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# Chapter 2

## **The role of research in Chinese and Dutch university teaching: How does the cultural background matter?<sup>2</sup>**

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## **Abstract**

During the past decades, university teachers from both the East and the West have been increasingly called to involve their students in research, therefore they have to rethink not only their research and teaching practices but re-evaluate the role of research in their ongoing teaching. Thus, a survey was conducted to 1) what Chinese and Dutch university teachers believe the role of research should be in their teaching, 2) how they perceive their actual incorporation of research into their current teaching practice, and 3) how their beliefs about the role of research relate to their beliefs about teaching. Altogether, 284 university teachers from China and the Netherlands participated in the study. One striking result was that the Chinese and the Dutch university teachers were similar in several ways. They both highly valued the role of research in teaching in an ideal situation, and reported significantly lower scores on how well they have actually incorporated research into their current teaching practice. However, despite all similarities, the Chinese teachers were also found to be different from the Dutch teachers: They scored lower on how much they valued the ideal role of research, how well they could incorporate research into their actual teaching practice, and how much they agreed with teaching as conceptual change and focusing on an active role of the student. In general, the differences between the Chinese and the Dutch teachers may have their roots in Confucian versus Western educational philosophies, respectively, and the similarities identified perhaps reflect the Western influence on Asian higher education.

## 2.1 Introduction

The relationship between research and teaching has become an area of academic debate in several Western higher education contexts (cf. Deem & Lucas, 2007; Healey, 2005). After some unsuccessful attempts at demonstrating the relationship between research productivity and teaching quality (e.g., Hattie & Marsh, 1996), researchers have begun to take different approaches to investigating the way research and teaching are related. One of these attempts can be seen in a drive to involve university students in research- or inquiry-based learning, which has become a prominent feature of undergraduate programs in several Western countries, including the US (Boyer commission, 1998), UK (Healey, 2005), Australia (e.g., Brew, 2003), and the Netherlands (van der Rijst & Visser-Wijnveen, 2011). The popularity of this idea is based on the following assumption:

*Research activity can and does serve as an important mode of teaching and a valuable means of learning.[...] student involvement in research is an efficacious way to educate [...] the great mass of students, as well as the elite performers, for the inquiring society into which we are rapidly moving (Clark, 1997, p. 242).*

In other words, research could be a way of teaching that can accommodate the diversification of students' backgrounds, and a way of learning that prepares students for the complex world. It can be assumed that this trend will spread to the Asian countries, including China, because, as (Grigorenko, 2007) states, the Western educational practice is becoming overwhelmingly dominant throughout the world.

However, it is unclear how Asian and Western university teachers can tackle the issues arising from this process. For example, Asian university teachers may need to consider how to incorporate the idea of research-led teaching into their existing teaching practice, against their own social and cultural contexts and their different views towards teaching deriving from the Confucian heritage (cf. Altbach, 2009; Hayhoe & Zha, 2006). Western university teachers may need to search for new ways to balance research and teaching in response to a diversification of student backgrounds, due particularly to the influx of international students from different social, cultural, and educational backgrounds from Asian countries.

It seems that both Asian and Western teachers are struggling with the same issue regarding the relationship between research and teaching, and so it becomes interesting to explore the similarities and differences between them. Our study is situated in one Asian country, namely China, and one Western country, namely the Netherlands. The aim of this study is to explore Chinese and Dutch university teachers' beliefs about what the ideal role of research in university teaching should be, their perceptions of how well they have incorporated research into their actual teaching practice (for which the term perceptions is used instead of beliefs), and how their beliefs about the ideal role of research relate to their beliefs about teaching in general.

## **2.2 Theoretical background**

### ***2.2.1 Research-teaching nexus and teaching in general***

“Different ideas about the nature of research, scholarship, teaching and knowledge may have different consequences for how we bring teaching and research together” (Brew, 2003, p. 5). Teachers’ beliefs about the relationship between research and teaching may be mediated by their beliefs about teaching and research in general, and according to some recent studies, it is particularly teachers’ beliefs about teaching in general that correlate most strongly with beliefs about the relationship between research and teaching (Visser-Wijnveen, van der Rijst, & van Driel, 2012). Therefore, it is interesting to investigate further how these beliefs about teaching in general may relate to teachers’ beliefs about the relationship between research and teaching.

With regard to studies on teachers’ beliefs about teaching in general, several studies have reported a variety of beliefs about teaching (e.g., Samuelowicz & Bain, 1992, 2001), but these studies have also uncovered two general categories of teaching style: information transmission/teacher-focused and conceptual change/student-focused (e.g., Belo et al., 2014; Denessen, 1999; Kember, 1997; Samuelowicz & Bain, 1992, 2001; Trigwell & Prosser, 2004; van Veen et al., 2001). Our study aimed to explore whether these two general beliefs about teaching may affect how teachers think about incorporating research into their teaching.

### ***2.2.2 Western teaching ideas and Confucian heritage***

The Asian education tradition, which has been influenced largely by Confucius’ teaching philosophy, is believed to be distinctively different from the Western education tradition in terms of its ultimate goals and the means to achieve those goals. The distinctive nature of the two teaching traditions may provide a clear picture of the way how beliefs about teaching in general may mediate the relationship between research and teaching. In our study we chose Chinese and Dutch university teachers as examples of the Asian and Western education traditions.

The influence of the ancient Chinese educator, Confucius, is deeply embedded in the Eastern culture, and China in particular. As can be read in *Analects of Confucius*, Confucius saw moral education and the cultivation of benevolence as the ultimate goals of education (Niu, 2007), and emphasized the importance of knowing through reflection (Wong, 2011) and through emulating one’s seniors, who achieved supremacy of virtue and intellectual development first (Yang, 1993). He considered the role of teachers to be that of co-investigating with their students instead of simply transmitting knowledge (Shim, 2008), and emphasized the importance of teaching according to students’ abilities and

characteristics (Zeichner & Liu, 2010). Unfortunately, the traditional Chinese education derived from his teaching, particularly the Imperial Examination system (IE), consisted primarily of rote learning and memorization of the Confucian classics, and the exam results were used to appoint high-ranking officials (cf. Altbach, 2009; Hayhoe & Zha, 2006; Niu, 2007). Thus, traditional Chinese education narrowed its focus almost exclusively on the final product and the content of the Confucian classics. This tradition lasted for over a 1,000 years, and still has a significant impact on modern Chinese education (Niu, 2007) as represented in the National College Entrance Exam (NCEE). The NCEE results are used to determine college admissions, which have immediate consequences for the social and economic status of the students upon their graduation. Only during the twentieth century, under Western influence, did Confucius' teaching philosophies regain attention (Xiong, 1983, quoted in Niu, 2007), and have become highly valued for teaching and learning in modern society (Zeichner & Liu, 2010). It can be concluded that modern Chinese education developed under the influence of not only Confucius' philosophies, but also of the way they were practiced throughout history.

An early basis for Western educational traditions can be found in Socratic dialogues, in which teacher and students cooperate in the pursuit of objective knowledge through a robust exchange of questions and answers (cf. Hummel, 1994). The opening dialogue in *Meno* between Socrates and his student indicates that the teacher cannot or does not pass certain information in response to a student's question, but investigates an idea or concept together with the learner. He encourages his learners to explain their own ideas, which will ultimately lead to the correction of a wrong idea through discussion (Shim, 2008). To his student Plato, learning is the reasoned understanding of causes through what one already knows, in a gradual process, without hasty and compulsory leading on the part of the teacher (Shim, 2008). The Socratic method also highlights the necessity of having a matter investigated by the learners themselves rather than having them rely on hearsay. Learning through empirical investigation and observation was subsequently also emphasized by Aristotle. Influences from the Socratic method may have remained in modern Western education. The critical aspect is also stressed in more recent approaches to understanding teaching: Freire, for example, suggests the problem-driven educational system, in which teachers critically investigate a problem together with their students (Shim, 2008).

Western education, influenced by ancient Greek philosophers, holds an analytical view of the world, typically characterized through empirical investigation (Zhao, Zhang, Yang, Kirkland, Han, & Zhang, 2008), and do not assume something is true before the matter has been examined by the learners themselves. This Platonian/Aristotelian notion is radically different from the introspective Confucian tradition, which focuses more on emulating the master. Thus, it is interesting to see whether these fundamental differences may influence

teachers' current beliefs about teaching, and consequently their ideas about the relationship between research and teaching in universities.

### ***2.2.3 Western ideas in Chinese higher education***

Higher education in China has been influenced by the Confucian heritage as well as by a range of foreign influences over time. Western educational practice has become overwhelmingly dominant throughout the world (Grigorenko, 2007), including China. Western educational ideas were first introduced to China in 1902 (Niu, 2007); during the military conflicts the Qing government recognized the scientific and technological advances of the West. Later, in the 1980s, after the unsuccessful try-out of the Soviet model and a Chinese 'go it alone' approach to higher education, China again looked toward the West for ideas and launched a significant higher education reform (Altbach, 1989). Western institutional models were adopted, and adapted to the local context of China's higher education (cf. Altbach, 1989; Shin, 2012). Moreover, in the 1990s the government launched the *211 Project* and *985 Project* (see footnote on page 16 for a description), intended to build research universities in China (Hayhoe & Zha, 2006; Altbach, 2009). Universities supported by these projects seek to emulate especially the top research universities in the US. Through these projects, large numbers of university graduates and staff members are sent to study at Western universities, and scholars and professors from the West are frequently invited to Chinese universities (Altbach 2009). Therefore, "the faculty in China's top universities are now as internationalized in outlook and experience as those in major Western universities" (Hayhoe & Zha, 2006, p. 685).

Another way in which Western ideas may have influenced China's higher education relates to the high presence of Western scientific output, particularly textbooks and academic journals (cf. Altbach, 1989). China also respects Western academic journals as the standard of academic excellence. As Altbach put it: "contemporary scientific culture is basically Western — done in the West and communicated in Western languages. Most of the rest of the world recognizes that they must accommodate to this reality" (p. 27). In China, publications in top-level Western journals have become one of the most important factors for academic advancement.

Therefore, with respect to the discussion about the relationship between teaching and research in the West, it is not surprising that teachers from China face the same questions of how to relate research and teaching in their specific cultural, historical, political, and economic conditions. Comparing Chinese and Western teachers could yield a deeper understanding of the variety of the relationship between research and teaching in Asian and Western countries.

## 2.3 Research questions

- What are Chinese and Dutch university teachers' beliefs about the ideal role of research in teaching?
- What are Chinese and Dutch university teachers' perceptions of the actual role of research in their teaching practice?
- How do Chinese and Dutch university teachers' beliefs about the ideal role of research in teaching correspond to their beliefs about teaching in general?
- How do Chinese and Dutch university teachers' beliefs about and perceptions of the role of research in their teaching relate to their backgrounds?

## 2.4 Method

### 2.4.1 Participants

Our survey study was conducted among Chinese and Dutch university teachers working at language and culture departments. Chinese universities, mainly in a metropolitan city of Southwest China, and Dutch universities were selected on the basis of our analyses of teaching and research practice, and feasibility of data collection.

Our sample included Chinese and Dutch university teachers who were already involved in research, as well as those who actually had a strong focus on teaching but were less involved in research at the time. We expected that also including teachers who have a strong focus on teaching would give us an overview of all teachers' beliefs about the role of research in teaching, not only of those university teachers actually involved in research. Though a positive link between research and teaching is still questioned in debates about the teaching-oriented institutions, the idea that research is relevant for teaching is nevertheless spreading worldwide, teachers who are not currently involved in research may in the near future also be confronted by the difficulties related to strengthening the research-teaching nexus.

We received 284 valid responses in all, with 152 Chinese (response rate: 39%), 132 Dutch (response rate: 44%). As to the type of institutions where teachers work, 54 out of 152 Chinese teachers (36%) are from universities supported in the *985 Project*, which are comparable to the 'research universities' in the Netherlands. Among the 132 Dutch participants, 41 (31%) are from research universities, and 91 from universities of applied sciences. Although the institutional background may influence teachers' beliefs, our study was aimed at exploring the general differences and similarities between the Chinese and the Dutch teachers, and therefore we did not distinguish between teachers from different types of institutions, especially because the percentage of teachers from research universities is about the same for the Chinese and the Dutch subsample.

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Table 2.1  
*Chinese and Dutch university teachers' backgrounds*

		Chinese ( <i>n</i> = 152)	Dutch ( <i>n</i> = 132)
Gender	Male	49	40
	Female	98	90
Age	30 and under	35	10
	31–35	42	15
	36–45	54	31
	46–55	17	44
	56 and above	2	31
Educational background	Bachelor's	24	4
	Master's	117	95
	PhD	7	26
Research experience (years)	less than 1	10	22
	between 1–3	31	53
	between 3–5	32	16
	between 5–10	43	12
	between 10–15	15	13
	more than 15	16	15
Teaching experience (years)	less than 5	33	11
	between 5–10	33	14
	between 10–15	40	22
	more than 15	43	82
Course type	Non research focused	124	73
	Research-focused course	8	22
	Both	16	32
Study abroad	no	92	52
	yes	56	79
Teaching abroad	No	125	87
	yes	19	44

The number of female teachers was roughly twice that of male teachers in both the Chinese and the Dutch universities. The Chinese respondents belonged to a younger age group than the Dutch university teachers. Dutch respondents on the whole had higher final educational degrees, and more years of teaching experience, but fewer years of research experience than Chinese respondents. As for the types of courses taught, most Chinese teachers were teaching *College English*, a compulsory course for all university students from various disciplines. This type of course often involves less research activities and research-related course material.

Of the Dutch teachers, on the other hand, 43% were teaching courses that are generally more related to research (e.g., linguistics, philology, literature and culture, didactics). More Dutch than Chinese teachers had experience in studying and teaching abroad. Those Chinese teachers who did spend time abroad often went to the US, UK, Canada and Australia for about three to twelve months. Dutch teachers mostly stayed abroad for about twelve months, some more than five years, and went to both Western and Asian countries. Detailed background information about the respondents can be found in Table 2.1.

### ***2.4.2 Design of the instrument***

The questionnaire was adapted from a previously validated questionnaire (van der Rijst, Visser-Wijnveen, Verstelle, & van Driel, 2009; van der Rijst et al., 2013). The questionnaire had three sections. The first section of the questionnaire included items which inquired about the individual backgrounds of the teachers (i.e., gender, age, educational background, institutional background, years of research experience, years of teaching experience and time spent doing research).

The core section consisted of seven scales addressing the role of research in teaching (i.e., the goals of integrating research into teaching): teachers' beliefs about the ideal role of research in teaching and teachers' perceptions of the actual role of research in their own teaching. Items for these scales were formulated as statements that had to be rated on a five-point Likert scale ranging from 1= 'almost never' to 5= 'almost always'. Five scales (18 items) were adapted from an existing questionnaire developed by van der Rijst et al. (2009) and van der Rijst et al. (2013). We selected those scales which were relevant for examining the role of research in teaching from the existing questionnaire and reduced the number of items by factor analysis, using the responses of teachers in a prior data set from van der Rijst et al. (2013). The original questionnaire was designed for students, so we also had to rephrase the items for teachers. We then added two more scales, namely Creative disposition and Research skills (six items altogether); this information is frequently mentioned as important in studies of student learning through research (e.g., Healey et al., 2010; Hunter, Laursen & Seymour, 2007). The final seven scales for this section of the questionnaire were thus: 1) developing creative disposition; 2) developing critical disposition; 3) fostering student research interests; 4) enhancing research skills; 5) prompting student reflection on research; 6) familiarizing students with current research; and 7) encouraging student participation in research. The same questions were posed with regard to the teachers' ideal and actual teaching situations (see section 2 in Appendix 1).

The third section was about teachers' beliefs about teaching in general. Questions in this section were adapted from the Approaches to Teaching Inventory (Trigwell & Prosser, 2004). Factor analysis confirmed that these beliefs showed a scale structure similar to Trigwell and Prosser's, with two scales, namely teaching as information transmission/teacher-focused and teaching as conceptual

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change/student-focused (see section 3 in Appendix 1). An overview of the scales and their measurement reliabilities can be found in Table 2.2.

Two versions of the questionnaire were made, one for Chinese participants and the other for the Dutch participants. The latter was completely in English, and for the former the introduction text and background questions were in Chinese (to encourage participation of the Chinese teachers), but all the question items in sections two and three were in English, to minimize misunderstanding caused by translation. The questionnaire was available to participants in a paper and pencil format, a web-based, and a digital format which could be send to teachers as email attachment.

Table 2.2  
*Teachers' beliefs and perceptions: Scales and reliability (Cronbach's alphas)*

Scale		$\alpha$		
		Chinese & Dutch	Chinese	Dutch
<b><i>The role of research in teaching</i></b>				
Ideal/Beliefs	Creative disposition	.79	.85	.63
	Critical disposition	.82	.83	.72
	Student research interests	.73	.76	.70
	Research skills	.77	.81	.67
	Current research in the domain	.81	.84	.74
	Reflection on research	.82	.80	.84
	Students as participants	.81	.78	.86
	Actual/Perceptions			
Actual/Perceptions	Creative disposition	.79	.85	.67
	Critical disposition	.83	.83	.76
	Student research interests	.77	.77	.77
	Research skills	.78	.81	.72
	Current research in the domain	.84	.85	.83
	Reflection on research	.85	.85	.83
	Students as participants	.85	.85	.85
	<b><i>Beliefs about teaching in general</i></b>			
Information transmission /teacher-focused	Information transmission	.71	.75	.71
	Conceptual change/student-focused	.82	.84	.73

### ***2.4.3 Data collection***

The questionnaire was distributed among the Chinese teachers in December 2011 and January 2012, and among the Dutch teachers over the period February-May 2012. The Chinese teachers in our sample came from a metropolitan city of Southwest China. The Chinese questionnaire data were collected at four different meetings. Two of these meetings were held for teachers from the college of foreign languages in a comprehensive research university in this city. The two other get-togethers were meetings for college teachers of English from different universities in this metropolitan city. Teachers were also sent links to the online questionnaire and email attachments. Most Chinese data were collected via the paper and pencil format of the questionnaire. For the Dutch teachers, invitations to fill out the online questionnaire were sent to teachers at different universities and universities of applied sciences. Incentives were used to encourage participation.

### ***2.4.4 Analysis***

As a preparation for the data analysis, we first checked the outliers in the data. Two respondents in the Chinese data apparently had filled in scores in a reverse order regarding the ideal and the actual teaching. We therefore have swapped the scores of these two respondents. We checked the assumptions of normality and homogeneity of variance. Assumptions were violated with regard to most scales, in beliefs about the role of research in teaching and beliefs about teaching in general. Therefore we opted for nonparametric tests.

Background variables were checked. In relation to teachers' beliefs hardly any significant differences were found as to gender, age, and years of teaching experience. The variables that showed significant differences were educational background, years of research experience, the type of course taught, and study-abroad experience. For that reason it is these variables that we will discuss in the Results section.

## **2.5 Results**

### ***2.5.1 The role of research in teaching***

The median scores, on a five-point scale, of teachers' beliefs regarding the role research should play in their teaching (ideal role) and their perceptions of how to incorporate research into their actual teaching practice (actual role) are reported in Table 2.3.

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Table 2.3

*The Chinese and the Dutch university teachers' beliefs about and perceptions of the role of research (Mann-Whitney test)*

Scale		Chinese		Dutch		Z	r
		n	Median	n	Median		
<i>Ideal/Beliefs</i>	Creative disposition	127	4.33	119	4.67	-1.52	-.10
	Critical disposition	125	4.00	120	4.50	-4.21***	-.27
	Student research interests	129	4.00	125	4.00	-1.64	-.10
	Research skills	126	4.00	119	4.00	-2.52*	-.16
	Current research in the domain	124	4.00	119	4.00	-2.04*	-.13
	Reflection on research	126	3.75	119	4.00	-3.00**	-.19
	Students as participants	126	3.75	120	3.75	-0.15	-.01
<i>Actual/Perceptions</i>	Creative disposition	112	3.33	115	3.67	-2.91**	-.19
	Critical disposition	111	3.00	115	3.75	-5.29***	-.35
	Student research interests	113	3.00	116	3.33	-2.16*	-.14
	Research skills	112	2.67	113	3.00	-3.55***	-.24
	Current research in the domain	111	2.67	113	3.00	-2.87**	-.19
	Reflection on research	112	2.50	114	2.88	-3.51***	-.23
	Students as participants	110	2.50	106	2.50	-0.38	-.03

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

### *Similarities*

The Chinese and the Dutch university teachers were found to be similar in several ways. First, both Chinese and Dutch teachers were positive about the role of research in ideal teaching (see the first half of Table 2.3), meaning that they think that in the ideal situation integrating research in teaching can contribute to all seven scales to some extent. Second, teachers were neutral or slightly negative about the actual role of research in their current teaching (see the second half of Table 2.3). This means that teachers did not perceive themselves to have managed to incorporate research into their actual teaching sufficiently. Third, similar rankings of the seven scales can be identified in both the Chinese and the Dutch teachers' beliefs and perceptions regarding the role of research in university teaching, with creative disposition seen as the most important and student participation as the least important.

Moreover, after Wilcoxon signed-rank tests we found a significant gap ( $p < .001$ ) between the ideal role and the actual role of research in teaching in both Chinese teachers' ( $r$  ranging from .54 to .59) and Dutch teachers' beliefs versus perceptions ( $r$  ranging from .55 to .59), both representing large effect sizes.

*Differences*

Apart from these similarities, we also found differences in beliefs and perceptions about the role of research between the Chinese and the Dutch teachers. The Dutch teachers scored significantly higher than the Chinese teachers on both the ideal and the actual role of research in teaching. Particularly for the actual role, more significantly higher scores were found in the Dutch teachers than in the Chinese teachers.

**2.5.2 Relationship between beliefs about the ideal role of research and beliefs about teaching in general**

*Beliefs about teaching in general*

Table 2.4 shows median scores and Mann-Whitney test results regarding the Chinese and the Dutch university teachers' beliefs about teaching in general. The overall tendency in both groups was that they both believe more in teaching as conceptual change/student-focused, and slightly disagree with teaching as information transmission/teacher-focused. Despite this similar pattern in their beliefs about teaching in general, they differed in the extent of these beliefs. The Dutch teachers had significantly stronger beliefs about teaching in general as conceptual change/student-focused than the Chinese teachers, with medium effect size. Also, the Dutch teachers showed significantly stronger disagreement with teaching as information transmission/teacher-focused.

Table 2.4

*The Chinese and the Dutch university teachers' beliefs about teaching in general (Mann-Whitney test)*

Scale	Chinese		Dutch		Z	r
	n	Median	n	Median		
Information transmission/teacher-focused	132	2.94	115	2.75	-2.12*	-.13
Conceptual change/student-focused	132	3.50	115	3.88	-4.04***	-.26

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

*Relationship between beliefs about teaching in general and beliefs about the role of research*

We explored the relationship between teachers' beliefs about the role of research in ideal teaching and their beliefs about teaching in general (see Table 2.5). Two

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persuasive trends for both Chinese and Dutch teachers were identified. First, beliefs about teaching as conceptual change/student-focused were significantly related to teachers' beliefs about the ideal role of research in teaching. Second, no significant correlations were found between beliefs about teaching as information transmission/teacher-focused, and beliefs about the role of research in ideal teaching with regard to all seven scales. Such trends indicate a systematic positive relationship between beliefs about teaching as conceptual change/student-focused and beliefs about the ideal role of research in teaching.

Table 2.5

*Correlation between Chinese and Dutch university teachers' beliefs about the ideal role of research in teaching and their beliefs about teaching in general (Spearman's rho correlation coefficient)*

Scale	Information transmission/ teacher-focused		Conceptual change/ student-focused	
	Chinese	Dutch	Chinese	Dutch
Creative disposition	-.07	-.09	.44**	.23*
Critical disposition	-.13	-.09	.36**	.27**
Student research interests	-.03	-.01	.35**	.02
Research skills	-.07	-.05	.31**	.17
Current research in the domain	-.00	-.16	.33**	.26**
Reflection on research	.01	-.12	.42**	.14
Students as participants	.10	-.02	.35**	.14

\*\* . Correlation is significant at the .01 level (2-tailed).

\* . Correlation is significant at the .05 level (2-tailed).

However, the Chinese and the Dutch teachers also differed in the correlations between beliefs about teaching in general and beliefs about the ideal role of research. More significant correlations were found between the Chinese teachers' beliefs about teaching as conceptual change/student-focused and their beliefs about the ideal role of research in teaching than in the data for the Dutch respondents.

### **2.5.3 The role of research in teaching and teachers' backgrounds**

In order to gain a more nuanced picture of the differences in the Chinese and the Dutch teachers' beliefs and perceptions, we further explored to what extent teachers' backgrounds were related to their beliefs and perceptions. Background variables in this section were investigated in two ways. For research experiences and teaching experiences, we treated the Chinese and the Dutch teachers as separate groups. For teachers' educational background, study abroad experience, and the types of course they teach, we compared Chinese and Dutch teachers with

similar backgrounds. This was because we intended to explore the differences and similarities between Chinese and Dutch teachers while controlling for these background variables.

#### *Teaching experience and research experience*

As a preparation to discover the relevance of teaching experience and research experience, we used Crosstab analyses to check whether the Chinese and the Dutch teachers differed in the years of research experience and teaching experience. The results showed that they did differ significantly in these background variables: Teaching experience (Cramer's  $V = .35$ ,  $df = 3$ ,  $p < .001$ ), and research experience (Cramer's  $V = .34$ ,  $df = 5$ ,  $p < .001$ ). The Dutch teachers in our sample were more experienced in teaching, but less experienced in research than the Chinese teachers.

Spearman's rho was calculated concerning the correlation between teaching experience, research experiences and teachers' beliefs about and perceptions of the role of research. As to teaching experience, a similar general trend was found between Chinese and Dutch teachers. There were only few significant correlations with teachers' beliefs about and perceptions of the role of research and the years of teaching experience. This indicates that the years of teaching experience do not explain the differences in teachers' ideas about the role of research.

Regarding research experience, Chinese and Dutch teachers were rather different. For Dutch teachers we found research experience to be significantly related to almost all scales of their beliefs about the ideal role and their perceptions of the actual role of research in teaching, but for the Chinese sample research experience relates significantly to only a few scales concerning the actual role. This implies for the Dutch teachers that the more research experience they have, the more highly they value the role of research in teaching and the more they have managed to integrate research into their actual teaching practice. However, for the Chinese teachers more research experience was related to only some aspects of their perceptions of how they integrate research into their actual teaching.

#### *Type of course, educational background, and study-abroad experience*

Due to the fact that only few of the Chinese teachers taught courses that were focused on research, we conducted Mann-Whitney tests between the Chinese ( $n = 124$ ) and the Dutch ( $n = 73$ ) teachers who taught mainly non-research focused courses. Similarly, due to a dissimilarity of the Chinese and the Dutch teachers regarding their educational backgrounds, we conducted Mann-Whitney tests only between those Chinese ( $n = 117$ ) and those Dutch ( $n = 95$ ) teachers with Master's degrees. In both situations, the Dutch teachers scored significantly higher than the Chinese teachers regarding both the ideal and the actual role of research in teaching, particularly so for the actual role of research.

Regarding teachers' study-abroad experiences, more differences were found between the Chinese and the Dutch teachers who had no experience of studying abroad than between those who did spend time abroad.

### **2.6 Conclusions and discussion**

Persuasive trends can be summarized as follows. First, in an ideal teaching situation both the Chinese and the Dutch teachers highly value the idea of integrating research into their teaching for student learning, but reported significantly lower scores on how well they incorporate research into their actual teaching practice. In other words, there is a significant ideal-actual gap between what teachers believe the role of research should be and how well they have achieved those beliefs in their actual teaching.

Second, the Chinese and the Dutch teachers were similar in the way they ranked the importance of the seven aspects of the role of research, both groups viewing developing creative disposition as the most important aspect and student participation as least important.

Third, the Dutch teachers rated the importance of the role of research significantly higher than Chinese teachers in both the ideal and in the actual teaching practice. This tendency was still found when the sample consisted of Chinese and Dutch teachers from a similar educational background, teaching non-research focused courses. Study-abroad experiences reduced the differences between the Chinese and the Dutch teachers.

A fourth finding was that both the Chinese and the Dutch teachers preferred teaching to be conceptual change/student-focused over teaching as information transmission/teacher-focused. However, the Dutch teachers were significantly more inclined to use a conceptual change/student-focused approach and disagreed to a greater extent with teaching as information transmission/teacher-focused.

Furthermore, for both the Chinese and the Dutch teachers we found that the more they view teaching as conceptual change/student-focused, the more highly they value the ideal role of research in teaching, with a stronger tendency found in the Chinese teachers. However, if we assume that including research in teaching contradicts an approach to teaching that focuses on transmitting information, it is interesting to find no significant negative correlations between teaching as information transmission/teacher-focused and the way teachers value the ideal role of research in teaching.

Finally, both the ideal and the actual role of research did not relate to the years of teaching experience, but did relate positively to the years of research experience, particularly for Dutch teachers.

### ***2.6.1 Western influence spreading***

Despite the various differences in the education system, education traditions, and teachers' backgrounds, it is surprising to find that the Chinese and the Dutch teachers to be more similar than they are different. One of the similarities, for instance, is that both the Chinese and the Dutch teachers value highly the ideal role of research in teaching. This is in line with previous findings that in an ideal world teachers believe there should be a strong link between research and teaching (e.g., Neumann, 1992). The fact that the Chinese and the Dutch teachers share similar views can be seen as a result of the growing emphasis on research world-wide, because research is often believed to be the core of innovation, and research productivity an important source of national competitiveness (cf. Shin, 2012).

Furthermore, modern Chinese education is influenced by Western ideas. A growing consensus between Chinese teachers and teachers from the West may be emerging, subsequent to increased government efforts through the *985* and *211 Projects* toward supporting research activities in an international context and to build world-class universities. Chinese teachers are likely to stay close to the new development and urgent issues regarding research-teaching nexus because of scholars returning from Western countries, as well as professors and academics visiting from the West. This is further confirmed by our findings that Chinese teachers with study-abroad experiences are less different from Western teachers.

Another possible reason is related to the reality that the contemporary scientific culture is primarily Western, and Chinese teachers recognize the necessity to adapt to this reality (cf. Altbach, 1989), at least before they can establish their own. Academic works carrying Western ideas are imported in China, so that even those teachers staying in China are not isolated from the West. Moreover, publications in standard Western journals has been increasingly used as indicators of the quality of research productivity of Chinese university teachers. Thus, these teachers are frequently in contact with new developments in the West.

Given the widespread impression of the Chinese way of teaching as characterized by rote learning and memorization, it is surprising to find that the Chinese teachers in our study also emphasize teaching more as conceptual change/student-focused than information transmission/teacher-focused. This contradicts with some other research findings. For example, Wang (2009, quoted in Wang & Liu, 2011) indicates that the Chinese modes of teaching emphasize imparting knowledge and neglects knowledge generation. However, given the strong influence of the Western education models, high exposure to Western scientific output, and large numbers of Western-educated academics in Chinese universities (e.g., Altbach 1989, 2009), the chances of a clear-cut Chinese way of teaching cannot be expected to be high. English language teachers may have experienced more Western influences because of the language they teach.

### ***2.6.2 Legacy from the Chinese education traditions***

Though the general patterns are similar in Chinese and Dutch teachers' beliefs and perceptions, they differ in the extent to which they value the role of research in an ideal situation, and the extent to which they could incorporate research into their actual teaching practice. For example, Chinese teachers are less inclined to include research in their teaching than Dutch teachers. This is related to various differences between the two countries. In this study we have attempted to draw insights from the different educational traditions in the two countries.

First of all, the traditional Chinese educational ideas can partially clash with research-based teaching, and consequently may lead to more difficulties for Chinese teachers in incorporating research into their teaching. Chinese teachers, though influenced by Western educational philosophies, are also under the influence of traditional Chinese education. Confucius emphasizes emulating one's seniors and knowing through reflection (Shim, 2008; Wong, 2011), but put less emphasis on investigating the unknown. In addition, for quite some time in the past, under the Imperial Examination system Chinese education emphasized memorization of the classics (Niu, 2007), which has planted in Chinese education an approach to teaching that focuses on content and the final product. In addition, in the case of language education memorizing grammar and vocabulary used to be common ways of language learning in Western countries as well, and it became particularly popular in Chinese secondary education. However, incorporating research into teaching can imply a focus on exploration and on the process, which is rarely emphasized in the traditional Chinese education.

A second reason is the absence of training in inquiry and investigation in Chinese secondary education. Again, this absence derived from the traditional Imperial Examination system. The high importance of the National College Entrance Exam in current Chinese education has driven secondary education, and sometimes even primary education institutions, to prepare students for various exams, which together accumulate to the National College Entrance Exam (Niu, 2007). Therefore, learning through inquiry and investigation has hardly been part of primary and secondary education. Students have been so accustomed to the test-driven practice in Chinese secondary education that it is more difficult for university teachers to shift away from those practices.

### ***2.6.3 Limitations and implications***

The stress placed in our study on a particular cultural factor pertaining to educational traditions can be easily overdone in a complex world (cf. Mason & Evers, 2010), and therefore we must note that there are other potential factors, such as the educational policies, economic situations, the design of the curriculum and the aims and content of the courses, that have not been discussed in this paper but may also explain the differences and similarities between Chinese and Dutch teachers.

It should also be remembered that the implications of our findings are limited to teachers who work at language and culture departments. Also, the limited sample size did not allow us to see in more detail how teachers' backgrounds may have played a role in shaping their ideas and characterizing their practices.

In general, we wanted to emphasize in this study the blurry boundaries between educational ideas across the world, particularly with the spreading of Western educational ideas to the Asian world. Uniformity in educational ideas might aid the process of globalization of higher education, but it is less beneficial to potential constructive ideas from local educational thinking.

For Western university professors, familiarization with the educational preconceptions of their Asian students can reduce the difficulties to understand these students. For Asian students, an acquaintance with Western educational thinking could be helpful if they are to adapt to learning approaches in Western universities. Similarly, understanding the educational ideas and traditions in Asian countries may enable both Western and Asian higher education institutions to make informed decisions when Western educational providers enter Asian, especially Chinese, higher education.

Our findings also suggest where the situation could be improved or how certain conceptions can be misleading. For instance, beliefs about teaching as conceptual change/student-focused are closely related to the way teachers value the role of research in teaching. This means that to strengthen the link between research and teaching we need teaching approaches which put more emphasis on students' cognitive change. However, it was surprising to see no significant correlation between the way teachers value the role of research in teaching and their beliefs about teaching as information transmission/teacher-focused, which is assumed to be on the opposite side of research-based teaching. This finding could mean that incorporating research into teaching may not necessarily clash with teaching approaches that are oriented towards information transmission initiated by the teacher.

Another implication concerns teachers' research experience. Years of research experience matter more for Dutch teachers than for Chinese teachers. For the Chinese situation this implies that strengthening the link between research and teaching requires more than just increasing teachers' years of research experience, for instance by improving the quality of research experiences and allocating more time to research in comparison to teaching.

