

Exploring Factors Influencing Knowledge Sharing of International Students at Chinese University

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Abstract. Knowledge sharing is an effective and efficient way for students to obtain knowledge in universities. Students share knowledge with their colleagues to improve the learning performance and at the same time to strengthen their social networks. Knowledge sharing of international students may be different from local students due to various reasons.

Previous studies indicated many factors which had influences on knowledge sharing for international students in other countries, for example, language barriers, cultural differences, lack of feedback, sharing channels, personal obstacles and etc. These factors included two types, internal reasons, and external reasons. Internal reasons referred to the characteristics of students. External reasons referred to the environment.

Chinese culture has its uniqueness from other cultures, for example, Chinese culture respect collectivism. International students in China might be influenced by the Chinese culture when they share knowledge. This study aims to investigate the factors influencing knowledge sharing of international students at Chinese University.

After a literature review, an interview and a scenario-based experiment were conducted at Beihang University in this study. In the interview, nine international students were invited to participate. The results of the interview indicated the motivators and hinders of knowledge sharing of international students in the Chinese university. The motivators focus on enhancing social networking skills. The hinders included language barriers and cultural differences. In the experiment, participants were first asked to read a knowledge-sharing scenario and then asked to fill a questionnaire based on the scenario. The questionnaire was designed to test the motivators and hinders of knowledge sharing. Twenty-one participants were invited to the experiment. The results indicated that international students were willing to share knowledge with other students for two main reasons, which were strengthening their knowledge quality and making friends. For the hinders, language barriers and cultural difference are still the main reasons which have negative effects on knowledge sharing of international students.

Keywords: Education · Knowledge sharing

1 Introduction

Knowledge sharing between international students requires more investigation. In China, there are many foreign students in Chinese universities now. For example, the number of international students has increased from 382 to 1704 from 2001 to 2014 in Beihang University, a university in Beijing of China. Not only is the number of international students increasing, but also the Chinese government and universities are paying higher and higher attention to the international exchange of education. Take Beihang University for example, there are various international studying programs and for international students such as bachelor program, master program, doctoral program, and exchanging program. Most schools of Beihang Universities are accepting international students. A school, called international school, are established to mainly served for the international students. International education plays an important role in Chinese higher education.

The national distribution of international students studying in Beihang by 2015 shows that international students comes from countries in North America, Europe, South America, Africa, Asia and Oceania. It indicates that the current international students at Beihang University have a strong national diversity. It's inevitable that such large background diversity may leads to the exchange and integration of culture. During the studying period in China, foreign students also have adopted the unique culture of China and the students. Using them as the medium of cultural and cultural exchange is important to efficient communicate. Therefore, the quality of international education is not only related to the overall level of China's higher education quality but also related to China's international academic and cultural exchanges.

The study of knowledge sharing will help improve the quality of international education. Through the study of the knowledge sharing behavior of international students, this study can summarize their preferences and characteristics, motivations and obstacles in knowledge sharing behavior, so as to discuss the most appropriate way which students use in the whole process of knowledge acquisition, collation, absorption, feedback, and sharing. Exerting the international education accordingly and scientifically, the students can learn more efficiently and reduce the unnecessary time waste and meaningless formal steps in the learning process. This will fully increase the humanity and scientificity of Chinese international education, and thus improve the overall quality of higher education level.

The main factor that affects the knowledge sharing behavior is cultural background. Affected by different cultures, people from different countries will form different characters and habits, so that the behavior in the knowledge sharing varies a lot. The reason why China is chosen to conduct this survey is that China, as a representative of oriental culture, has a relatively unique culture than any other countries. Taking foreign students studying in China as subjects, using Chinese culture as the researching background, the research clearly reflects the impact of cultural differences on knowledge-sharing behavior.

Therefore, researching the knowledge sharing behavior of international students in China will not only provide a positive and helpful reference to the improvement of the international education system of Chinese universities, the daily teaching skill and the

communication between international students, but also make contribution to the international academic and cultural communication among young people at home and abroad.

2 Methodology

This study includes two parts: follow-up interview filling out questionnaires and single questionnaire.

2.1 Follow-up Interview and Questionnaires

In this part, this study chose some international students in Beijing University of Aeronautics and Astronautics randomly as our participants. The participants would be interviewed and then asked to complete a questionnaire. The Demographical information of the participants was shown in Table 1.

Table 1. Demographical information of participants in the interview

Age	Gender	Program	Studying length in Beihang (month)	Studying length in China (month)	Major
24	Male	Master	3	3	Economics
30	Male	Ph.D.	60	60	Mechanical Design & Theory
42	Male	Ph.D.	3	3	Management Science
26	Male	Ph.D.	4	4	Fluid Machinery
26	Male	Master	3	3	Space Technology Applications
25	Female	Ph.D.	3	3	Management Science
23	Female	Master	72	60	Economics
25	Male	Master	60	60	Management Science
40	Male	Master	12	12	Management Science

The concludes some demographical information, like age, gender, program, staying in China period in months, studying in China period in months and major. Next, there are some common forms of knowledge sharing among international students, concluding class discussions, student presentations, chatting or discussing through social network, group projects, small group discussions, academic lectures, answering questions to other, making or taking recommendations about studying and using online knowledge repositories (such as Wikipedia and Answer.com), these participants will

the among these activities according to the frequency of their participation in daily life. At last, participants will be asked about the motivations and hinders influencing their participation in knowledge sharing activities.

2.2 Questionnaire

Using scenario-based experiment, this study set a circumstance about knowledge sharing to participants, then let them complete the questionnaire. The scenario-based experiment is widely used in sociology and psychology's experimental investigation. In the field of knowledge sharing, the scenario-based experiment is always used to control different social and situation variables. Twenty-one participants were invited to the experiment. Their demographical information was shown in Table 2.

Table 2. Demographical information of participants in the experiment

Basic information		Number	Percentage
Age	16–20	5	25.00%
	21–25	11	55.00%
	26–30	4	20.00%
Gender	Male	16	80.00%
	Female	3	15.00%
Education	Doctor	0	0.00%
	Master	7	35.00%
	Undergraduate	12	60.00%
	Others	0	0.00%
Staying period (months)	0–6	5	25.00%
	7–12	2	10.00%
	13–24	7	35.00%
	25–36	4	20.00%
	>36	2	10.00%
Studying period (months)	0–6	4	20.00%
	7–12	1	5.00%
	12–24	7	35.00%
	24–36	4	20.00%
	>36	2	10.00%
Major	Mechanical Engineering	7	35.00%
	International Economic Trade	6	30.00%
	Civil Engineering	1	5.00%
	Electronic Engineering	1	5.00%
	Aeronautical Engineering	2	10.00%
	MBA	1	5.00%
	Chinese Culture	1	5.00%
	Environment Engineering	1	5.00%

This questionnaire has four parts: basic information, approaches, sharing obstacles and sharing motivation, 26 questions in all, and each part's questions are placed alternately to increase the credibility of the result. Participants were asked to choose each question one corresponding point from five-points Likert scale, from "1: strongly disagree" to "5: strongly agree".

3 Results and Analysis

3.1 The Results of Follow-up Interview Filling Out Questionnaires

The basic information of each participant as follow:

Through the interview, It's drawn that the main motivation is helping others, improving own social skills and acquiring knowledge at the same time.

The main obstacle is language barriers, cultural difference and time tightness.

The language barrier and cultural difference lead to the loss of educational efficiency. As international students, seeking knowledge in the foreign country, encountering cross-cultural communication is unavoidable. Except for cultural collisions like the behavioral pattern and custom concept. "Culture learning" has also become an important factor which affects the effect of learning. "Culture learning," referring to the act of the teaching and learning, principles, a set of values, beliefs, and expectations, has its cultural origin and has been held for the foreign students participating in teaching activities.

3.2 The Results of Questionnaire

Questionnaire distribution Site: Building 10 (student apartment), Day noun Village.

Time: From 22:00 to 23:00

Number: 20 questionnaires, 19 of them valid basic information of participants.

The age group of the subjects is concentrated in the 21–25 years old. Most of them are under graduate. The duration of them being in China and studying in China is the same, 13–24 months mostly. The number of students majoring in mechanical engineering, international trade and aviation engineering is more than others.

Hinders

- The question 24 gets the highest mean, which indicates that the biggest obstacle that discourages foreign students from knowledge sharing is language barriers.
- From the score of question 11, it is concluded that lack of proper channels is also a critical hinder.
- Question 2 with a relatively higher average score implies that lack of understanding also hints students from communicating with each other.
- Question 22, with an average score of 2.8 and a high standard deviation of 1.322, shows a great controversy of foreign students in this item.
- Another question not mentioned above isn't relatively critical factors when it comes to knowledge sharing (Tables 3 and 4).

Table 3. Barriers in knowledge sharing

Barrier	Mean	N	Std
24. Language barriers does harm to knowledge sharing	3.2	20	1.152
11. I lack avenues to share information or to communicate with others	3.1	20	1.071
2. I do not know the other person well	2.95	20	1.099
22. Culture difference does harm to knowledge sharing	2.8	20	1.322
14. I lack understanding as to what to share and with whom to share	2.75	20	1.02
20. I lack confidence to share knowledge with others	2.75	20	1.293
13. I fear that I would provide wrong information	2.7	20	1.129
1. I lack time to do the former activities	2.65	20	0.933
16. I fear that a clash of opinion may spoil relationship	2.65	20	1.089
26. The loneliness because of living in foreign land does harm to knowledge sharing	2.55	20	1.099
9. I lack motivation or rewards in sharing knowledge	2.45	20	1.395
4. I fear that I would be perceived as a “show-off” person	2.4	20	1.046
18. I fear that others may outperform me in studies	2.2	20	1.152
6. I don't trust others to share my knowledge	1.9	20	0.968

Table 4. Motivators in knowledge sharing

Motivators	Mean	N	Std
7. I want to make more friends	4.3	20	0.865
12. I am eager to help others or share	4.3	20	0.801
19. It helps me to innovate ideas or other knowledge	4.25	20	0.55
3. I want to keep connection with others	3.95	20	0.826
15. I want to keep the discussion or activity moving on	3.95	20	0.759
8. I will feel belonging to and fit within the group	3.75	20	0.967
10. I further my own understanding of concepts learned in the class through sharing ideas with other students	3.7	20	0.865
23. I am eager to study	3.7	20	1.031
21. It will enhance cooperative ability	3.6	20	1.142
5. It will enhance self-learning ability	3.45	20	1.234
17. I want to gain recognition	2.85	20	1.268
25. I want to get reward (money, other's return)	2.6	20	1.188

Motives

- The charts above shows that question 7, question 12, question 19, question 3, question 15, question 10, and question 8 get a higher average score and standard deviation, which indicates that students' knowledge sharing motivation are mostly for reach their indirect and direct needs.
- Among them, indirect need, namely social networking need is seemed to be much more urgent than the direct need of knowledge sharing. Indirect needs, listed in the chart, shows that they strongly want to communicate and relate more with people

through knowledge sharing and keep contact with each other so that they can find a sense of belonging in a totally strange country. Direct need, namely the need for knowledge, as the main aim of knowledge sharing activities, is their hope to acquire new knowledge, creative ideas and different understanding through knowledge sharing.

- In the subject with a low score, the standard deviation of the two questions is high, indicating that most of the students gave lower scores to the question, especially questions 5 and 17, indicating that students don't make too much consideration about their utilitarian in the knowledge sharing, most of the foreign students share knowledge not for improving their ability or getting recognition.

4 Discussion

The aim of this study is to explore the motivations and hinders of knowledge sharing among foreign students in Chinese universities.

As to motivations, they were classified into two parts: direct needs and indirect needs. It were obvious and proved in this study that direct needs such as getting new knowledge are important factors influencing knowledge sharing among foreign students. This finding is accordance with the previous study which highlights the complementary knowledge sharing as the main theme in the experiences of nursing students participating in an educational exchange program between Madagascar and Norway. It's apparent that, as the fundamental and also vital function of knowledge sharing, acquiring new knowledge is always the principle motivation.

Interestingly, when it comes to indirect needs, namely social networking needs, displayed as the most intense motivations in our study, there is few previous study ever focusing on this critical factor.

As to hinders, this study shows that the biggest obstacles discouraging foreign students from knowledge sharing are no doubt language barriers and lack of appropriate channels, which are both consistent with the perception of knowledge sharing among nursing students participating in an educational exchange. Since language is key to communication, and without an available channel can not be done a knowledge sharing, the language, and channel means a lot to a successful knowledge sharing activity. Besides, listed as one of "the most difficult languages in the world", Chinese keep many foreign students from participating a knowledge sharing activity. To make matters worse, the same language problem also bother Chinese students who are not an excellent foreign language speaker.

Another obstacle stopping a knowledge sharing is the lack of understanding between students. This factor is also revealed in the previous study reporting knowledge sharing is affected by partner characteristics. As for Chinese students and foreign students, deeply influenced by Confucianism, Chinese people are implicit and conservative, which sometimes leave an impression of unwillingness on foreign students' and thus impede the knowledge sharing.

5 Conclusion

According to the questionnaire analysis, this study concludes that the main motives of students' knowledge sharing are social networking motivations, desire to communicate with others, and desire to make friends. The main obstacles are language barriers, lack of channels and lack of understanding.

Regarding language issues, this study believe that firstly the universities can increase the requirements on foreign students' Chinese level, which not only encourages students to pay attention to Chinese learning but also a direct increase in students' Chinese language level at first and lay a good basis for the study and life after school. Second, for those students with poor Chinese, colleges, and universities can arrange training and regular assessment, and make their Chinese level be linked to their results and scholarships, encouraging students to continuously learn and improve their Chinese.

Regarding the channels of knowledge sharing, colleges and universities can make full use of campus network resources, set up relative online classes and discussion forum to facilitate the communication between teachers and students. They can also encourage students to set up their student learning union or interest groups, which can lead students to learn and communicate with each other.

Every can establish a formal student union or various associations, giving these organizations the rights and obligations so that students can acquire a sense of belonging and autonomy. These institutes can also organize other activities characterizing prominent national theme just like international days or national exchange for months, in which way they can enhance mutual understanding between students and also lead to more concern about the foreign students in the campus.

6 Limitations

The first limitation is that our questionnaire focuses on only one school. It is difficult to generalize from one to all with a single-sample box study. Another limitation is the small size.

This study ignores the nationalities of these twenty foreign students. Setting China, a country with typical and unique oriental culture, as the big background, there are not so many differences among these foreign students.

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Appendix

Questions in questionnaire:

1. I lack time to do the former activities.
2. I do not know the other person well.
3. I want to keep the connection with others.

4. I fear that I would be perceived as a “show-off” person.
5. It will enhance self-learning ability.
6. I don’t trust others to share my knowledge.
7. I want to make more friends.
8. I will feel belonging to and fit within the group.
9. I lack motivation or rewards in sharing knowledge.
10. I further my understanding of concepts learned in the class through sharing ideas with other students.
11. I lack avenues to share information or to communicate with others.
12. I am eager to help others or share.
13. I fear that I would provide wrong information.
14. I lack understanding as to what to share and with whom to share.
15. I want to keep the discussion or activity moving on.
16. I fear that a clash of opinion may spoil a relationship.
17. I want to gain recognition.
18. I fear that others may outperform me in studies.
19. It helps me to innovate ideas or other knowledge.
20. I lack the confidence to share knowledge with others.
21. It will enhance cooperative ability.
22. Culture difference does harm to knowledge sharing.
23. I am eager to study.
24. Language barriers do harm to knowledge sharing.
25. I want to get a reward (money, other’s return).
26. The loneliness because of living in a foreign land does harm to knowledge sharing.

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