the learning behavior of students so that courses and teachings can be further developed. The understanding of Chinese students with their characteristics in learning behavior is helpful to higher education system in course development at international business negotiation area, and prepares the students for the complexity of international business negotiation.

II. LITERATURE REVIEW

The education of student at international business negotiation can also be further developed by concerning lecturing or discussing, focused on principles or applications, emphasizing memory or understanding. The learning behavior is important to the course education in international business negotiation class. The learning behavior can be different in ways that people receive and process information. The behavior characteristics of people can be different due to career preferences and management styles [6]. The preferences of learners to sensing or intuition are important in learning behavior. Sensing and intuition are the two ways in which people tend to perceive the world. The learning behaviors by observing and rational data collection are involved in sensing, while the learning by indirect perception and imagination are involved in intuition [7]. Learning by visual and audio information is also important to the learning behavior of students. Students can show a higher dependence on visual or audio information over the other [8].

The learning behaviors vary in preferences to seeing and hearing, reflecting and acting, reasoning logically and intuitively, memorizing and visualizing or drawing analogies and building mathematical models. The reception and processing of information are important steps in course learning. The external information observable through the senses and internal information are offered to students in the reception step. The reasoning, reflection, and interaction with others are involved in the processing step. The pictures, diagrams, and films are important information for visual learners in their learning behavior. The discussions and explanation can be effective ways to audio learners in their learning. The active experimentation and reflective observation is

also important to learners in acquiring knowledge from a complex process. Learning based on discussions and explanations with external information is usually involved in active experimentation. And learning based on examining and manipulating the information is often involved in reflective observation [9].

The different functions of human brain are important in learning behavior. The frontal integrative cortex functions in development of new abstract concepts, and the sensory cortex functions with concrete experiences. The motor brain effects on active testing, and the integrative cortex works with reflective observation [10]. The action, cognition, reflection, and experiences are important to characteristics of learning behavior. The improvement of managerial behaviors for effectiveness in goal achievement and also problem solving in organization are important concerned in action approach. The intrapersonal and interpersonal transformations and behavioral changes are concerned in cognitive approach, based on memory, perception, and interpretations to the environment. Furthermore, the development of managerial practice and disclosure of managerial implication are concerned in reflective approach, which targets at improvement in organization and social environment of management. The involvement of management in acquiring experiences is concerned in experiential approach, with improvement of knowledge in managerial work [11].

The interdisciplinary international business course are important to develop the potential of international business students. The speeding growth in the international activity of multinational corporations enhances the opportunities and challenges to education at international business area. The future development of companies at international business area demands students to function effectively and efficiently at cross-border business [12]. The international business negotiation course is expected to help students in handling international business responsibilities. The learning styles can be important in developing delivery mode of education, and individual characteristics can be concerned in training and instructions [13]. The education to graduate students can be concerned on the distinctions of individual learning styles [14].

The education at international business program for Chinese students demands a further development based on integration of cross-functional knowledge background aiming at multi-disciplinary competences of students in future involvement of international business area [15]. International business has been a multidisciplinary rather than interdisciplinary research field. The core international business topics as well as on topics generated from all across the functional areas that have been involved in further development of international studies [16]. The education of innovative intelligent demands a further development of cutting-edge integration of knowledge system to fulfill the future demand of cross-functional innovation work [17].

The research of how do students learn from the course and trainings implies a great value to the Chinese

universities in their international business negotiation education systems. With the study of different competences of Chinese international business students, courses and trainings can be well developed. Understanding the different preferences of abstract concepts and concrete experiences is helpful to find out the thinking process of Chinese students in international business negotiation course education. The research of active testing and reflective observation is also helpful to reveal the differences of Chinese students in their learning practices.

III. RESEARCH METHOD

The inter-disciplinary study of psychology, sociology, economics and political science can be important for future development at international business area [18]. In the future development of international business program, international business negotiation course has become an important education for international business students to improve the competitiveness in contributing to value adding at cross-border business area. The development of international business negotiation course encourages the further study of characteristics in learning behavior of students at international business program.

A more effective approach is important to develop the competitive edge of international business in terms of its advantages in working with cross-border business issues, concerning politics, economics and strategy. The knowledge framework of international business area can be further developed in understanding the core international business rules of the game for international business and commerce with regional know-how and outperforming the capabilities for solutions to solve the practical problems based on a complex background of multi-disciplinary knowledge [19]. The further development of Chinese corporations also encourages the multi-disciplinary education of Chinese students at international business program. The complexity of knowledge constructs can be important to the future involvement of Chinese students in international business area, and education by concerning different learning styles can be further developed [20]. The education of international business negotiation enables students to make sense of the negotiation at cross-border business issue, and the further study of learning behavioral characteristics of students involved in the international business negotiation course based on complex network is helpful to the development of understanding in learning attributes of students with a complex knowledge background at international business area.

The process and goal of education are firmly related to each other. The process is important to the improvement of education in enhancing the learning of students [21]. The experiential learning theory is important to management learning and serves as the basis of this analysis. Following the experiential learning theory, the students acquire their knowledge by cognitive structures development at initiate stage, improve their learning in specialized social, educational and organizational experiences, and have their proficiencies further

improved in work and personal life by integration and adaptation to world complexity [22]. The knowledge is developed from transformation of experiences. Learning is the major determinant of human development and how individuals learn shapes the course of their personal development. Learning behavior vary from personality type, educational specialization, career choice. In the learning behavior, abstract concept is important to symbolic complexity, and concrete experience is important to affective complexity. Active experimentation is important to behavioral complexity, and reflective observation is important to perceptual complexity. The abstract conceptualization and concrete experience function with acquisition to experiences, while active experimentation and reflective observation are important to experience transformations [23].

This study surveyed students involved in the international business negotiation. Students are asked to grade different options of learning styles due to their preferences. The graduate students involved in international business negotiation course at international business program are asked to grade different options of learning styles due to their preferences. Different learning preferences such as abstract concepts, concrete experiences, active testing, and reflective observations are included in the survey to the students. The sample cases of students in the research are 45 valid surveys. The complex network of students based on learning behavior in international business negotiation is revealed, and hierarchical cluster analysis is performed to identify the different attributes of learning behavior in international business negotiation. The individual differences can effect on the cognitive process of students in management education [24]. The learning behavior characteristics can be reconstructed at course study, and the essential complexity of the human learning can be important to satisfy the demand for multiple education practices as a tool for instructional engagement [25].

The complex network of students involved in different learning behavioral characteristics is developed by the inter-connections of students based on learning behaviors including abstract concepts, concrete experiences, active experience and reflective observations transformed to binary data based on threshold of median. The complex network is important in analyzing the inter-connections of individual attributes at corporate level information [26]. The 2-mode complex network of students is revealed, based on the inter-connections of learning behavioral characteristics, and characteristics of learning behavior at different clusters is further analyzed by hierarchical cluster analysis based on Euclidean distance. The cluster analysis can be helpful to identify the characteristics of individuals in groups based on country level information [27]. The further understanding of learning behavioral characteristics for students assists the effective course design [28]. The Euclidean distance is measured as

$$d_{i,j} = \sqrt{\sum_{k=1}^P (x_{ik} - x_{jk})^2} \quad (1)$$

In Equation (1), d_{ij} is the distance of students in the complex network, x_{ik} is the learning behavior k of student i , and x_{jk} is the learning behavior k of student j . Furthermore, the students are grouped in four clusters based on learning behavioral characteristics by using ward method for hierarchical cluster analysis.

IV. RESULT

The complex network of students based on learning style in international business negotiation is shown in Fig. 1, in referring to abstract concepts, concrete experiences, active experience, and reflective observations. The red spots are sample students at international business program and involved in the survey for learning behavior characteristics. The blue squares are the attributes in learning behavior, which represent the inter-connections of students in international business negotiation course based on their preferences to abstract concept, concrete experience, active experimentation, and reflective observation.

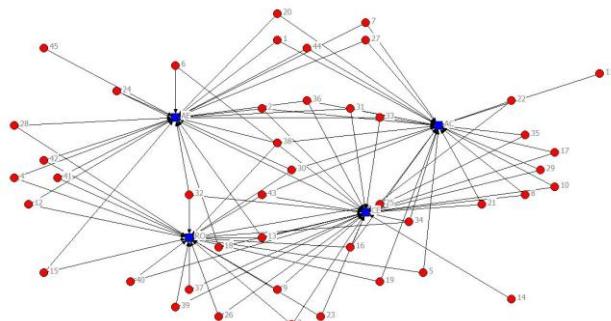


Figure 1. Complex Network of Students based on Learning Behavior of International Business Negotiation

The result of hierarchical cluster analysis for students based on learning styles of international business negotiation in complex network is shows in Fig. 2. The preference of learning behavior characteristics for students in international business negotiation course are analyzed based on hierarchical analysis by using Euclidean distance.

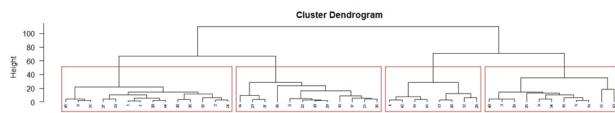


Figure 2. Hierarchical Cluster Analysis for Students based on Learning Behavior of International Business Negotiation in Complex Network

The students are grouped in four clusters based on their inter-connections of preferences of learning behavior characteristics by using ward method for hierarchical cluster analysis. The read rectangular groups the students involved in different clusters based on their learning behavior at international business negotiation course.

TABLE I. AVERAGE LEVEL OF LEARNING BEHAVIOR CHARACTERISTICS AT DIFFERENT CLUSTERS

	AC	CE	AE	RO
Cluster1	36.79	21.64	36.29	25.14
Cluster2	37.55	23.91	25.55	34.00
Cluster3	28.25	20.63	36.00	35.50
Cluster4	35.83	30.08	30.08	24.00

It is found that students in Cluster 1 show a higher preference on abstract concept and active experimentation. Students in Cluster 2 show a higher preference on concrete experience and reflective observation. Students in Cluster 3 show a higher preference on active experimentation and reflective observation. Students in Cluster 4 show a higher preference of abstractive concrete and concrete experience. Fig. 3 further shows the heat map of students in the hierarchical cluster analysis, and the deeper color shows a higher level of inter-connections between students based on learning behavior.

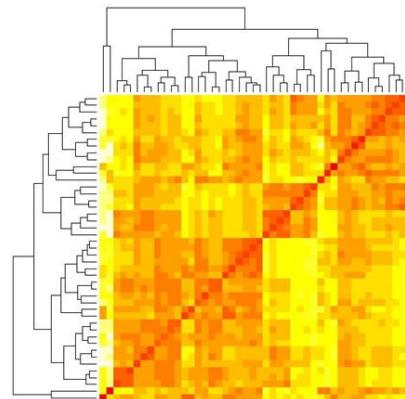


Figure 3. Heat map of Students based on Learning Behavior of International Business Negotiation in Complex Network

The students in Cluster 1 prefer learning by abstract conceptualization and active experimentation. They may prefer analyzing practical issues based on ideas and theories. International business students in this group can be further educated with learning from concrete capacity and reflective observation. The students in Cluster 2 prefer learning by concrete experience and reflective observation. They may prefer to involvement of learning experiences and information collections. International business students in this group can be further educated with learning from abstract conceptualization and active experimentation. The students in Cluster 3 prefer learning by active experimentation and reflective observation. They may prefer learning from practical issues and understanding of information. International business students in this group further can be further educated with learning from abstract conceptualization and concrete experience. The students in Cluster 4 prefer learning by abstract concept and concrete experience. They may be interested in abstract ideas and concepts, and also learn by involvement in learning experiences. The international business students in this group can be further educated

with learning from active experimentation and reflective observation.

The international business negotiation serves as high levels of learning in international business program in offering support to enhancement of knowledge, skill, and understanding of new knowledge and skills at area of international business. The global growth in international trade and foreign direct investment motivate international business negotiation into the realm of the current and the relevant. In the course education, international content has been added, often as an afterthought in the form of a foreign case or article rather than as part of a fully integrated global curriculum. International business negotiation has been a multidisciplinary rather than interdisciplinary research field. To further support the courses in international business negotiation area, interdisciplinary content in international business can be developed to further enhance the potential students involved in the course study. A variety of content areas need to be covered in international business negotiation, including all business disciplines such as marketing, management, economics and finance, foreign history as well as foreign language. Case studies of issues and problems in international business negotiation are important in course learning.

V. CONCLUSION

With the development of Chinese economy, a number of Chinese companies enhanced their global involvement in international market. To offer further support to the emerging demand of Chinese economy and Chinese enterprises, the Master of International Business Program has been founded. The international business negotiation course is an advanced level education to students involved in graduate international business program, based on multidisciplinary knowledge framework. The research analyzes the learning behavior of Chinese students involved in graduate in international business negotiation course based on four different learning competences, including abstract conceptualization, concrete experiences, active experimentation and reflective observation. The students can be grouped in four clusters based on learning behavior of international business negotiation in complex network.

The students in Cluster 1 show a higher preference on abstract concept and active experimentation in learning behavior. The students are good at abstract thinking, and also have a good preference of experimentation. This is helpful for students to transform what they have learned in their practices. The students in Cluster 1 can be further educated from learning from concrete experiences and reflective observations. The students in Cluster 2 show a higher preference on concrete experience and reflective observation in learning behavior. The students in Cluster 2 can be further educated from abstract conceptualization and active experimentations. The students in Cluster 3 show a higher preference on active experimentation and reflective observation in learning behavior. The students in Cluster 3 can be further educated with learning from abstract concept and reflective observation. The students

in Cluster 4 show a higher preference on abstract concept and concrete experience in learning behavior. The students in Cluster 4 can be further educated with learning from reflections and experimentations. It is necessary to integrate the learning behavioral characteristics of the groups in the education program, and also important to encourage the students in these groups to learn from each other. The coordination of students with different learning behavior characteristics is also important in development of international business courses.

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