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## A comparative study of educational research in China and the United States

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This article examines one major research journal from China and one from the United States. The study compares the two journals with regard to three questions: 1) Who is doing research published in the journals? 2) What are the major issues and concerns represented in the journals? 3) What research methodologies are favoured in the journals? The authors believe that understanding another country's educational research practices, through addressing these questions, can better enable domestic researchers, educators and policymakers to acknowledge the major educational concerns and issues that exist across countries. As boundaries between national borders continue to blur, this understanding can help educational researchers better interpret and present their findings with greater international relevance.

**Keywords:** educational research; researchers; article features; research methodologies; China; United States

### Introduction

Educators and policymakers have become increasingly aware of the importance of understanding the educational practices of other nations for a number of reasons: (a) to assess the relative standing of their own education outcomes as an indicator of global economic competitiveness; (b) to learn from other nations' policies and educational practices in order to improve their own; and (c) to understand their own strengths and weaknesses in relation to other nations in order to identify areas of improvement. Consequently, the last few decades have seen an increase in large-scale international comparative studies on topics ranging from student achievement in specific subjects (e.g. the Trends in International Mathematics and Science Study [TIMSS] and the Programme for International Student Assessment [PISA])<sup>1</sup> to particular aspects of education (e.g. information and communications technologies [ICT] in education).<sup>2</sup> These studies often rely on raw data to draw conclusions and develop explanations, a method which is expensive and at times unreliable (Bracey, 1998; Callahan, Tomlinson, Reis, & Kaplan, 2000; Holliday & Holliday, 2003; Lee, 1999). What is more worrisome is the depth, or lack thereof, of understanding of the cultural, historical and social contexts surrounding the issues under investigation.

One way to alleviate these problems is to make use of existing research conducted by local researchers. In many cases, researchers from within the nation under study have accumulated large bodies of research that more authentically reflect the nation's concerns,

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practices, policies and contexts. Thus, a good understanding of work that has been conducted by local researchers may improve the accuracy in interpreting the results of large-scale comparative studies. Alternatively, a comprehensive review of the research literature of a single nation alone can shed light on the concerns, issues, and effective policies and practices in other countries.

However, a number of issues can make it difficult for researchers to take advantage of the local literature of another country. Language barriers are a major issue. A more fundamental issue may be the differences in research methodologies and approaches. People may not trust research findings that result from different paradigms or may have difficulties in interpreting them. Thus a comparative study of research from different countries can help us better understand the nature of research across countries.

This study represents an initial effort in this direction, with a comparative analysis of educational research from China and the United States. To do this, we examined one major research journal from China and one from the United States. We had four goals in mind. Our first goal was to develop and test a framework for comparing research methodologies between the journals. The second goal was to understand the epistemological and methodological differences and similarities between the two journals. Third, we wanted to know how knowledge was legitimised – that is, whose works the journals published. Finally, we were interested in understanding what the prominent issues that concerned each journal were.

We selected journals from China and the United States initially because of convenience. Our researchers had access to literature from both countries. Additionally, most of them were fluent in Chinese and English and had been educated in both China and the United States. As such, the journals could be read in the language in which they were written, with knowledge of the appropriate context of the research. Though we had made such a choice primarily out of convenience, there were a number of conceptual reasons that influenced our decision to compare journals from these two countries. First, both China and the United States are considered large countries in terms of their size and population, and thus they have two of the world's largest education systems. Second, the United States has the largest and most technologically powerful economy in the world and remains one of the world's most powerful nations; by comparison, China is quickly emerging as a global economic player. In both countries, education and educational research have played significant roles.

A third reason concerned the great differences between the epistemological traditions of the two countries (Nisbett, 2003). The United States has largely inherited the western epistemological tradition, which holds an analytical view of the world, typically characterised through empirical investigation. The Chinese tradition is rooted in the introspective Confucian tradition of knowing through reflection and wisdom (Wong, 2005). It is more inclined towards a holistic and dialectical approach, which sees the world as a complex whole with a full set of relationships, stressing the meaning and value of the whole over its components. Since China and the United States come from different traditions, this study is relevant to current interest in understanding how different epistemological traditions shape educational research (Zhang, 2006). We take these interests further by asking what we can learn from eastern and western epistemological differences about international education and educational research.

## **Methodology**

### ***Journal selection***

The journals to be reviewed were identified and determined through a three-step process. First, a list of “top-tier” education journals from China and the United States was

generated. The definition of “top-tier” journals was based on three factors: journal reputation (i.e. what professionals expressed as their country’s best educational journals); acceptance/rejection rates;<sup>3</sup> and circulation size.

The second step in the search and selection process involved preliminary evaluation to determine the quality of the journals and the feasibility of comparing journals from both China and the United States. As part of this step, sample journals and articles were selected, read and assessed based on the following criteria:<sup>4</sup>

1. The articles in the journals selected had to be “blind” peer-reviewed. The decision to include only blind peer-reviewed journals (determined by a subset of articles) was based on a concern for quality.
2. The articles in the journals selected had to have complete authorial information, including the author’s name, job title/position, institutional affiliation, and level of experience.<sup>5</sup>
3. The articles in the journals selected had to include a reference list of some form (e.g. works cited, bibliography). The inclusion of reference information speaks of the quality of scholarship of a given journal. It also suggests that the journals themselves value scholarly tradition and have also situated themselves in larger intellectual discussions on the issue of education.

After carefully assessing a small sample of articles from the top-tier educational journals, we chose the *American Educational Research Journal* (AERJ) to represent educational research in the United States and *Jiaoyu Yanjiu* (Educational Research, or JYYJ) to represent China. Both publications are considered to be very prestigious by the research community in their respective countries and are highly competitive for prospective authors, rejecting nearly 80% of submissions (M. LeCompte, personal communication, 18–20 June 2005). AERJ is published quarterly by the American Educational Researchers Association, which is a non-profit and independent association. JYYJ is published monthly by the National Institute for Educational Studies, a government entity in China. It has repeatedly been described as the most prestigious educational research journal in China (Zhou, 1991).

We examined all the articles published in each journal during an 18-month period from June 2003 to December 2004. Members of the research team collected, read and coded all articles, which included 8 issues of AERJ and 18 issues of JYYJ, published during this period. All articles that summarised recent educational conferences were excluded from this study. A total of nearly 300 articles were analysed for this study.

It is important that we acknowledge the differences between the journals. That is, we understand that the journals are not representations of each country’s academic universe. However, we must point out that this study does not attempt to compare apples and oranges. While differences in the journals as products are clear, the differences in scholars’ perceptions of the journals are not. We did not choose the journals necessarily because they ‘looked alike’. Rather, the journals were selected primarily because an overwhelming majority of scholars in each country described them as being among their country’s top educational research journals. Hence, this comparative study moves beyond the analysis of journals as content. Instead, it focuses on content (loosely defined) as the product of what scholarship in each country has valued.

### ***Data collection and analytic framework***

A coding system was developed according to the research questions through an iterative process. Since we aimed to examine the differences among the researchers, in the research focus as well as in the research methodologies employed, we started with three large categories in the coding system – *researchers*, *article features*, and *research methodologies* – and included possible qualities associated with each of these categories (see Table 1). The research team first randomly selected two issues from each journal and reviewed the articles using the initial coding system. Thereafter, two members of the research team independently coded 20 articles from each journal. The coding system was then modified to better reflect the qualities of the articles, following discussions within the research team about the results obtained using the initial coding system.

#### ***Researchers***

##### *Author's primary position*

The author's primary position reveals professional information about the researcher and his or her roles in the field of education research and/or practice. We identified seven subcategories: *K–12 teacher*; *K–12 administrator*; *university professor*; *professional researcher*; *graduate student*; *policymaker*; and *others* (e.g. media reporter or administrator).

##### *Author's research experience*

The author's research experience is an indicator of whose “voice” can be heard in the journal article. We divided author's research experience into three levels (from high to low): *senior researcher* (e.g. professor, associate professor); *junior researcher* (e.g. assistant professor); and *novice researcher* (e.g. graduate student). These three categories were derived from the author's title, description or position, as stated in each piece.

##### *Type of author's affiliation*

The institution that an author was affiliated with was recorded in the coding system. We wanted to know if the author's primary affiliation was with a *college/university*, *private research firm*, *school/school district*, or *administration/government*. This information was also available from the author's description and/or title.

Table 1. Categories of the coding system.

Categories	Subcategories
Researchers	Author's primary position Author's research experience Type of author's affiliation Primary function of author's affiliation
Article features	Context of concerns General topic/field Format/style Grade level
Research methodologies	Research methodology References

*Primary function of author's affiliation*

We were interested in whether the author's primary affiliation was *research-oriented*, *teaching-oriented*, or *vocational training*. To determine the primary function of the author's affiliated institution, different criteria were used for each country. According to a widely cited ranking of Chinese universities (Wu & Lan, 2003), 37 comprehensive universities in China were identified as research-oriented universities. Each university was scored based on its research accomplishments. The scores of these 37 universities accounted for 62% of the accumulative score of all the universities across the country. The percentage of PhD students, master's students and undergraduates in these 37 universities out of all the universities and colleges in China was 67%, 43% and 11%, respectively. We followed this university ranking report in our coding process.

For the US research, we relied on evaluation tools such as *US News and World Report's* annual surveys for the ranking of universities and colleges. We coded the author's affiliation as research-oriented or teaching-oriented based on the same variables as the Chinese universities and colleges, such as percentage of undergraduate, master's and doctoral degree students as well as the research dollars per capita. For example, those schools with relatively few research dollars per student were categorised primarily as teaching institutions, while those with a high ratio of research dollars per student were labelled as primarily research institutions. It should be noted that this only applied to institutions of higher education. Government agencies, think-tanks and non-profit research organisations were not included as places of teaching.

*Article features**Context of concerns*

We coded the area of investigation on the basis of whether it was primarily a *domestic* issue/topic, an *international* issue/topic, a *comparative* study of educational practices across countries, or focused on *general* educational issues that did not belong to these specific domains. We were interested in whether authors from one country were more or less likely to look at issues that were local or domestic (e.g. school vouchers in the United States) versus issues that crossed national boundaries (e.g. the use of high-stakes testing in different countries).

*General topic/field*

Because research questions or research areas are important, we were interested in the types of questions that were investigated in these articles. To this end, we divided this category into 16 subcategories in order to represent a range of research concentrations in the educational field: *curriculum*; *teaching and teacher education*; *assessment and evaluation*; *learning and learners*; *schools and educational structures* (social context of education); *technology*; *educational psychology and development* (human development); *research methodology and epistemology*; *educational policy and politics*; *educational foundations*; *rural education*; *educational reform*; *moral education and mental health*; *finance*; *administration and leadership*; and *others*. One reason for the wide range of topics was the generalised nature of the journals included in this study. Had more narrowly defined journals been examined and compared, such as curriculum- or policy-focused publications, our list may have been just as long but contained more discrete boundaries.

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#### *Article format/style*

As there were differences between the educational research discourse of the two countries, the two journals published articles in various formats. Altogether nine subcategories were identified: *research report*; *conceptual paper*; *policy report*; *book review*; *editorial report*; *literature review*; *practical paper*; *historical discussion/paper*; and *commentary*.

#### *Grade level*

The two journals chosen for investigation included studies at all grade levels within their respective education systems. The school systems in the United States and China share many similarities in terms of their educational sequence: from *preschool*, to *K–12*, through to the *postsecondary* level. In this study, *K–12* was specified as elementary and secondary. The last subcategory was defined as *all/general*, referring to all grades.

### **Research methodologies**

#### *Research methods*

On the basis of the research methodologies employed in the articles that we coded, we categorised eight regularly used methods: *experimental/quasi-experimental*; *case study*; *ethnographic study*; *secondary analysis*; *discourse analysis*; *survey*; *mixed methodology*; and *pre-post study/single subject*. Interestingly, however, when reviewing the articles in JYYJ, we found that many of them did not use any of these methods. Thus, we created an additional subcategory called *personal intuition/reflection*.

#### *References*

References are evidence of how germane a scholar's research is to the current research field, and how that compares with the work of other scholars with similar research interests (Diamond, 1986; Hamermesh, Johnson, & Weisbrod, 1982). In this study, we counted the number of references cited in each article. The subcategories were: *0*, *1–5*, *6–20*, *21–50*, and *more than 50*.

#### **Inter-rater reliability**

One member of the research team, who was not involved in the coding process, randomly selected 10% of the articles from each journal. These articles were then independently coded to test the inter-rater reliability. Eight articles were selected from AERJ and 29 articles from JYYJ. The overall inter-rater reliability was 92.2%; disagreements were solved through ongoing team discussion.

### **Findings**

We began by analysing three different but influencing domains that described the two journals: 1) authorship; 2) article features; and 3) research methodologies. In comparing the journals, we asked the following question: How does educational research in a major journal from China compare to educational research in a major journal from the United States in terms of who conducts research, the questions investigated, and the methodologies employed?

### Researchers

To get a sense of who conducts research that is valued by a top journal, we were concerned with the following questions: Who is selected to publish in AERJ/JYYJ? Where do they come from? What are their professional credentials or rank? What are their experiences and job titles? In answering these questions, we hoped to get a sense of who “spoke” through AERJ and JYYJ.

#### *Authors' primary profession*

As Table 2 suggests, the overwhelming majority of authors (95%) published in AERJ were university professors. Professional researchers authored only 3 of the 58 AERJ articles sampled (i.e. 5%). This finding suggests that AERJ not only values academic institutions, it also seems to promote knowledge contributed and produced by university professors.

Not surprisingly, as shown in Table 2, similar results were found for the Chinese articles. Of all the JYYJ articles coded, nearly 80% were authored by university professors, and less than 15% were authored by professional researchers. Graduate students and practitioners authored a very small percentage of the articles, slightly over 5%. Compared with its US counterpart, JYYJ had a broader range of authors, which included teachers, administrators, graduate students, policymakers, and a few individuals from other education-related fields (e.g. senior editors in publishing houses, chief executives of a national education TV channel).

#### *Authors' rank and experience*

Authors published in AERJ were primarily senior researchers (see Table 3). Around 75% of the articles were authored by professors or associate professors. Junior researchers authored approximately 20% of the articles. As expected, a relatively small portion of the sample was authored by novice researchers (less than 5%). This means that even within the institution, AERJ more often than not published the viewpoints and knowledge produced by senior scholars.

As shown in Table 3, nearly 90% of the authors in the Chinese sample were identified as senior researchers, while the percentages for junior and novice researchers were quite low (less than 10%). Authors of eight articles in JYYJ were identified as non-professional

Table 2. Frequency and percentage of author's primary profession in each journal.

Author's primary profession	JYYJ		AERJ	
	Frequency	Percent <sup>a</sup>	Frequency	Percent <sup>a</sup>
K-12 teacher	2	.7		
K-12 administrator	3	1.1		
University professor	217	77.0	55	94.8
Professional researcher	40	14.2	3	5.2
Graduate student	11	3.9		
Policymaker	1	.4		
Others	8	2.8		
Total	282		58	

<sup>a</sup>Percentages do not add up to 100% due to rounding.

Table 3. Frequency and percentage of author's rank/experience in each journal.

Author's rank	JYYJ		AERJ	
	Frequency	Percent	Frequency	Percent
N/A	9	3.2		
Senior researcher (e.g. associate and full professor)	246	87.2	44	75.9
Junior researcher (assistant professor/college instructor)	8	2.8	12	20.7
Novice researcher (e.g. graduate student)	18	6.4	2	3.4
System missing	1	.4		
Total	282	100.0	58	100.0

researchers, compared with none in AERJ. This is consistent with our findings for the first variable – that is, author's primary profession (see Table 2).

#### *Institution type*

Given what we already know about the relationship between AERJ and educational institutions, it is not surprising that an overwhelming majority (98%) of the articles in our sample came from colleges or universities (see Table 4). Only one article found in this study was from a private research firm. Hence, it is fair to say that AERJ, while sponsored by the academy, valued knowledge produced by the universities.

On the Chinese side, authors from colleges and universities contributed more than 80% of the coded articles; slightly over 1% were authored by school teachers and administrators. A considerable percentage of articles (15%) came from state-run research institutions.<sup>6</sup> This suggests that research in China is more closely tied to the government than it is in the United States.

#### *Institutional primary function*

As shown in Table 5, all but one AERJ article (98%) was produced in institutions whose primary function was educational research. Only one article was from a teaching institution. The data from JYYJ suggests that approximately half (51%) of all published articles were authored by those who work at research-oriented institutions, while 45% were written by those from teaching-oriented institutions.

In China, both research-oriented as well as teaching-oriented universities and colleges seem to be equally active in educational research, which is quite different from the United States, where research-oriented universities and colleges tend to dictate educational

Table 4. Frequency and percentage of author's institution (type) in each journal.

Institution	JYYJ		AERJ	
	Frequency	Percent	Frequency	Percent
N/A	6	2.1	1	1.7
College/university	230	81.6	57	98.3
School/school district	4	1.4		
Administration/government	42	14.9		
Total	282	100.0	58	100.0

Table 5. Frequency and percentage of author's institution (primary function) in each journal.

Institution	JYYJ		AERJ	
	Frequency	Percent	Frequency	Percent
N/A	8	2.8	1	1.7
Research	145	51.4	57	98.3
Teaching	126	44.7		
Vocational training	2	.7		
System missing	1	.4		
Total	282	100.0	58	100.0

research. One reason may be the fact that in China, most universities and colleges are teaching oriented. As mentioned earlier, only 37 Chinese universities and colleges met the criteria for a research-oriented university (Wu & Lan, 2003). This may be because the history of higher education is considerably shorter in China (Yang, 2004). There was no higher education institute in China until 1898, when *Jingshi Daxue Tang* (known today as Beijing University) was established. Although China has sped up its revolution of higher education in recent years, it still has a long way to go, especially in terms of strengthening its research capacity.

### Article features

In terms of article features, we asked questions pertaining to the contexts of concerns, article topics, article format/style, and grade level specification. We hope to understand what article features AERJ and JYYJ value.

### Context of concerns

The majority of AERJ articles were focused on domestic issues. Articles written about domestic educational issues and practices in the United States made up about 90% of the sample (see Table 6). However, 7% of the articles (4 out of 58) focused on issues pertaining to international education. Only one article was comparative.

As shown in Table 6, over 60% of the articles in JYYJ investigated domestic educational issues and practices in China, while 7% of the articles focused on international topics. Only a small percentage of articles (4%) reported on comparative educational studies. Slightly over a quarter of the articles (26%) looked at general educational theories and issues. These articles were categorised dually as domestic as well as international in their contexts.

Table 6. Frequency and percentage of context of concerns of articles in each journal.

Context	JYYJ		AERJ	
	Frequency	Percent <sup>a</sup>	Frequency	Percent <sup>a</sup>
General	74	26.3		
Domestic	177	62.8	53	91.4
International	20	7.1	4	6.9
Comparative	11	3.9	1	1.7
Total	282		58	

<sup>a</sup>Percentages do not add up to 100% due to rounding.

Apparently the dominant interest among the US researchers and educators was in domestic issues while about one-third of the articles in JYYJ were beyond domestic issues. This may be explained by China's Open Door Policy as well as a major trend of learning from other countries, which has been accelerated recently by globalisation (Yang, 2004; Zhou, 1991).

#### Article topic

The articles in AERJ covered a wide range of educational issues. However, there were some surprising findings. For example, articles about curriculum only featured once in the AERJ issues. Not surprisingly, most of the articles (25%) were about teaching and teacher education. Articles focusing on learners and learning and on schools and educational structures featured prominently, each accounting for approximately 20% of the total articles sampled. Over 10% of the articles were about educational foundations, while few of the articles were on research methodology and epistemology (2%). Articles on educational psychology and technology were also surprisingly poorly represented, given the popularity of the domain in the current educational discourse. Each topic comprised less than 5% of the total sample. These findings are presented in Table 7.

JYYJ had highly diversified topics, as shown in Table 7. The topic of teaching and teacher education and that of foundations had the same proportion (14%), which was the highest in the sample. Articles about schools and educational structure accounted for 10% of the sample, which was the second highest group, while the percentages for the rest of the topics were lower than 10%.

It was not surprising to see that both China and the United States seemed to have a considerable interest in the following topics: teaching/teacher education (13.5% in JYYJ and 25.9% in AERJ); schools/educational structures (10.3% in JYYJ and 19.0% in AERJ); and foundations (13.5% in JYYJ and 13.8% in AERJ).

Table 7. Frequency and percentage of general topics/fields of articles in each journal.

Topics	JYYJ		AERJ	
	Frequency	Percent <sup>a</sup>	Frequency	Percent <sup>a</sup>
Curriculum	22	7.8	1	1.7
Teaching/teacher education	38	13.5	15	25.9
Assessment	5	1.8	4	6.9
Learning/learners	14	5.0	11	19.0
Schools/educational structures	29	10.3	11	19.0
Technology	5	1.8	2	3.4
Educational psychology/development	17	6.0	2	3.4
Research methodology/epistemology	18	6.4	1	1.7
Educational policy	22	7.8	3	5.2
Foundations	38	13.5	8	13.8
Rural education	7	2.5		
Educational reform	16	5.7		
Moral education & mental health	13	4.6		
Finance	9	3.2		
Education leadership	18	6.4		
Others (parental relationship)	11	3.9		
Total	282		58	

<sup>a</sup>Percentages do not add up to 100% due to rounding.

Despite efforts to make the categories mutually exclusive of each other, articles often fell into multiple categories. For example, a few articles in JYYJ discussed the educational practices in rural areas from multiple perspectives, such as teaching education in rural areas, educational policy for teaching practices, and school structures. These articles met the criteria of several categories but we found that the initial categories did not truly reflect the article topics. Because this was a recurring issue, new categories emerged, including *rural education*, *educational reform*, *moral education and mental health*, *finance*, and *educational leadership*. These categories mirrored the major educational concerns in China. Among these, moral education and mental health had existed as an independent subject from kindergarten through to higher education in China for a long time, as a core component of citizenship education in China. The other categories (e.g. rural education, educational reform, educational leadership) are also related to the education reform that China has been undergoing recently.

#### *Article format and style*

As expected, a majority of the articles featured in AERJ (93%) were research reports (see Table 8). AERJ also featured conceptual papers and historical discussion/papers, representing more than 5% altogether.

Of all the articles sampled in JYYJ, more than half (55%) were conceptual papers. However, compared with AERJ, the percentage of research reports was much lower, covering around 15% of the JYYJ articles sampled. The third biggest group was commentary papers, with 14%.

#### *Grade level specification*

Many AERJ articles were not specific to any grade level (see Table 9), with about one-fifth (22%) of the articles not specifying any grade level at all. While AERJ did not publish much research specifically pertaining to higher levels of education (there were only two articles of this kind), it did publish articles specific to elementary and secondary education on a fairly general basis. Of the 58 articles examined in this study, 9 (15%) were specific to elementary education and 11 (19%) were specific to secondary education.

As shown in Table 9, numerous JYYJ papers (72%) did not have specific grade levels for their study. This trend can also be seen in our finding that most JYYJ articles were conceptual papers and commentary papers (70% in total; see Table 8), which therefore did

Table 8. Frequency and percentage of article formats/styles in each journal.

Article formats	JYYJ		AERJ	
	Frequency	Percent <sup>a</sup>	Frequency	Percent <sup>a</sup>
Research report	42	14.9	54	93.2
Conceptual paper	157	55.7	2	3.4
Policy report	12	4.3		
Literature review	2	.7		
Practical paper	3	1.1		
Historical discussion/paper	26	9.2	2	3.4
Commentary	40	14.2		
Total	282		58	

<sup>a</sup>Percentages do not add up to 100% due to rounding.

Table 9. Frequency and percentage of grade level specification of articles in each journal.

Grade level	JYYJ		AERJ	
	Frequency	Percent <sup>a</sup>	Frequency	Percent <sup>a</sup>
N/A			13	22.4
Preschool	1	.4		
Elementary	8	2.8	9	15.5
Secondary	9	3.2	11	19.0
Higher education	61	21.6	2	3.4
All	203	72.0	23	39.7
Total	282		58	

<sup>a</sup>Percentages do not add up to 100% due to rounding.

not specify any grade levels. However, JYYJ papers had a higher percentage of papers (22%) on higher education than AERJ.

### **Research methodologies**

#### *Research methods*

In terms of methodology, our results indicate that AERJ appears to value both experimental/quasi-experimental and ethnographic studies (see Table 10). Of the 58 studies sampled from AERJ, 25 (43%) were ethnographic studies, 20 (35%) were experimental/quasi-experimental studies, and 11 (19%) were mixed method studies.

Most of the AERJ articles were original empirical research studies and employed a recognised research methodology (e.g. experimental studies), while the majority of the JYYJ articles cannot be considered as original empirical studies. Given the situation of educational research in China, the overwhelming majority (close to 90%) of the articles published in JYYJ were not empirical studies. Only 31 articles (11%) adopted widely recognised research methodologies, with a tendency towards descriptive studies (6% case study and survey). Our results also indicate that quantitative studies in China lack original data collection (only two experimental/quasi-experimental studies; nine secondary analysis). In contrast, there were many more experimental/quasi-experimental studies among the AERJ articles. AERJ also had more recently developed methodologies (e.g. ethnographic study and mixed methodology) than JYYJ.

Table 10. Frequency and percentage of methodologies in articles in each journal.

Research method	JYYJ		AERJ	
	Frequency	Percent <sup>a</sup>	Frequency	Percent <sup>a</sup>
Experimental/quasi-experimental	2	.7	20	34.5
Case study	11	3.9		
Ethnographic study			25	43.1
Secondary analysis	9	3.2		
Discourse analysis	1	.4		
Survey			7	2.4
Mixed methodology			11	19.0
Pre-post study/single subject	1	.4		
Personal intuition/reflection	251	89.0	2	3.4
Total	282		58	

<sup>a</sup>Percentages do not add up to 100% due to rounding.

The majority of the JYYJ articles (89%) did not employ systematic empirical methodologies. Authors have the liberty to approach the writing of their article in different ways. Sometimes these approaches are based on their personal intuition or hypotheses, which may not be well supported empirically. These articles may resemble literature reviews; however, they do not seem to review the literature systematically or exhaustively. These types of writing are mostly like personal reflections since the ideas appear to be generated from personal feelings or thoughts and are not well supported.

### References

The data on references for AERJ is inclusive. Of the 58 articles AERJ sampled, 57 had lists of more than 50 references. This may indicate that AERJ values articles that are embedded in the field and that draw upon the works of other scholars in their production of knowledge. With its rich reference listings, AERJ provides a venue where academic conversations can be had across time and space; academics can draw upon reference lists to formulate lines of conversation and to forge connections with new colleagues. Table 11 describes how references are used in AERJ.

In stark contrast to the findings for AERJ, only two articles (less than 1%) sampled from JYYJ had references of more than 50. Most of the articles (slightly over 60%) cited 6–20 references. About one-third of the articles listed five or fewer references. In addition, 5 articles (less than 2%) did not contain any references, and 12 articles (less than 5%) had lists of 21–50 references.

### Discussion

This study set out to compare educational research in US and Chinese research publications in terms of who conducts research, what is researched, and how the research is conducted. The data presented in this paper reveal some interesting similarities and significant differences.

As reflected in the top-tier journals of both countries, university professors are the main producers of educational research. Research-intensive US universities are the major source of publications, as reflected in a top US research journal. In contrast, research- and teaching-oriented universities in China are playing an equally active role in contributing to research journals. Researchers from state-operated research institutions in China are an additional force of educational research in China. Compared to its US counterpart, the Chinese research journal seems to be open to a broader range of authors, including graduate students, policymakers, administrators and teachers.

Table 11. Frequency and percentage of references listed in articles in each journal.

Numbers of references	JYYJ		AERJ	
	Frequency	Percent <sup>a</sup>	Frequency	Percent <sup>a</sup>
0	5	1.8		
1–5	91	32.3		
6–20	172	61.0		
21–50	12	4.3	1	1.7
More than 50	2	.7	57	98.3
Total	282		58	

<sup>a</sup>Percentages do not add up to 100% due to rounding.

While both Chinese and American educational researchers seem to be interested in issues concerning assessment, structures of schools and foundational theories, Chinese researchers seem to be more interested in macro issues that have a greater influence on the educational reform and policy of their nation. This is reflected in the focus on areas such as curriculum reform, educational finance, leadership and policy. American researchers seem to be more concerned with micro and focal issues, such as learners' development and the learning process. This difference could be due to the nature of the journals but AERJ, while not a policy journal like *Education Evaluation and Policy Analysis*, for example, has two sections (Social and Organizational, and Learning and Development) to include both macro and micro studies. This difference may be partially attributed to the difference between the epistemological traditions of the two countries – the more holistic Chinese tradition and the analytic western tradition (Nisbett, 2003). Chinese researchers also pay more attention to moral education and mental health, which is regarded as the highest educational achievement according to traditional as well as modern socialist educational philosophy. Also, it is interesting to see that Chinese researchers seem to be more inclined towards studying issues beyond the scope of the domestic context. By contrast, only a small percentage of US researchers seem to be interested in education in other countries or in a global setting.

Significant differences were found with respect to how research is conducted in each country. A majority of the AERJ articles were research reports that investigated educational issues through empirical methods, while most JYYJ articles were conceptual reports generated from the authors' own personal reflections and theoretical interpretations, which were usually poorly supported by empirical studies. The results indicate that ethnographic studies and experimental or quasi-experimental studies are the two most frequently used methodologies by US researchers. However, Chinese researchers rarely used either of these methods. Mixed methodology, a recently developed research methodology, is considered promising in combining the knowledge localisation and specification of qualitative methods with the standardisation and generalisation of quantitative methods. It has become the third most popular methodology in the United States but so far has had little or no adoption in China. Coinciding with these findings, Zheng and Cui (2001) made a longitudinal analysis of five Chinese educational journals from the 1980s to 1990s. They found that the percentage of empirical studies remained extremely low, although there was a trend of growth in recent years.

Among the research methodologies, Chinese researchers seem to favour qualitative research methods over quantitative research methods. This finding is aligned with results from some precedent studies. Gao (2004) argues that this is because of the lag in the development of quantitative methods in China. Although qualitative methodologies seem to be more widely used in China, their use has been problematic because there has yet to be a clear but much-needed definition of "qualitative research methods". What researchers in China usually do is include every research activity that is not quantitative as qualitative (Chen, 2000). For example, philosophical discussions, personal opinions and policy explanation were all present in the JYYJ articles, although it is considered a research journal. Such practices are clear examples of Chinese epistemological traditions, where metaphysical and individual reflective thoughts are validated.

If we examine how JYYJ articles are written, it will help us develop a better picture of how knowledge and research is presented in the field of education in China. It is hard to find a pattern of presentation in the 31 JYYJ articles that used research methodologies. Some articles did not include a systematic and complete literature review; some mentioned their research methodology but did not provide detailed information about the context

of the research study (e.g. demographic information of participants); and very few articles mentioned the limitations of their studies.

The pattern described above, however, is not necessarily shared by American researchers. The first principle emphasised by the National Research Council (NRC, 2002) is that researchers should pose significant questions that can be empirically examined. The report also noted that research methodologies should be guided by the research questions posed. However, in Chinese educational research articles, such as those represented by our JYYJ sample, researchers either tend to ask more theoretical questions or are inclined to publish personal reflections and commentaries.

We need to bear in mind that the three questions we have asked in this article are not isolated from each other. Instead, they work together to construct the context in which educational research is conducted in each country. For example, the low percentage of authors using empirical research methodologies in articles published by JYYJ is closely tied to the fact that most articles are about conceptual topics (56%) or commentary (close to 15%). How the research is conducted may also be related to who is conducting the research. In China, there are more teacher practitioners authoring some of the research journal articles. One possible reason could be the comparative ease of formulating a “research” article in China than the systematic examination expected of every US study.

Chinese researchers’ deviation from empirical methods may be attributed to a number of reasons. Fundamentally, this has to do with how educational researchers are trained in graduate programmes, which are usually weak in research methodologies (Zhou, 2001). At a deeper level, empirical investigation and logical argumentation, which are integral to the western epistemological tradition, are often at odds with the Chinese habit of mind, which is characterised by holistic, dialectical thinking that relies on personal experiences, wisdom and reflection (Nisbett, 2003). Underlying the empirical approach is a set of epistemological beliefs: a good researcher should identify focal research questions and define problems that can be addressed through empirical investigation. Reliable conclusions can then be drawn from the data through logic reasoning, either inductively or deductively. Finally, any argument may face counterarguments, so a research report needs to develop an argumentation structure to warrant each claim using evidence in order to gain advantages over possible counterarguments.

In contrast, Easterners inculcated with a holistic and dialectical mental habit tend to pay more attention to contexts and relationships rather than objects. They prefer experience- and context-based reasoning over applying pure logic rules; and are more inclined to seek a middle course when confronted with apparent contradiction, rather than insisting on the correctness of one argument over another (Nisbett, 2003). These differences in thinking styles may have partly kept Chinese educational researchers away from using empirical, particularly quantitative, methodology. Even when educational experiments are conducted, they are understood more as an enterprise for improving educational practice and gaining new theoretical insights from contexts, as opposed to testing hypotheses through rigorous experimental data (Zhang, 2006).

The impetus for this study was the question about how much we can trust research conducted in different cultural contexts by researchers with different epistemological traditions using different methods. We selected two highly regarded journals representing two very different epistemological traditions and social contexts. Indeed we found differences, as expected. The primary difference was about what is considered good research by scholars in the different countries. Our findings have confirmed this difference for us, as measured by what is published in a top research journal in China and the United States. In China, articles tend to deal with macro issues but may not necessarily follow

a prescribed methodology of data collection and analysis. In the United States, there seems to be concern with more focal and often smaller issues, with well laid-out empirical data. This difference cannot be simply judged as “good” or “bad”. Instead, in the era of globalisation and of seeking cultural understanding, it is worth rethinking the purpose of education research in order to derive standards for judging this research. In the meantime, knowing the specific differences underlying different research literature can help us develop a better frame of reference when we approach that literature. For example, instead of discarding Chinese education research literature for its lack of empirical evidence or not following the western “scientific” way of data collection, it would be more fruitful to analyse the literature and understand the methodology and logic behind the reasoning of each study because that would enlighten us in our learning about education and education research in China.

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### Notes

1. The Programme for International Student Assessment (PISA) is an internationally standardised assessment that was jointly developed by participating countries and administered to 15-year-olds in schools. The survey was implemented in 43 countries in the first assessment in 2000, in 41 countries in the second assessment in 2003, in 57 countries in the third assessment in 2006, and 62 countries have signed up to participate in the fourth assessment in 2009. Tests are typically administered to between 4500 and 10,000 students in each country (OECD, n.d.).
2. The use of ICT in education has been studied in the Asia-Pacific region and beyond. This programme is supported principally by Japanese Funds-in-Trust. It provides country-specific information regarding the use of ICT in education and how ICT is being implemented into education systems.
3. Rates of acceptance and rejection were obtained directly from journal editors and/or their staffs. We contacted editors (and in some cases staff) explicitly by phone or email and determined acceptance and rejection ratios based on their responses or on information that they already had archived.
4. The articles selected to be evaluated were chosen to assess the feasibility of comparing scholarship in China and the United States. Hence, this stage of search and selection looked for commonalities between the two bodies of scholarship as the project aimed to determine how educational scholarship from the two countries compares.
5. Exceptions were made when it came to assessing for experience as the level of authors’ experience was not always explicit and therefore not always clear. In the case of multiple authors, preliminary data were assessed based on the availability of information for the primary author. No such consideration was given to other listed authors.
6. For a very long time, China has implemented a centralised top-down administration system. The Ministry of Education in China is in charge of education policy and practice at a national level while the local Department of Education varies from county-level to province-level and is responsible for following national policies and making local policies appropriate for the local situation. Most of these departments of education also sponsor an affiliated research centre. It is these affiliated research centres that we are referring to as “state-run research institutions”.

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