

Beliefs about learning and learning strategies of Chinese English for International Business (EIB) students in project-based learning instruction

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Abstract: This study examined students' beliefs and strategies in project-based learning among International Business students in China and the relationships among these measures and their contribution to academic performance. In-depth interviews with 25 second-year students focused on their project learning experience examining their epistemology and strategy use. Analysis of interview data identified different patterns for beliefs, collaboration, and strategy use. Significant correlations were found among beliefs and strategies as well as with learning outcomes.

Introduction

Over the past several decades research attention has been devoted to students' beliefs about the nature of knowledge and of learning (Hofer, 2004; Hofer & Pintrich, 1997; Marton & Saljo, 1976). Recently, an increasing number of studies from two lines of research on the nature of students' beliefs of knowledge and learning, including cognitive and constructivist traditions (Hofer, 2004; Schommer, 1994) and phenomenography and student approaches to learning (SAL) (Marton & Saljo, 1976) indicate that students' beliefs exert certain influence on strategies of or approaches to learning (Pintrich, 2004;) and academic performance (Hofer & Pintrich, 1997).

Despite seeming differences of the two research perspectives in terms of terminologies and measurement, the main constructs they look into might be similar and overlapping in some sense. To date, limited work has been done to identify and clarify the situated nature of these constructs in a domain-specific and instruction-focused context in a bottom-up manner. Furthermore, most of research work mentioned above seems to have examined the individual aspects of learning. Although some research efforts were made to explore the nature of students' conceptions of collective learning experience and the relations between these conceptions and approaches to learning in western countries, few studies have been done on Chinese students' conception of and approach to collective learning.

Although an increasing number of studies indicate that collaboration is key to successful learning (Dillenbourg, 1999), limited research on collaborative learning has been conducted in tertiary education in China due to the taken-for-granted collectivist tradition. More research needs to address how Chinese students interpret project-based instructional practices through the lens of their existing epistemological perspectives, how these interpretations interact with their process of learning and academic performance.

In this study, we aim to identify the situated nature of Chinese business students' beliefs about knowledge and learning, conceptions of collaboration and the actual strategy use in doing project work and to further explore the relations among these aspects of learning with students' academic performance. Specifically, the following questions are addressed: (a) what is the nature of beliefs about learning and conceptions of collaboration among English for International Business students in China? (b) what is the nature of strategies students use in project-based learning environment in China? (c) what are the relations among students' beliefs about learning and collaboration, strategy use and academic performance in project-based learning environment?

Methodology

The study was conducted in a Sino-British joint EIB program in a business and economics-oriented University in Shanghai. The course we focused on in this study is a year-long course of English for International Enterprise offered by the British University for Year 2 students. A group enterprise project of doing small business on campus was designed for integration of higher-order learning skills, business English communication skills and the related business knowledge.

The main research method used is in-depth interviews. Participants in interviews are 25 (F= 17, M=8) Year 2 students on the British-Sino EIB joint program with average age of 21. Selected based on academic level and gender proportion, they were invited to 40-minute interviews to illuminate their interpretation of project learning experience. We designed semi-structured interview questions based on the framework in the existing literature and on preliminary findings from pilot study. The interview protocol incorporates three groups of questions, namely questions eliciting beliefs about learning, the actual strategy use and conception and strategies of collaboration. After the audio-taped interview data were transcribed, they were analyzed following the

principles of qualitative protocol analysis widely adopted in cognitive research. Analyzing the interviews proves to be an ongoing and iterative process.

Participants' academic results of the course were also collected. The results comprised of scores from different assessed tasks measuring both individual and collective aspects of learning throughout the year.

Results

Analyses of the protocol generated four dimensions of epistemological beliefs labelled as certainty of knowledge, organization of knowledge, source of knowledge and justification for knowing. Besides, evidence suggested to us a continuum of beliefs in each dimension. Responses to interview questions were coded and scored. The distribution of the three levels of beliefs about learning across the four dimensions suggested that most students hold rather simplistic views of beliefs in all the four dimensions. Only 14% of the students seem to view knowledge as contextualized and constructed rather than fixed. 12% of the students tend to see connections and interrelatedness of knowledge with the majority of students (64%) reporting linear structured view of knowledge. Only 8% of the students hold that knowledge resides in the inter-subjectivity in the discourse of collective learning while more than half of them (56%) believe in external authority as the sole source of knowledge. 8% of the students justify their knowing by relating, synthesising and evaluating experts' views but the overwhelming majority, more pragmatically, use demonstration or passing exams as criteria.

One interview question on a successful group work experience was designed to elicit students' epistemological belief on collaboration. According to the students' views on the way of doing group work—division of labour versus collaborative inquiry and the role of leader— authority versus facilitator, their views of collaboration can be divided into three groups: 1) leader-dominated and division of labour; 2) leader-delegated for sharing a collective goal; and 3) leader-initiated collaborative progressive inquiry. The three views of collaboration suggest increasingly sophisticated views of collaboration. Coding and scoring of the data indicated that 24% and 68% students held type 1 and type 2 views of collaboration and only 8% students reported more sophisticated conceptions of collective learning.

Interview questions were designed to elicit students' descriptions on how they approach the enterprise project. The interview data were transcribed, segmented and analyzed. The students' reported self-regulated learning strategies can be classified into the following five categories: namely, target goal setting; planning and activate prior knowledge; monitoring and controlling learning process and reflecting. The responses to each strategy were rated on 3-point scale (1-low and 3-high) with the total scores as those for self-regulated learning.

Analyses showed significant correlations between conception of collaboration with self-regulated learning strategies ($r = .50, p < 0.05$); beliefs about learning with self—regulated strategies ($r = .58, p < 0.01$). As well, we found that views of collaboration and strategies were both correlated with learning outcomes. There were no significant correlations between beliefs about learning and learning outcomes.

We conducted hierarchical regression analyses to examine the overall relationships among strategies and beliefs and the prediction of EIB learning outcome. We first entered self-regulated strategies followed by beliefs about collaboration. Students' use of SRL was a marginally significant predictor at .10 level on EIB learning ($R = .36$) explaining 13% of variance. When beliefs about knowledge were added, the change was not significant. When beliefs about collaboration were added, R increased to .55 adding another 16% of the variance. These results suggest that for EIB project learning, students' self-regulated strategies was a predictor, and how students viewed collaboration was a significant predictor over and above self-regulated strategies and beliefs about knowledge.

Future Directions and Implications

This exploratory study was mainly based on interviews with a relatively small sample of students during the process of doing the project. The inter-rater reliability check is currently undertaken. To capture the nature of beliefs and strategies, it would be more helpful to interview more students in different years to see how their beliefs and strategies develop during their tertiary study. Besides, quantitative data will be used as triangulation to provide more corroborating evidence.

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