

A Comparison of Pedagogy in China and USA Classrooms

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ABSTRACT

This research paper presents new findings in pedagogy as the result of a comparison of different teachings/learning styles in higher education at schools from China and USA. This study examined project-based teaching and learning at undergraduate business courses over three years. Both universities had similar business case studies, and results were tabulated comparing critical thinking as an outcome. Numerous teams of students reviewed and conducted research on the problem and presented an analysis or solution to the problem.

From a research standpoint little has been published to compare specific classroom teaching/learning styles between higher education in China and USA; thus, this paper presents an argument that learning outcomes are influenced by cultural and pre-college education differences. China utilizes more of a collaborative repetition model, whereas USA schools utilize more of an individualist critical thinking model. Project based learning and critical thinking pedagogy were utilized during this study for comparison basis. Therefore, this paper presents arguments and comparisons from an institutional standpoint between two universities in China and the USA.

Key Words: Critical Thinking, Active Learning, Pedagogy, Collectivism, Individualism

INTRODUCTION

This paper is based upon the outcome from comparing teams of higher education students in China [Changzhou] and the USA [New Jersey] through Project Based Learning (PBL). This form of teaching asserts that students and teachers must have Active Learning, Assessment, and Inclusivity within the classroom to be effective. Thus, a similar project was introduced at the two universities over three years. The project was a case study, and it required individual contribution, critical thinking, presentation skills, and teamwork.

Improving critical thinking, or ‘metacognition’ as cognitive psychologists prefer to call this set of skills, is the spearhead of many initiatives to enhance the standard of education in general and that of business education in particular (Tempelaar, 2006). However, there is little evidence that critical thinking is being taught or that critical thinking skills are being learned (Reid & Anderson, 2012). This paper presents arguments on

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performance from students in Chinese and American [USA] classrooms from a higher education perspective.

Chinese students face an acute need to bridge different ways of knowing and expressing what they know and are often characterized as unable to work in a critical context (Y. Turner, 2006). Dahlin wrote that “students and teachers in the Far East often see memorization and understanding as working together to produce higher quality outcomes.” In contrast, in the West, it is more common to associate memorization with ‘surface’ and understanding with ‘deep’ approaches to learning (Dahlin, 2000). Educators must understand that the culture of China is vastly different from the culture of the USA. Therefore, it appears that Chinese students tend to work collaboratively in teams while the USA tends to have a higher individualism characteristic.

A review of Hofstede’s *Cultures and Organizations: Software of the Mind* [2010] reflects that China is very different from the USA with respect to education. China is a highly collectivist culture where people act in the interests of the group and not necessarily of themselves (Hofstede & Hofstede, 2010). Students in a collectivist society only speak up in class when selected by group, and the purpose of education is learning how to do. Whereas students in an Individualist society are expected to individually speak up in class, and the purpose of education is learning how to learn (Hofstede & Hofstede, 2010).

LITERATURE REVIEW

A brief review of the literature comparing undergraduates in the two countries illustrates a variety of key findings when discussing the similarities and differences between college students in China and the United States. For example, Li conducted an explorative investigation of college students’ perception of instructor authority in both China and the United States. Using a theoretically-guided scale the Attitude towards College Instructor Authority (ACIA) Li measured college instructors’ perceived values of formal/informal authority, as well as the weighted role of their two, performed dimensions of professional competence. College students in both the United States and China were found to respect their instructors as authority figures and disregard their personal attitudes and relation with their instructors. (Li, 2012). Meanwhile, Tang’s examination of U.S. and Chinese college students’ reliance on cooperation or competition as success strategies concluded that U.S. college students are more inclined toward cooperation, whereas their Chinese counterparts rely

more on competition. (Tang, 1999). When examining the cross-cultural generalizability of the intellectual and ethical development of both Chinese and U.S. college students, Zhang determined that a students' cognitive developmental patterns seem to vary as a function of different cultural and education systems. (Zhang, 1999).

CRITICAL THINKING IN THE CLASSROOM

Teaching students how to think is a universal goal of educational institutions. Business schools have addressed this goal by injecting critical thinking activities into their programs, and by offering courses on managerial decision making (Smith, 2003). Cognitive growth is a gradual and cumulative process; there is no quick fix. It is more realistic to expect modest improvements in thinking abilities, a fact that makes assessment all the more difficult (Halpern, 2000).

A debate has taken place that questions whether individualism or collectivism is a key indicator for teaching and learning critical thinking. In China, where students grow up engaged with passive learning, cultivating critical thinking is one of the most difficult tasks in class (Guo, 2013).

A study conducted by Stanford University in 2016 points out the issue within higher education in China. "It's astounding that China produces students that much further ahead at the start of college," said Prashant Loyalka. "But they're exhausted by the time they reach college, and they're not incentivized to work hard" (Hernandez, 2016).

The study of Chinese education shows that Chinese high school students perform above international averages, but this trend either stagnates or drops during college. By looking at scores and other data, the study concludes this happens because of a lack of critical thinking (M. Turner, 2016) This point was also reiterated in a new York Times Article in 2016 by M. Turner titled: "Study Finds Chinese Students Excel in Critical Thinking Until College." Chinese students are simply too tired from the grueling pedagogy of primary and secondary education. The National Higher Education Entrance Examination (also translated as National Matriculation Examination or National College Entrance Examination or "NCEE"), commonly known as Gaokao has very intense preparation for students. Thus, when they are in higher education, there may be a lack of motivation to excel. Furthermore, critics say the exam promotes the kind of rote learning that is endemic

to education in China, and that hobbles creativity (Wong, 2012).

PROJECT BASED LEARNING (PBL)

Academic scholars for years have discussed the benefits of project based learning (PBL) in the classroom and consider it a model that organizes learning around projects. According to the definitions found in PBL handbooks for teachers, projects are complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations” (Jones, Rasmussen, & Moffitt, 1997; Thomas, Mergendoller, & Michaelson, 1999).

CULTURAL DIFFERENCES CHINA AND THE USA

Individualism lies at the very core of Western culture, and it is argued that it is the basis of liberty, democracy, freedom, and economic incentive. The emphasis on private achievement and maximum individual freedom embodied in this view of individualism was obviously in harmony with capitalist notions of individualism initiative, economic competition, and personal profit. In China, however, the corresponding value that forms the nexus of society is collectivism. Chinese generally think of themselves as being members first of all, of a group. The group is most important, and Chinese people are likely to have relatively few important contacts outside the group (Guo, 2013).

Cultural differences can affect students’ comfort level in working collaboratively versus individually, and they are reflected in the background knowledge students bring to a new learning situation (Bransford, Brown, & Cocking, 2000). Thus, for optimal impact, classrooms need to be designed for students to learn and retain at a high level.

Hypothesis

Studies examining differences in collectivistic and individualistic cultures often use either Asian Americans or people from Asian cultures, such as Vietnamese or Filipino and compare them to Caucasians or Americans (Desai, 2007; Skillman, 2000). In particular, individualism is mostly seen in the cultures of Western Europe and North America, whereas collectivism is mostly seen in the cultures of Asia (Nelson, 2014; Triandis, 1993). In China, however, the corresponding value that forms the nexus of society is collectivism (Guo, 2013).

In general, societies in which agreeing on social norms is important, and jobs are interdependent, collectivism is preponderant, whereas, in complex, stratified societies, where affluence, independence, and differences are emphasized, individualism is preponderant (Basu-Zharku, 2011).

Hypothesis 1:

H1_o: Students in individualist teaching environments have a lower rate of critical thinking than students in collectivist teaching environments.

H1_a: Students in individualist teaching environments have a higher rate of critical thinking than students in collectivist teaching environments.

American college students' memories were discrete, focused on specific events, and the individual's feelings, whereas Chinese college students' memories, were more general, about routine activities, and focusing on family and in-groups. Americans also stressed personal preferences and autonomy in lengthier narratives than the ones reported by the Chinese (Basu-Zharku, 2011).

Western cultures promote autonomy and put an emphasis on the individual's qualities, and children in these cultures are encouraged to stand out and talk about themselves, whereas Eastern cultures promote cohesiveness and put an emphasis on the group, and children in these cultures are discouraged from talking about themselves and the past and focus more on those around them (Han, Leichtman, & Wang, 1998).

Hypothesis 2:

H2_o: Students taught project based learning pedagogy have a lower rate of critical thinking than students taught through memorization and repetition.

H2_a: Students taught project based learning pedagogy have a higher rate of critical thinking than students taught through memorization and repetition.

Research Methodology

This paper utilized student assessment data from China and the USA. This data was approved by the appropriate IRB committees. Students were all volunteers, and cultural bias was controlled through the researchers understanding of each culture as well as utilizing a standard rubric for data collection. See table 1 Association of American Colleges and Universities AACU Critical Thinking Rubric.

Table 1 AACU Rubric

CRITICAL THINKING VALUE RUBRIC

Definition

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Knowledge/Skill	Capstone 4	Milestones		Benchmark 1
		3	2	
A. Explanation of issues	Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/problem to be considered critically is stated without clarification or description.
B. Evidence <i>Selecting and using information to investigate a point of view or conclusion</i>	Information is taken from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.	Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning.	Information is taken from source(s) with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken as mostly fact, with little questioning.	Information is taken from source(s) without any interpretation/evaluation. Viewpoints of experts are taken as fact, without question.
C. Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.
D. Student's position (perspective, thesis/hypothesis)	Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.
E. Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

The sample size consisted of approximately 191 students (see table 2) from China and the USA over six full academic semesters between Academic Years 2016 and 2018. Students were made up of undergraduate level and were assigned similar group projects between universities.

Table 2 Sample size

Team	Students									TOTALS
	USA S2016	USA F2016	USA S2017	USA F2017	USA S2018	USA F2018	China Sm 2016	China Sm 2017	China Sm 2018	
USA Class 1	5	25	21	14	25	21				111
China Class 1							19	11	19	49
China Class 2							21	10		31
TOTALS	5	25	21	14	25	21	40	21	19	191

The project consisted of group analysis based upon a multi-national corporation which was familiar to both universities such as Apple and Samsung. Teams in both countries conducted business case analysis on the firms and created a detailed analytical

paper as well as presenting a PowerPoint presentation of their results. All correspondence was conducted in English.

RESULTS

The results of the research paper reflect that the pedagogy styles of China and the USA are different and provided a view on two assumptions. Does individual teaching help improve critical thinking and does project based learning lead to higher critical thinking?

The first alternative hypothesis, H1_a: Students in individualist teaching environments have a higher rate of critical thinking than students in collectivist teaching environments, is accepted. A breakdown of the Association of American Colleges and Universities AACU Critical Thinking (Table 3) reflects that the rubric skill/knowledge areas “2, 3, 4, and 5” that satisfies this hypothesis. From the results, one can see that the USA students rated higher in each category over the Chinese students with scores of:

- B. Evidence - USA 4.75 and China 3.15
- C. Influence of context and assumptions - USA 4.61 and China 2.93
- D. Student's position - USA 4.33 and China 2.65
- E. Conclusions - USA 4.22 and China 2.56

The second alternative hypothesis, H2_a: Students taught project based learning pedagogy have a higher rate of critical thinking than students taught through memorization and repetition, is accepted. A breakdown of the Association of American Colleges and Universities AACU Critical Thinking (see table 3) reflects that the rubric skill/knowledge area “1” satisfies this hypothesis. From the results, one can see that the USA students rated higher in each category over the Chinese students with scores of “Explanation of issue - USA 4.98 and China 3.31.”

Table 3 Results

Knowledge Skill Results	A	B	C	D	E
Weighted Ave USA	4.98	4.75	4.61	4.33	24.63
Weighted Ave China	3.05	2.90	2.68	10.16	3.07
Variance (s ²)	0.7688	0.6728	0.8064	0.8581	0.7938

Statistical tests were conducted utilizing a t test (see table 4) and a regression

analysis (see table 5). Results showed that the Pearson Correlation was a strong relationship of the variables USA and China at .99 while the multiple r value of .99 reflects a strong model utilized for the analysis.

Table 4 t-Test

	<i>Weighted Ave USA</i>	<i>Weighted Ave China</i>
Mean	4.756862745	3.508196721
Variance	0.1331411	0.160843859
Observations	5	5
Pearson Correlation	0.993391072	
Hypothesized Mean Difference	0	
df	4	

Table 5 Regression

<i>Regression Statistics</i>	
Multiple R	0.993391072
R Square	0.986825821
Adjusted R Square	-1.666666667
Standard Error	0.048360102
Observations	1

CONCLUSION

The results from this comparison of two universities reveal that students from testing done in China were more inclined to score lower in the five critical thinking categories than their USA university counterparts. In particular the highest variance between the scores came from “Knowledge/Skill D” (Students position - imagination and taking into account the complexities of an issue) with a variance of .8581, followed closely by “Knowledge/Skill C” (Influence of context and assumptions - analyzing own and team’s position) with a variance of .8064.

Compared to American students, Chinese students are considered more reserved (Tung, 2016). Chinese students are not encouraged to share their thoughts and ideas in classroom settings, nor are they encouraged to ask questions (Chu, 2013). Thus, American students will openly express themselves more freely than Chinese students. This is evident in this study university comparison since Chinese students were rather quiet and reserved in their evaluation of fellow student’s work. While this paper’s observations reflect that USA

students were more willing to express their views during the project on their position and that of the team.

FURTHER RESEARCH

Future academia's can explore additional research with the same students as they progress throughout the four-year college level. Assessment could be done at freshman level and monitor progress through the end of senior year. This will provide a clearer picture of how each country addresses student learning through a four-year undergraduate program

Additionally, since this was a longitudinal study over three years, it may be low on internal validity, which is a weakness of this design (Cook & Campbell, 1979). Thus, a cross-sectional design might be appropriate to choose a "point in time" model, therefore, providing a compare and contrast between freshman and senior-level students (Flowers, Osterlind, Pascarella, & Pierson, 2001).

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