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Undergraduates' Conceptions of Learning in an International Economics and Trade Program

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Abstract

Using phenomenographic approach, the research investigates undergraduates' conceptions of learning in an international program in a Chinese university. This is an attempt to introduce phenomenographic approach to Chinese higher education to investigate undergraduates' conceptions of learning. It is also an initial phenomenographic study which is conducted in an international education context. The six conceptions of learning identified finally could be divided into two categories: the 'reproductive' conceptions include learning as memorizing, acquisition of knowledge and skills and application, and the 'transformative' conceptions involve learning as understanding, interpreting reality and change as a person. The study recommends that students ought to have the higher level of 'transformative' conceptions if they are to deal with huge academic burden. Meanwhile it verifies that learning is contextually-dependent, and those findings and conclusions made by the Western researchers could not be generalized without hesitation.

Keywords: Phenomenography, conception of learning, international program

1. Research context

Internationalization of higher education is "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education" (Knight, 2003, p. 2). More than years ago the contextualized form of education in higher education in the Chinese context was coined: the Chinese-foreign Cooperation in Running Schools (CCRS), which refers to the activities of the cooperation between foreign educational institutions and Chinese educational institutions in establishing educational institutions within the territory of China to provide education service mainly to Chinese citizens (China State Council, 2003).

There are three sorts of CCRS in higher education sector: independent Institution (II), Affiliated College (AC) and Sino-foreign cooperative program (SCP) or international program, which refers to activities of the cooperation between foreign educational institutions and Chinese educational institutions aiming to provide education service mainly to Chinese citizens in terms of discipline, subject and curriculum without establishing independent educational institutions (China State Council, 2004). Among all of them, the SCP is the most predominant one, as most higher education institutions (HEIs) have established it and regards it to be a crucial pathway to achieve internationalization.

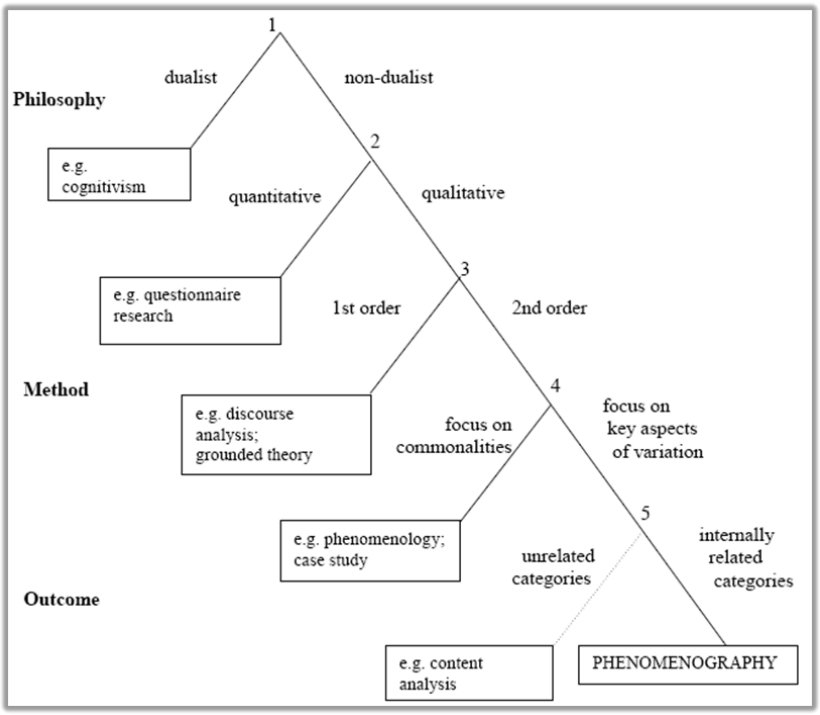
In this study, the research setting has been set within an International Economics and Trade (IET) program, which is cooperatively run by the Chinese and the partner Australian universities. The students in this program are all Chinese, yet lecturers are invited from the partner Australian university. The learning materials are made in both English and Chinese and, likewise, the teaching is conducted bilingually. Due to the nature of this program, all the students are required to spend four years studying in this university.

The students in this program are facing huge academic pressure, becasue they need to take a large number of courses, to finish many assignments and to take endless exams during and by the end of each academic term. Sometimes just in one day they have to attend 12 hours of courses, which are composed of both optional and compulsory lessons. The huge quantity of courses and the language they are not familiar with make learners frustrated more often than not. The credits they had to obtain were about 200, which might be a staggering number.

2. Phenomenography

Ference Marton (1994) contends that phenomenography is: "the empirical study of the limited number of qualitatively different ways in which various phenomena in, and aspects of, the world around us are experienced, conceptualized, understood, perceived and apprehended" (p.4424).

Figure 1. Defining Phenomenography



Source: Trigwell (2006, p. 369)

Trigwell (2006) concludes some of the key features. First, it is non-dualistic on the philosophical level, implying that meaning can emerge within the relationship between individuals and phenomena. This is very different from cognitivism, which splits people from reality. Second, it is generally recognized as a qualitative approach, which distinguishes itself from common quantitative approaches to researching learning experiences. Third, it takes a second-order perspective, investigating others' perceptions rather than displaying researchers' personal analysis. Fourth, phenomenography focuses on the variations and differences of experiences, whereas others look for commonalities. Fifth, the categories elicited are essentially internally related, which is in sharp contrast with some unrelated categories drawn from content analysis. As Figure 1 illustrates, all these characteristics are located on the right-hand branch. The achievements of a typical phenomenographic are usually categories of description (Marton, 1981), or 'outcome space' (Marton & Dahlgren, 1976), which is composed of different kinds of conceptions and their relationships.

There are several reasons for employing phenomenographic approach. Firstly the nature of phenomenographic research caters for the purpose of the study. Phenomenography reveals the qualitatively different ways in which people experience, conceptualize and understand a specific phenomenon, which is appropriate for the important aim of the research - to investigate students' learning conceptions in an international program. Secondly it takes a second-order perspective while bracketing the researcher's personal bias and presuppositions. This proposition has two advantages for my research. At the stage of data collection, the

researcher is able to keep an open attitude and collect enriched data. During the data analysis, I believe that analyzing, exploring and understanding the data from subjects' perspective may generate some insightful ideas and relations. Ultimately, I believe that phenomenography provides an effective approach to make sense of experiences. This approach is able to develop and interpret a logical construction which shows a picture of experiences of learning (Forster, 2013). The experiences might be fragmented, unrelated and less analytic without the help of phenomenographic approach.

However, there are some drawbacks for this approach. It is noted that these conceptions could not depict and indicate some dynamic changes in terms of subjects' experiences, understanding and conceptualization. They are actually some snapshots which reflect some selected participants at a specific time (Loughland *et al*, 2002). Albeit phenomenography is confirmed by the researcher as an effective approach, its critical defect lies in the inability to find and explain the causes for subjects' conceptions. Although sometimes the respondents may reflect the ways in which they formed their conceptions, it is very problematic to attribute the conceptions to these statements (Ashworth & Lucas, 2000; Lucas, 1998). Moreover Säljö (1994) criticized phenomenography for lack of theoretical consideration, and it seemed that phenomenographic studies excessively emphasize the importance of how to reveal the variations of informants' experiences.

3. Phenomenographic perspective on conceptions of learning

Conceptions of learning are the ways in which students perceive what learning means to them and the possible outcomes. It resembles "personal epistemologies: beliefs about the nature of knowledge and of coming to know" (Ellis *et al*, 2008, p. 268). Marton and Booth (1997) discuss the ways in which students go about their learning to understand why some learners are able to do their jobs better. Their findings demonstrate that the conception of learning is an important factor, which may significantly impact approaches to learning (Byrne & Flood, 2003). In fact, the conception of learning and approaches to learning are intimately related, and "it is possible to predict the quality of the learning outcomes directly from students' conceptions of learning" (Gibbs, 1995, p. 23).

Conceptions of learning are often obtained with the help of phenomenographic approach through qualitative methods such as interview, open-ended questions and reflective writings (Chan, 2011). Säljö (1979) identified five categories of conceptions of learning, namely learning as quantitative increase of knowledge; learning as memorizing and reproduction; learning as the acquisition of practical knowledge and application; learning as abstraction of meaning; and learning as interpretive procedure which aims to understand reality. Decades later, Marton *et al*'s (1993) research revealed similar results, namely learning as 'increasing one's knowledge', 'memorizing', 'applying', 'understanding' and 'seeing in a different way'. They further added the sixth dimension, which was learning as changing as a person. All of these categories were hierarchically ordered (Lam & Kember, 2006) (Figure 2).

Figure 2. The different conceptions of learning students have been qualitatively categorized by Marton *et al*. (1993)

Conception A. Increasing one's knowledge
The conception from which all other conceptions develop. Strong quantitative nature. No notion of using what has been learnt.
Conception B. Memorising and reproducing
Learning is seen in quantitative terms, as the exact reproduction of the learning material and oriented towards some kind of test or performance.
Conception C. Applying
In this conception, one retrieves what one has learnt and applies it when the need arises.
Conception D. Understanding
The first conception in which *meaning* is attached. Some significance of what one has learnt is implied.
Conception E. Seeing things in a different way
The learner has changed his or her way of thinking about something, or changed his/her conception (a new perspective) of something.
Conception F. Changing as a person
In this conception, by developing insight into the phenomenon, one develops new ways of seeing the world, which involves changing as a person.

Source: McLean, 2001, p. 400

Conceptions A, B and C are viewed as 'reproductive', emphasizing what has been learnt, whereas conceptions D, E and F are regarded as 'transformative', stressing the how aspect of learning. The transformative categories seem to be more important than reproductive ones, since they may influence students' personal life and career development (McLean, 2001). These conceptions stress the "'what' or content aspects of learning and the 'how' aspect of learning which focus on process (how someone learns) and evidence (how someone knows they have learned)" (Peterson *et al*, 2010, p. 168). These six ways of conceiving learning support the establishment of two fundamental approaches of learning:

[Q]uantitative, memorizing and acquisition conceptions underlying a 'surface' approach (in which the student's intention is to memorize the text), and abstraction, understanding reality and developing as a person underlying a 'deep' approach (in which the student's intention is to understand the meaning of the text).

(Haggis, 2003, p. 90)

Another viewpoint contends that there are two basic conceptions of learning, namely quantitative conception of learning and qualitative conception of learning. The former regards learning as a process in which knowledge would be accumulated and reproduced; whereas the latter emphasizes understanding and interpreting the meanings (Duarte, 2007).

Students' conceptions of learning have strong implications for educational practice, in particular the teaching and curriculum design (Marshall *et al*, 1999). Therefore it is expected that there is a conceptual change towards 'transformative' higher-level conceptions of learning (Entwistle & McCune, 2004), which indicates "passing from previous and/or naive conceptions to explicit conceptions based on scientifically validated theories". (Rabanaque &

Martínez-Fernández, 2009, p. 515).

Most studies on conceptions of learning are mainly set within the western context. Nonetheless cross-cultural studies could be considered as an alternative way in which new conceptions of learning might be generated. For instances, Byrne and Flood (2003) claim that Asian learners are able to reconcile the relation between memorization and understanding and they view them as intertwined activities. This is in sharp contrast to the West, where understanding and memorizing are in opposition to each other. Hence it could be argued that "different educational contexts define learning according to different social and culturally established conventions" (p. 29). Dahlin and Regmi's (1997) research in a Nepal's university came to a similar conclusion. Further in the western learning culture, 'changing as a person' is considered as a most advanced qualitative conception, but Watkins and Regmi's (1992) study verifies that Nepalese cultural and religious beliefs may result in the conception of learning for character development to emerge at a much lower cognitive level than in the West. Abhayawansa and Fonseca's (2010) investigation towards a group of Sri Lankan undergraduate accounting students finds that although immersing themselves in the pedagogical tradition of Australia, their ways of conceptualizing and approaching learning are still influenced by the traditional collectivist culture. Thus it is may be problematic to generalize conceptions of learning of western style to other cultural contexts. These research studies carried out in non-western countries are inspirational. They demonstrate that conclusions drawn from western countries could not be generalized to other places of this world. Therefore an investigation in some Eastern countries such as China would be necessary and informative.

4. Data collection

Despite the availability of numerous research technologies such as group interview, observation, historical document analysis that may be employed, individual interview is still the most common method for phenomenographic study.

Semi-structured interview was applied in this research. The significance lies in facilitating interviewees' reflection on their experiences as much as possible, that is, "allowing maximum freedom for the research participant to describe their experience" (Ashworth & Lucas, 2000, p. 300). To achieve this, efforts were made from several aspects. First, the nature and function of interview questions were clarified. Indeed some questions and structures should be prepared before the conduct of semi-structured interview. However, for a phenomenographic study, these could only be viewed as a guide rather than rigid and inflexible constraint. Interview questions were made as general as possible so that ample data might be collected. Second, follow-up questions were important, through which some insightful opinions, ideas and thoughts might be obtained. This was an important reason for choosing semi-structured interview, as it allows interviewers to ask follow-up questions when necessary to stimulate interviewees to reflect on their experience. Third, the creation of a cozy and comfortable environment was equally significant, as interviewees might be willing to express, explain and reflect in such an atmosphere.

In total 23 students were invited to the conversations, depicting and reflecting on their

learning experiences within one hour in response to some core interview questions such as ‘what do you mean by learning’, ‘how do you go about learning’ and ‘how do you know when you have learnt something’ and some follow-up questions like ‘could you tell me a bit more about that?’, ‘what do you mean by that?’ and ‘could you give me an example?’. The student group covered all the four grades, with 8 first-year students, 11 second-year students, 2 third-year and fourth-year students each. One may deem that the numbers of third-year and fourth-year students are small. This was because these students were too difficult to approach, although I attempted to contact them by every means. Every interviewee was informed about the general information of the research and the rights they had during conversations. A student participation sheet was finished by every participant, asking for their personal information such as age, gender, year of study and major curricula.

5. Data analysis

There are several approaches for phenomenographic analysis (Varnava-Marouchou, 2007). Personally I followed a typical analytical approach described by Booth (1997). Audio-recorded interviews were transcribed verbatim (Åkerlind, 2005) and some important quotes and excerpts were elicited and gathered as the ‘pool of meaning’ (Marton, 1986). Then I studied them at both individual and collective levels to look for similarities and differences. By understanding, interpreting and comparing what subjects’ comments, different ways of experiencing and understanding the phenomenon began to emerge. It should be reiterated that collective rather than individual conceptions are the aim that phenomenographers are seeking for at this stage (Sin, 2010). In the following step, I carefully categorized and named all the chosen quotes until they were finalized. Ultimately the hierarchy for these categories were constructed based on their structural relationship.

Since the foci of phenomenographic study lies in researching people’s experience of a phenomenon, it is highly necessary for researcher to ‘bracket’ his own subjective insights and previous experience. This is essential for both data collection and data analysis processes.

6. Findings

In total six conceptions of learning has finally been identified, including learning as memorizing, acquisition of knowledge and skills, application, understanding, interpreting reality and change as a person.

6.1 Conception A. Learning as memorizing

Students subconsciously responded that in order to learning something they had to remember, although many considered that memorization was low-level learning. In the Chinese context memorization is highly emphasized during the process of learning, from primary schools to universities.

Learning something by heart and never forget it. *S04*

Let the knowledge enter the brain and memorize. *S05*

It is rote learning, memorizing some concepts with no technological element. *S11*

[Learning is] acquiring knowledge and learn it by heart. S14

The dominant motive for memorization is to pass tests. It is found that most students related memorizing knowledge to passing exams, especially those ones conducted by Chinese lecturers. The fact is that conventional written examination is predominant on Chinese campuses. It was the university's regulation that lecturers must test the students by the final close-book examinations. Students were required to keep what has been taught in class in mind and write them down on the test paper. Educators believed it to be the most effective tool to test the extent to which students have learnt something.

For example, memorize knowledge before final exams. (I will) put everything down and focus on this, that is, this is the only thing in my brain. S05

I can memorize it despite I don't understand it, it's only a sentence anyway. ... Because you have to attend the exams and you can't do anything about it. S11

Learning is ... I'm a student for exams. Learning is good and I like it. Usually I motivate myself by means of exams. S22

However, many students were very suspicious of the functions of exams. In addition they depicted the miserable experience before the test date.

I don't think exams could be able to show what you've learnt. You memorize intensively before the test date and then you pass, but you have no idea of what you've learnt. I think all the universities are the same, making effort at the last moment (memorize intensively before the test date) but (students) learn nothing. S01

I don't like the exams. They're very intensive and you have to memorize many things because we've taken many courses. The two weeks before the exams are tough, your biological clock is abnormal and you must learn all the things every night. S17

6.2 Conception B. Learning as acquisition of knowledge and skills

The conception that learning is the acquisition of knowledge and skills is a dominant topic for most interviewees. The most evident change as a result of learning was the quantitative increase in terms of knowledge. All the interviewees initially regarded learning as getting more than they did in the past.

[Learning is] you learn something new from familiar or unfamiliar areas. This is what I call learning, it should be new things anyway ... S02

Reading book is learning, taking courses is learning. (Learning is) study something you don't know before. ...I knew nothing about politics and economy. Now I've learnt some theories and what the crises are about. So I've really learned something. S08

First I've learnt some knowledge I've never learnt before. Then my horizon has been expended and I can better understand the society. S12

First my professional knowledge has been enriched, which is the 'hard aspect'. ... Learning should be a kind of behavior through which new things could be accepted purposefully. S13

I wish I could get some professional knowledge throughout these four years, and expend my horizon to broaden the scope of knowledge. ... I hope the knowledge I get would not restricted within economy, say politics or something. ...I think learning is expanding your knowledge by all means. S15

I choose the international economics and trade to learn professional knowledge. ...Learning is exploration and acquisition in an unknown area. First it should be unknown or unfamiliar, and then you should explore it, like excavating. Then you let the thing become from unknown to known, from unfamiliar to the familiar, and you obtain it. S20

I've gained lots of knowledge now and become an expert (laugh). I'm able to explain something to others who are unfamiliar with finance. S22

It is very important that I've learnt lots of knowledge. Besides ... I've obtained some advanced western ideas, which are very different from ours. S23

Students were very confident that they were more able to develop their language ability and professional knowledge, compared to those students who were in the conventional IET program.

You may learn much less if you choose a domestic subject rather than an international program. Because ... my English would not be improved, and I cannot refer to another area of knowledge. For example, I've learnt English and read English textbooks, ... and I can't help touching the foreign (knowledge). If I choose the domestic international economics and trade subject, my knowledge would be very narrow. S20

Moreover many interviewees expressed that they had acquired multiple skills while learning in addition to the knowledge aspect. Subjects were very practical and holding very pragmatic view, as they showed strong career orientation, although some learning-related and life-related skills could also be discovered.

My aim (of learning) is clear, ... to get the Intermediate Accounting Certificate through exams, this is my goal. S03

I want to learn something practical, like accounting, to equip myself with a professional skill. ... I wish I could get a certificate through exams, so that I don't have to worry about finding a job. S09

[Learning is] to grasp certain knowledge or skills with the help of lecturers' explanation and students' collecting information. S11

The 'soft aspect' includes the ability of reading English literature and how to communicate with both Chinese and foreign lecturers. S13

We have some foreign lecturers and we often find some opportunities to communicate with

them to enhance our oral English, which is very useful. S14

... My ability of analyzing has been enhanced. ... I can understand a topic and provide an in-depth analysis and finish a paper about it within a short time. ... This is the most significant skill I get in university. S15

We often write English articles, including how to translate and how to collect information through overseas websites. Some technical abilities like these. ... I learn some knowledge on interpersonal communication when I interact with other students ... I think what we've truly learnt is the learning ability. S16

Learning is improving your abilities by learning what others' achievements. These abilities include the ability to understand, the ability to learn new things and the ability to create new things. S17

Learning goes beyond what the teachers say and taking courses. I've never lived on campus before entering my university. I have to learn a lot while living independently. (Such as) how to get along with others while living in the dorm. S19

6.3 Conception C. Learning as application

Interviewees in the discipline of IET highly valued the application of the knowledge they had learnt. Some even argued that one could not claim he/she had learnt something unless he/she was able to apply it in practice.

Although you have learnt it, you cannot apply it, this is equal to no learning. ... I learn something in order to apply it. ...For example, you come across some phenomena in life, and you could apply some principles of economics immediately. S03

Be clear about what it means, and you can apply it. ...By the time you understand them all, you could truly understand how these theories come about and how to apply them. S10

... and you could apply it skillfully in any occasion without feeling nervous or abrupt. ... I think when you've learnt something, you won't need to deliberately learn something in your future work, as there's something already in your head and you could apply what you've learnt. S13

While analyzing some issues, you may discover you can apply some knowledge being taught in the class very skillfully. S15

If I learned something or understand something, I can apply it or use it as an analytical tool in daily life. S18

6.4 Conception D. Learning as understanding

Understanding was important in students' learning, as they had to show engagement in this process and internalize relevant knowledge. Many interviewees stated that understanding was

to know about the meaning of models, theories and graphs. However, some considered that understanding should be at a very high level.

Take the graph for example, (I should know) what it means if it goes up or down and what the axis represents. S09

You can understand what the teacher has taught in the class. Perhaps it's only a sentence, but now you can understand what it means… S17

I feel that understanding should be deeper. If you understand something, maybe you're an expert in this area. S18

Some subjects stated that there were three ways in which understanding could be achieved: doing exercises, problem solving in practice and explaining theories to someone else.

I think for economics, you have to understand theories through real cases. For some equations in accounting, you need to calculate, to analyze statement. S11

Understanding is to comprehend better by doing exercises. Furthermore you could recall it in real life after you've been taught. S13

I think (understanding) is I'm able to repeat it to somebody else, … that is, I can explain it like the teachers do. S09

In my opinion, it's not the equations and theories that you can blurt. In fact I can understand it and I know how to use it and explain it to others effectively in life. … To let others obtain the knowledge in this area through my explanation. S23

The difference and relationship between understanding and memorization was also discussed frequently by many subjects. In this context students seemed to coordinate the two well.

You may memorize something for a long time if you understand something. If you memorize mechanically, you have to go back and read it again and it is easy to forget. S05

It's not impossible to memorize if you don't understand. But you may not be able to understand it despite you memorize it. But you can memorize it easily if you understand it. S11

Both memorization and understanding are methods. But the results of the two are not very different. Good memorization may be better than understanding. … I think understanding is similar to maths, and it is another way of memorizing, but the memorization is in your head. For example, if you use the equation very often, you would recall it automatically once you come across similar questions. … Correct application is a kind of understanding. S16

6.5 Conception E. Learning as interpreting reality

Learning could significantly impact the ways in which learners see the real world and even learning *per se*. In the first place some students expressed that they had gained a new perspective to see the world around them.

I think I've gained a lot while learning microeconomics, that is, increasingly I can think about problems from an economic perspective. S01

I can analyze some problem from a relatively professional perspective. ... After all I'm learning economy, my perspective of seeing some hot economic issues and my personal view towards them would be different from those who are learning other subjects. S15

Also students had formed their own views towards certain phenomena.

For example, when you deal with work-related affairs, say you're engaging in the financial analysis, you can use some models at once and form some views of your own. S03

I understand the issue, and then maybe I will collect some information and create my own opinion on it. S11

Now I would extract the central idea of a paper, or I would create my own opinion towards a paper. ...I may summarize it with my own words, or apply it to somewhere else, or convert it to my own knowledge. S15

Sometimes you are able to add your new thoughts, having your own opinions. But I feel it's difficult to have your own view, as my knowledge accumulation is small. S17

Secondly two interviewees stated that they extended their definition of learning. The two related learning to not only classroom activities, but also many circumstances in real life. It could be seen that their role in the process were very active and they engaged themselves in the affairs enthusiastically.

Learning includes everything. Even my chatting with you is learning, I'm learning your advantages. ... Now learning goes beyond textbooks. You have to attend interviews and learn how to be interviewed, how to grasp others' needs. All of these are learning I think. S13

Now in the university I find that learning is more than learning knowledge on campus. Taking the courses, reading notes, doing exercises and analyzing data are a kind of learning. I think it is also a sort of learning to buy stock and funds as a business student, and I can feel something in doing so. I often go to the national library and read books, which is also a kind of learning. I also have my hobbies such as ancient architecture ... and I learn something from them. ... This is a kind of learning as well. ... Learning can exist in every second in your life. S23

6.6 Conception F. Learning as change as a person

Most students felt and realized the changes university learning brought about. In fact many of them started to live and learn independently since they entered the university, and thus they changed as a person. This conception could be viewed as the result of the above ones. Interviewees expressed that they were becoming more mature and independent as time went on, which could be proved by their changing thoughts and behaviors.

[Learning] improves my mentality to a large extent, because I get rid of being immature, this

is the most important. 04

I'm away from home. I've learnt how to get along with my friends and how to live my life. ...I think although I've been educated for so many years, I don't remember much knowledge. The most important is the experience of learning. ... increasingly I'm growing up and I've learnt how to be a person (how to behave). S07

I'm growing to be independent throughout the four years, which means I don't change myself regardless of what others do. ... I don't want to be impacted by anybody else. S10

I used to be very impatient in the past, but increasingly I became calm. Moreover I'm becoming more logic while doing things. You may discover this when I do something and discover my changes. S16

I'm becoming more mature (laugh). Having learnt so many things in the university, my thoughts are changing, becoming more comprehensive. I can plan for myself in a more comprehensive way. S19

I find myself to be more and more independent. In the past I listened to my parents and classmates. Now I realize that everyone has his/her own way and I should listen to myself. S22

Although we received education of foreign style, we're based in China. We reached a consensus that we wanted to go abroad. We've been taught like this, but we haven't applied it to the real world. So we want to see what it has created. In the last year of my high school, I totally didn't agree with my parents who wanted me to study abroad. I find I'm changing this idea throughout these two years. I want to go abroad, and my classmates wish so as well. S23

7. Discussion and conclusion

Essentially there are not many differences between the categories this empirical research has identified and those ones concluded by other researchers, although the study was conducted in the Chinese higher education area and under the circumstance of international education context. For example, conceptions A, B, C, D and F could also be found in Marton *et al*'s (1993) study many years before. The only distinction is Conception E, where Marton's team came up with learning as seeing in a different way.

The six conceptions of learning the study has finally identified can be divided into 'reproductive' and 'transformative' ones, as McLean (2001) suggests. The conceptions of learning as memorizing (A), acquisition of knowledge and skills (B) and application (C) are at a lower level, whereas the conceptions of learning as understanding (D), interpreting reality (E) and change as a person (F) are more advanced. In other words, the 'transformative' categories are more profound than 'reproductive' ones, as they may impact students' future life and career development (ibid).

Through the 23 conversations with these young students, it could be perceived that they were impacted seriously by their qualitative ways of experiencing learning. Those with more

advanced ways of experiencing learning were more mature in terms of behaviors and thoughts, and they were more capable of dealing with academic tasks under pressures from daily life. Theoretically the 'transformative' conceptions' require students' personal involvement and engagement, that is, being active rather than passive in learning. Thus it might benefit learners and improve their academic performance. However, if students merely focus on some 'reproductive' conceptions, they may become aimless and depressed while facing huge academic stress. Approximately only 45% students expressed the more advanced conceptions, which means over half of the students were struggling with their learning. It is therefore suggested that young students hold some 'transformative' conceptions of learning. This might be achieved by improving the teaching quality and the arrangement of curricula, as Marshall, Summers and Woolnough (1999) claim, conceptions of learning may profoundly impact the teaching and course design.

The investigation could be viewed as the first attempt to introduce phenomenographic approach to Chinese higher education. Given the extensive use of phenomenography in the western tertiary education, I found no such study in the Chinese context. In this sense the research scope of phenomenography is expanded. Albeit no significant differences were discovered in terms of research findings, it is found that some still shows the characteristics of the Eastern culture. For example, Chinese students do not see the relationship between understanding and memorization as contradictory as many may do in some western education systems. They could even remember something despite they did not understand. Moreover some students were able to comprehend later what they have learnt by heart, which might be an unimaginable procedure for learners in the Western context.

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