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EXPERIENCE-BASED PERCEPTION OF RESEARCH LITERACY DEVELOPMENT BY ENGLISH UNDERGRADUATES IN CHINA

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Abstract

In the sagging world economy, innovation has been promoted to an unprecedented position. China is especially desirous of innovation to facilitate her realization of the China Dream. But the stereotyped Chinese undergraduates are poignantly criticized for their poor research literacy, especially English undergraduates who demonstrate poor initiatives in graduation thesis writing. The researcher, as a teacher for English majors in China, has long noticed the contradiction between the glamorous national prospects and the disappointing undergraduates' performance. She has integrated course paper writing in the research-oriented class, so as to arouse English majors' awareness of research and pave the way to research literacy development. The three-year longitudinal action research has been conducted by the teacher' raptly supervising the paper-writing process in addition to the subject knowledge study, in the hope of finding English majors' perception of their research literacy and the factors that help develop their research literacy. This research has also been aided with data from class observation, questionnaires and focus interviews, in an effort to further the previous philosophical discussion, and to suggest properly converting from the traditional cramming classes to research-oriented class in China.

Keywords

Experience-Based, Research Literacy, English Undergraduate, Research-Oriented Class

1. Research Background

According to the Council on Undergraduate Research (CUR), “Undergraduate research is an inquiry or investigation conducted by an undergraduate that makes an original intellectual or creative contribution to the discipline.” (Judith, 1997, p.1390) Since this definition allows disciplinary flexibility, people prefer to relate undergraduate research to academic performance or creative activities. Originating from the scientific investigation, undergraduate research has been extended to all disciplines including human sciences and arts, and has been highly valued in higher education, not only as a requirement of world-class talents in the information era but also as a result of development of mass education.

The conception of undergraduate research can be traced back to the German educator Wilhelm von Humboldt. In October 1810, he proposed that modern universities should be the center of research, shouldering the responsibility of creating new knowledge in addition to the function of talent cultivation. In the 20th century, especially after the Second World War, Humboldt’s conception of teaching/research unification was resurfaced and given a high value. Facilitated by the two Boyer reports respectively in 1998 and 2001, the leading universities in the United States have promoted undergraduate research to a new high (Lu, 2005), thus QS system regards research literacy as an important indicator in its ranking of world universities. Undergraduate research has reached an unprecedented high position.

New China has always been following the suit of the forerunners. In the field of higher education, undergraduate research has received more and more attention, from the foundation of New China in the late 1940s to the rigorous age of pursuing China-Dream and Double-initiatives. National educational policies have been ratified to rank research as a key component of higher education to produce quality talents. *National Long-Term Youth Development Plan* reiterates the importance of innovation in youth on 13 April, 2017. Many leading Chinese universities have conducted various projects to provide undergraduates with research opportunities, bringing about substantial benefits to the undergraduates (Wang & Wang, 2008; Zhang, Tang, Yan, Shi, & Zhang, 2009; Lv & Chen, 2014; Yu, 2014). Despite the positive theoretical and practical results from the

national policies and university attempts, undergraduate research in China still lags far behind that of American counterparts and exerts a serious disparity across different disciplines (Lu, 2005; Niu, 2007). Piles of research can be found about attempts in the subjects of natural sciences both at home and abroad (Barker, 2009; Huang, 2014; Li et al, 2015; Xia, & Fu, 2017), but radically fewer in English education.

Affected by disciplinary characteristics and limited by disciplinary development, foreign language teaching and learning in China has always been shackled by the experiential or skill-oriented mode for talent cultivation, and the undergraduates in foreign language studies have exerted a lack of research literacy. In 1998, English experts noticed a symptom of lack of critical thinking in foreign language undergraduates. In 2006, Professor Zhong investigated the ways of how to cultivate the elite talents and found students' indifference to academic curiosity, narrow vision of intellectuality, weak ability of thinking in undergraduates. Hu and Sun (2006) further found out a big gap between foreign language undergraduates and other arts students in aspects like depth of thinking, structure of knowledge and ability to analyze problems. In the particular field of research on research literacy of English majors, An Qi (2009) suggested our learning from American top universities. Fu Chong (2010) and Xia Yan (2013) summarized their university practice to enhance undergraduate research in the non-research universities. Over years, research literacy of foreign language undergraduates is still poor and requires further improvement (Xie, 2015). What is worse is that such philosophical analysis of research literacy in the field of foreign language studies in China cannot lead to satisfactory results.

Restricted quantitative research can be found about research literacy of English undergraduates. English professor Wen Qiufang and her team (2006) did a longitudinal comparative survey about the change of critical thinking ability across three years. They found that English majors lagged behind those students in other arts sciences after three years of campus life although they started no worse at the entrance. Quantitative research by Zeng (2010), Fu (2011) and Guo (2014) further confirmed the poor research knowledge of English majors and their utilitarian attitude to research. This unpleasant situation of English undergraduates is clearly indicated in their graduation thesis writing (Sun, 2004). Poor undergraduate research literacy afford "nightmares" to the English thesis supervisors. Despite all the above efforts in the research literacy investigation, clear flaw can be found: although some research has been done on

academics' perceptions about research (Borg, 2009; Li & Millwater, 2011; Hudson, 2012), no research was done from the perspectives of the undergraduates themselves as research practitioners in China.

Under such a circumstance, this research was conducted by the teacher-researcher in her class of 30-hour research-oriented teaching mode. The research was based on the three years' action research of undergraduates' performance in the writing of the course paper as the research result, aided by a questionnaire of all the participants and a focus interview.

This research aims to find out:

- 1) What perceptions do the English undergraduates have of research?
- 2) What factors are involved in their development of research literacy?

2. Research Design

This research integrated course paper writing into the research-oriented class so as to find out the specific factors that are perceived by student-researchers. The research was conducted when the participating undergraduates experienced the process of research and finished their research course paper and self-rating questionnaire, providing a general picture of their perceptions about research literacy.

2.1 Subjects

This research was carried out by the researcher as teacher of the subject knowledge over three years, in 2015, 2016, and 2017. The participating subjects took this optional research-oriented course in the sixth term after the preliminary introductory course in the fifth term. Because of disciplinary characteristics, altogether 78 (N = 41; N = 21; N = 16) undergraduates selected the course, mostly girls, only one boy. The pre-course investigation showed that they took this course for mainly three reasons: credits, subject knowledge and preparation for postgraduate programme. Even some chose the course for the charm from the instructor.

Figure 1 shows that generally the learning of the subject knowledge is very important for English majors. While credit is primary for the students in 2017, it is secondary to knowledge for the students in 2015, 2016, which is of significance to their conceptions after their research experience.

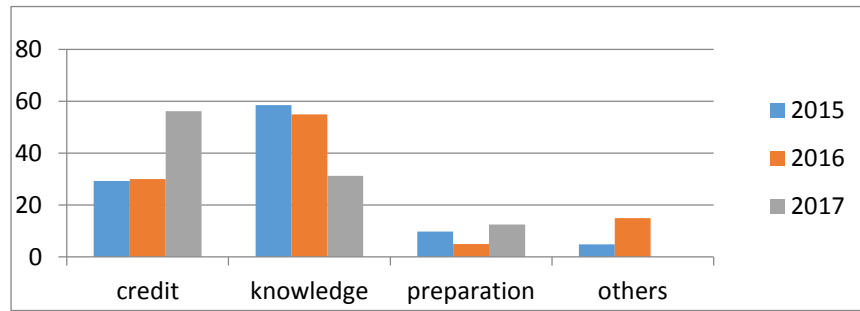


Figure 1: Reasons for taking the optional course

In another pre-course investigation about whether they had written course paper, all of them answered YES. But after this research practice, they found their former paper could not be called PAPER in its full sense, only a composition as a brainstorming result at most.

2.2 The Process of Research-oriented Class

The teacher integrated research in the subject knowledge learning process and supervised students' research progress so as to observe the research literacy development of English undergraduates about their personal research experience. The research-oriented course integrated factors of research into subject knowledge, requiring a course paper as the result of their respective research project, so that every participant experienced research. "Based on the knowledge transmission and students' practical situation, the teacher created a problem environment and introduced students to an autonomous exploration of specific problems or situation by constantly asking questions and analyzing and solving problems, in the hope of training students' creative ability." (Hu, 2010, p.11) Course paper writing, as is employed in this research, is proved an effective way to bring students to the door of research literacy development (Zhang, 2006; Xu, 2007; Cao, 2012), and is frequently used in arts class.

2.3 A Questionnaire of Research Literacy

According to the above literature about research literacy and course paper writing, the researcher designed a self-rating questionnaire with three open questions and 22 items on 5-point Likert scale (5 for the most agreeable and 1 for the least agreeable). 13 items were about the positive benefits from research, and 9 items about the barriers from research. Those difficulties suggested the negative factors that are also involved in research. All the research participants (N = 78) turned in effective questionnaires after they took their final written exam.

2.4 A Semi-structured Interview

To complement the possible flaws in the self-designed questionnaire, a focus interview was conducted several days after the questionnaire, to provide the participants with a chance to voice their perceptions freely about the research experience. Six students were invited on 24 June, 2015 (A1-A6), and four students on 27 May, 2016 (B1-B4). The interviews centered on the similar open questions in the questionnaire. As several interviewees / informants were sitting together, their speech overlapped and recurred sometimes. Their speech was transcribed.

3. Results and Analysis

Question 1: A need for research?

Nunan (1992) provides a “minimal definition” of research as being “a systematic process of enquiry consisting of three elements or components: (1) a question, problem, or hypothesis, (2) data, (3) analysis and interpretation of data” (p. 3). As English juniors, the research participants have acquired a vague knowledge of research, overlapping what is mentioned by Nunan in the aspects of research awareness, methods and rationale.

- A6: My idea of research is to find some innovation. We may start from trifle points and go deeper and wider. We may tend to qualitative and quantitative methods. As you told us, qualitative research is done to explore further reasons according to philosophical analysis; quantitative method may be done with a questionnaire to collect and analyze data.
- B3: Research is needed when you meet with problems in your study. Without solutions in existence, you explore the problem with a certain method, for example, experiments by the science students. We arts students can retrieve documentary literature or do a case study, to find our interest and purpose and find the solution....We start from the real need and do careful thinking, or go a completely different way, to find our answer.

The interview results show that the participants take an overwhelming positive attitude to research because they have gained good harvest from the research practice. Even those who did not identify research in the knowledge learning changed their attitudes to research, as is shown in their speech.

- A1: I used to think research very lofty, far away from us arts students, usually practiced by science

students. After my practice of writing my course paper as my research result, I first learnt the format to make my paper standardized, then I extended my knowledge when I retrieved in the net, and then I became calm in my revision. I was impatient at the beginning; but after revision several times, I feel good. I become calm and speechless after several revision.

- B3: After the term of practice, I summarized what I have learned and presented it in the paper. I found my interest and obtained a sense of accomplishment. This is my biggest harvest. Pressed to write a paper, I had to dig my interest and read more materials. Without press, I would pay no notice of what interests me in class, letting it go like a wind. But when I was pressed to dig my interest, I did not let my interest go, and mould it in good shape instead. After finishing the writing, I obtained a sense of accomplishment.....What's more, if I can get a higher credit, I will feel better.

And their questionnaire results agree with their speech. The highest choice is their preference to start research right now as juniors to prepare for their thesis writing. The second highest choice is that they consider research as the requirement of high-quality students. What is different between their choices is that the students of former two years disapprove of relating paper evaluation to their written examination, but students of the latest year do not care much about their examination results. And the students in 2017 exert the highest inspiration for research in addition to subject knowledge. This is mostly because the idea of research has been increasingly accepted by students. When subject knowledge and research are paralleled, fewer and fewer choose only subject knowledge. This also confirms their prevailing acceptance of research in their life.

Question 2: What benefits have you obtained from paper writing?

From their answers to the open question, they show overwhelming approval of paper writing. From their research practice embedded in subject knowledge learning, they have found better ability-building in the following aspects: (1) learn the format; (2) enhance book knowledge; (3) learn many new things, especially of the topic, and broaden the vision; (4) learn the research methods, esp. material retrieving; (5) practice writing and editing: materials, outlining, drafting, revising, proof-reading; (6) exercise the logical thinking ability and critical thinking; (7) benefit the course learning: e.g. further linguistic studies, learning more about other languages, learning cultures, history of English, refining more details, systemize the interest point, word-formation process, etc. (8) achieve a sense of accomplishment.

The questionnaire results agree with their answers to the question. All the Means exceed 3.5, mostly higher than 4.4, and the S.D. is smaller than 1. This shows that they all identify paper writing as a reflection of research because they have realized that research practice has done good to their logical thinking, writing organization, personal expression, investigative initiative, information literacy, and proof-reading. Although some think that writing helps with their interest, they realize the help to different extent.

In the interview, they talked about the good points of paper writing to help research.

- B1: I feel, to the paper format as others have mentioned, if you require a format strictly, we will follow the instructions strictly. Other teachers do not pose strict instructions, we do not prepare strict format. As to the content, I chose Ma Jiajue (a college murderer) as my topic. I used to pay no attention to the current affairs. But after this, I learnt more about the current affairs. If we are more dedicated, we will get more and feel a sense of success. But if we are required to do it within a short period, we will play the game in a perfunctory manner, then we will get nothing. With more dedication, and more external good feedback, we feel a sense of success.
- A5: I remember my experience of writing the course paper. In the past we knew we would not get the credit if we did not write a paper. The (then) instructor did not put requirements for the format. But this paper writing gave me a sense of rebirth, a phoenix from the ash. Like a rehearsal, I experienced the graduation thesis writing. Very good. I take it seriously and have really produced a thing. That gives me a good feeling.

Question 3: What difficulties have you encountered in your research practice?

To the open question, some exaggerated that they met with tremendous problems shown as follows: (1) unclear of the format, esp. the references; (2) hard to read and organize piles of materials; (3) hard to get authoritative materials; (4) hard to find the points of interest; (5) unable to translate into English; (6) no adequate academic knowledge to facilitate the task; (7) unable to produce academic writing; (8) hard to find new points; (9) hard to write the outline; (10) somewhat restrained by what has been read; (11) restrained by limited time and subject knowledge.

The questionnaire results show that, different from what is shown in their approval of paper writing, the participants demonstrate difference in their disapproval of paper writing (S.D. exceeds 1). Although they encounter difficulties, they still identify with paper writing since they have

developed their research and writing ability. As to the item of instructor's role, they disagree with the item like "the instructor did not provide satisfactory instructions". Besides, they do not think the paper writing has distracted them from subject knowledge learning.

In the further interview, they mention the difficulty in searching for proper examples to avoid plagiarism. The logical organization and full illustration also hinder them from completion. Sometimes more readings will trap them into others' thinking, making them difficult to find their own positions. For some, the bad habit of procrastination has prevented them from writing into satisfaction.

Another piece of pitiful feedback comes from a graduate's reflection of her thesis writing. After she finished her thesis, she felt tortured so much that she decided not to go on with post-graduate study because she felt unable to engage herself in complex research.

4. Research Findings

The results of the research have provided answers to the questions.

(1) Research is increasingly accepted as normal for English undergraduates although they are still utilitarian to research.

J. Robertson and G. Blackler found that "students' relationship with research varies across the disciplines" (2006, p. 215): some are proximal to research while others are remote from it. It is important to make student experience research more equitable and more visible. "What students wanted was a more active involvement in the research process (research-oriented/research-based)" (Gresty & Edwards-Jones, 2012, p.153). The attempt to engage students in research opportunities encourages better involvement and clearer awareness. Such a picture of undergraduate research is reflected in this research.

The high percentage of identification with undergraduate research is attributed to the national research culture whose effect has been reinforcing over these years. The national policies have spurred every Chinese to play a due role in the pursuit of China Dream and the course of Double Initiatives. Every teacher and student in the educational field has felt the spur and committed to doing their share. And the campus environment has also done its share in pushing the students to the threshold of research. The student researchers mentioned several times their preliminary research practice in their fresh year. Although they were not formally instructed about research,

they had felt the impulse to look into matters. Thus this time when the real research was advocated, they could learn the full picture of research, and obtain the rebirth. Additionally, extra curriculum innovative activities, like the lectures and innovative projects, have scattered the seeds of research and then take the root.

The research-oriented course which embedded research in course learning and offered direct access to research has proved effective and prevailing to help students develop research literacy. When students are involved in scientific research in the course of their learning of subject knowledge, they can obtain the very ability to apply basic theory to thinking that may give birth to innovation. Even if some students have difficulty in practice, instructor's good-willed facilitation will fan the spark of interest in students and help them to find the right way to arrive at their destination. It is necessary to transform more classes from the traditional cramming style to research-oriented style in China.

Actually these English undergraduates accepted research essay for a very utilitarian purpose: preparation for future thesis project for graduation. All through the three years, most English majors chose this for their willingness to conduct research. This situation is further confirmed by the high percentage of their choice for knowledge, and their reluctance to relate research to their credit. On the one hand, they are more confident of book knowledge; on the other hand, they are more concerned about credit results. They welcome all attempt to add more credits.

(2) Limited research practice lends them a vague idea of research. There is still a long way to research literacy for them.

All of them have felt satisfied with the research-embedded experience, at least in public. Students' personal practice in research has helped pin the specific factors involved in undergraduate research. As M. Healey maintained that "undergraduate students are likely to gain most benefit from research in terms of depth of learning and understanding when they are involved actively, particularly through various forms of inquiry-based learning" (2005, p.183). Improvement in ontological knowledge, academic norms, and a critical and widened vision has offered them a sense of satisfaction, in addition to improved writing in organization, discussion and presentation. All these indicate their progress in research quality.

Despite the often approved-of benefits, their actual performance reveals a long distance from the instructor's expectation of research literacy which is worthy of further cultivation (Fitri, 2017).

First and foremost, all the student researchers turned to reading document for philosophical analysis. No one tried hypothesis or data, as proposed by D. Nunan (1992). What's more, poor information literacy substantially restrained them from promptly pinning or synthesizing the appropriate resources. Inability to use analytic software prevented them from trying new methods. Thirdly, the undergraduate researchers repeatedly mentioned that they had learned the format of research paper. In fact they were deeply impressed by this just because the standardized format was first instructed strictly to them to meet academic writing. Their format was far from academic standards, since many did not know what to do with references. Besides, the student researchers lacked confidence in creativity. What is produced by the authority was well treasured and was easy to lay limitations to their individual insight, not mention the restricted ontological knowledge. Last but not the least, nurturing of their interest and resilience will take long, since not a few had a feeling of giving-up halfway in the face of the first serious work. An education of academic prospect is necessary. More efforts should be done to change for good.

(3) The instructor is very influential in undergraduates' research efforts.

Undergraduate research is featured by innovativeness, collaboration, publicity and instructiveness, thus the role of the instructor cannot belittled. The results from the questionnaire and interviews show that the instructor plays a versatile role in the research practice of undergraduates. The instructor transmits the subject knowledge, fans the interest spark in students, enlightens the investigative wisdom, and facilitates the course of exploration. A friendly teacher-student relationship is very helpful to the student researchers (Houser, Lemmons, & Cahill, 2013). The teacher is the first one for them to turn to for help. The informants mentioned several times that the instructor could help with their hints to take shape and further prevent them from procrastinating. The good-willed feedback from the instructor will inspire smiles on the student researchers which are also good rewards to the instructor. As Humboldt emphasized, academy is the symphony of researchers. In the common community based on the exploration of insightful knowledge, both the instructors and students co-work and collaborate as researchers to reach the discovery of new knowledge.

(4) Undergraduate research literacy is nurtured dynamically through autonomous practice.

Literacy is often exchanged with competence or quality, but is a better term for the developmental quality. DeSeCo admits the developmental nature of competence in a certain

context, but still defines it as a “prerequisite” (Rychen & Salganik, 2003, p.3) in the mind, something innate with birth, well established before a certain action. Competence can be outwardly demonstrated as various potential competences in different contexts, but competence itself is only intrinsically developing with the interaction with the specific context (Zhang, 2013). Competence develops with personal attitude and feelings involved autonomously in the interaction. It is a different case with literacy. Although literacy is traditionally related to reading, writing and computing, literacy involves a continuing process of purposeful learning in the context, so that individuals can employ potentials and acquire the knowledge to achieve their goals with varying contexts (Liu, 2014). Literacy is interacted with the surrounding environment, as an overall representation of the lifelong, sustainable process of finding meaning from a critical interpretation of the world. Literacy, as the mental development, is used in different contexts, hence citizen literacy, health literacy, research literacy. In this sense, research literacy embodies the intellectual progress that is achieved through research process.

Although research literacy may vary with programme specifications, the variants can converge into a framework of four potential dimensions which include different aspects to evolve with communal and autonomously personal factors. The complex ability that is employed and consumed in research has to be developed through the autonomous research practice. In cultivating students’ research literacy, what really counts is their personal experience from research practice, like course-paper writing for research-oriented class of arts, SRTP (student research training programme), and thesis writing. When all the potentials in research are nurtured or taken in by the student researchers themselves and become one part of their body, the practitioners can build self-efficacy and acquire the cognitive presence of research literacy (Wang & Shan, 2018). However, if the practitioners reject the activity and stop halfway, they have questionable research literacy to consume.

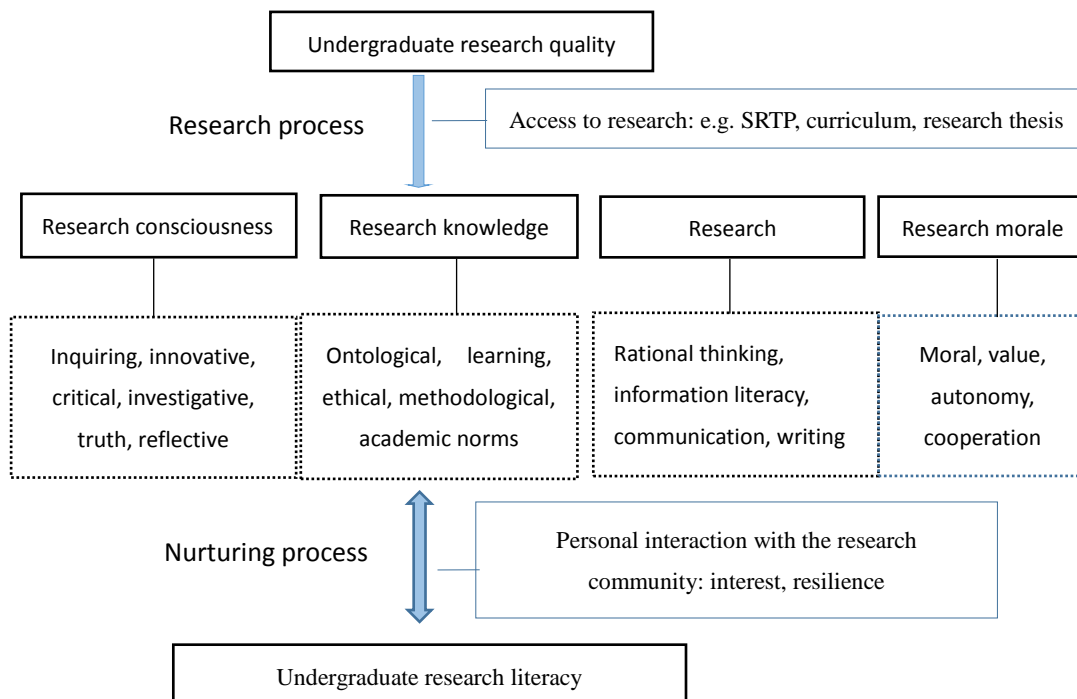


Figure 2: *Constituents of undergraduate research literacy*

5. Conclusion

Development of undergraduate research literacy is the important function of higher institutes which can not only help the intake of subject knowledge and prove a good method to promote the comprehensive quality of students. The literature review at the beginning of this paper shows fruitful research on the theory and practice of top-down efforts of building research literacy in China, but a deficiency in the research from the perspectives of the student researchers themselves. This researcher here hopes to fill the gap in this field, by using a combination of action research, a questionnaire and interviews. Further research can be done to measure more accurately the development of research literacy.

This research was conducted by the teacher-researcher on her student researchers. Although the data body is limited, the data about change through three years are also indicative and suggestive. The marginalized English majors are making progress and advancing quickly. When a great majority of the undergraduates have nurtured in research environment, we are sure to be on the way to innovation, and to China Dream.

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