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Using Cognitive Interviews to Explore the Many Different Meanings Undergraduate Students in China Attribute to the Term “College Teacher”

Abstract The cognitive interview method was applied to evaluate survey questions translated and adapted from a US-based college student survey instrument. This paper draws data from cognitive interviews with 45 undergraduate students in China and explores the different meanings they attribute to the term “college teacher.” Students understood college teacher as course instructor, academic advisor, class headteacher and counselor, student organization supervisor, and student service personnel. Students developed the understanding through a socialization process of student-teacher interaction. This paper also discusses the importance of using cognitive interviewing to improve questionnaire design, implications for research on student-teacher relationships, and suggestions on fostering student-teacher interaction in Chinese higher education institutions.

Keywords student-teacher interaction, college teacher, Chinese higher education, survey design, cognitive interview method

Introduction

Student-faculty interaction is a much studied topic in higher education in the US. Research consistently found that student-faculty interaction to be integral to student development and achievement (Astin, 1993; Bean & Kuh, 1984; Lampport, 1993; Pascarella & Terenzini, 1991, 2005; Tinto, 1993). Generally, the word “faculty” refers to the academic teaching force of a university.

In its endeavor to introduce a U.S.-based survey on college student experiences in China, a research team encountered a problem of translating the concept of student-faculty interaction and adapting it to Chinese colleges. The National Survey of Student Engagement (NSSE) is a widely-used and often-cited annual survey-based study of effective educational practices in undergraduate education

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in the US. The NSSE survey captures important aspects of college experiences with reference to five benchmarks, one of which is student-faculty interaction (National Survey of Student Engagement, 2001). In 2007, a research team led by Professor Heidi Ross at Indiana University launched the NSSE-China project that introduced the concept of student engagement and the survey instrument to China, and the project has grown into the largest and most systematic college student survey in China (Luo, Ross, & Cen, 2009; Ross & Cen, 2012; Ross, Cen, & Zhou, 2011; Ross, Luo, & Cen, 2008). As we were developing the Chinese version of the survey instrument, we used “*laoshi*” as the closest yet not equivalent translation of faculty. *Laoshi* in the Chinese language has a broader connotation than the academic teaching force of a university. Student-faculty contact is only a small part of student interaction with all those who are engaged in education at college.¹ While we had an intuitive sense that, compared with student-faculty interaction, student-teacher interaction was a more appropriate concept to explore in China because it captured student socializing experiences in college, little had been known about who the college teachers were from the student perspective, which often led to ambiguity about the term in student survey research.

In a pilot study, we used the cognitive interview method to evaluate how respondents understood the questions in the Chinese version of the survey questionnaire, including how they interpreted the term *laoshi*. Drawing from the interview data, this paper presents the many different meanings undergraduate students attach to the term *laoshi*, which reflects the ecological realities of Chinese higher education. It also discusses the importance of using cognitive interviewing to improve survey research, as well as implications for research on college teaching and student-teacher relationships.

Literature Review

Student-Faculty Interaction Research

Most studies on student-faculty interaction in the US examine the effects of student-faculty interaction on various student outcomes. Research has revealed that student-faculty interaction has positive effects on students’ educational aspirations, motivation, efficacy and self-esteem, academic achievement, satisfaction, goal development, and adjustment to college (Arredondo, 1995; Astin, 1993; Eimers, 2000; Lamport, 1993; Rugutt & Chemosit, 2009; Santos & Reigadas, 2000).

¹ *Laoshi*, a Chinese word literally translated as “teacher” in English, is a respectful appellation referring to any adult on-campus except for student peers. Students address teachers using their “family name + *laoshi*,” for example, Chen *laoshi*.

Student-faculty interactions in and out of class are both examined in the U.S. literature. Classroom teaching and learning provides a social context where teachers and students work together to achieve student learning. Many studies have examined students' perceptions of instructors' immediacy and caring, and the correlation between instructors' immediacy and students' effective learning in class (Christophel, 1990; Gorham & Zakahi, 1990; Rawlins, 2000; Teven & McCrosky, 1996). Outside of class, faculty mentoring programs that generally match students with professors providing individualized counsel are found effective in improving study skills, motivation, academic adjustment, personal adjustment and cross-cultural understanding (Jacobi, 1991; Redmond, 1990; Santos & Reigadas, 2000; Tinto, 1993; Upcraft & Gardner, 1989). All the above studies focus on student contact with faculty, assuming university professors are the primary agents of socialization on campus.

In addition to faculty members, Newman and Newman (1978) report some administrative personnel (e.g., counselors, residence hall advisors, or the dean of students) are also agents having influence on the consolidation of students' values. A more recent issue in the *New Directions for Student Services* on the issue of student affairs professionals as teachers in both formal and informal settings suggests that student affairs professionals can play a major role in the increasing emphasis on academic achievement and student's learning (Moore, 2007). Yet relatively few studies have been conducted on the associations between interaction with student affairs professionals and student outcomes.

In Chinese higher education research, empirical studies on student-teacher relationships emerged in 2000s. Most studies used student survey data in a single institution and reported descriptive statistics. Consistent findings include: college students in China demonstrate a high level of respect for college teachers; and the level of student-teacher interaction is lower than what students expect (Li, 2004; Li & Zhang, 2004; Tang, 2003; Zou & Luo, 2007). A few studies examined factors that affect frequency of student-teacher interaction, including student characteristics (age, gender, socioeconomic status and parental education), student residence and leadership positions (Li, 2007; Li & Chen, 2008; Zhou & Zhou, 2005). Among these survey studies, only Zou and Luo (2007) differentiated among course instructors (*renke jiaoshi*), class headteachers (*ban zhuren*), and class counselors (*fudao yuan*) in the questionnaire, and found that students had the lowest level of interaction with course instructors. However, as the categories of teachers were predetermined by survey researchers, any other agents of influence referred to as *laoshi* were overlooked in the entire picture of college student experiences.

Most researchers developed their own survey instruments, administered the survey and analyzed the data collected, but none of the studies reported the validity of the survey instrument or any measure used to evaluate how students

understood the survey questions. Some items were composed in a way that breached the basic rules in writing survey questions, and the validity of the scores obtained came under question. For example, one question asked survey respondents “was there any situation when students (teachers) showed disrespect for teachers (students)?” (Zou & Luo, 2007, p. 98). It was a double-barreled question that asked two questions at a time (whether students disrespect teachers *and* teachers disrespect students), and a double-barreled question would severely impact the results of the data (Fowler, 1995). Many survey research studies on college student-teacher relationships in China suffer from similar deficiencies in instrument development, which could be one of the reasons hindering the strong presence of this topic in mainstream higher education journals in China.

Cross-Cultural Survey Research and the Cognitive Interview

Designing good survey instruments is a challenging and complex process. Pretesting the survey questionnaire before full administration is a critical step to make sure that respondents understand the question, both consistently across respondents and in the way intended by the researcher. The cognitive interview is by far the most widely adopted tool for questionnaire development (Dillman, 2000). In its purest form, the cognitive interview requires respondents to “think aloud,” or verbalize, their thought process as they answer survey questions; researchers record these reports and analyze them for evidence of misunderstanding and other difficulties (Tourangeau, Rips, & Rasinski, 2000). Thinking aloud can take place concurrently or retrospectively. The concurrent cognitive interview captures the thinking process as a respondent *is answering* the question; the retrospective interview requires a respondent to take a battery of items and later to report aloud the thinking they did while completing each item (Richardson, 2006). Data from cognitive interviews is valuable in its power of uncovering respondents’ understanding of survey items for the purpose of survey design, as well as its capability of revealing multiple meanings embedded in one social concept, that is college teacher in this particular study.

In recent years, survey researchers have extended cognitive interviewing to cross-cultural research. Cross-cultural survey research has burgeoned in comparative attitude and behavior research, and methodological concerns and strategies that are discussed primarily focus on comparability and equivalence (Harkness, van de Vijver, & Mohler, 2003). Measures that assess translation from source language to target language include team translation and review, back translation, focus groups, cognitive interviews, and quantitative assessment procedures (Brislin, 1970; Harkness, 2003; Harkness, Pennell, & Schoua-Glusberg, 2004; US Census Bureau, 2004). Over the past decade, cross-cultural cognitive interviewing studies have been conducted with increased

frequency and have tended to focus on the key issue of comparability (Agans, Deeb-Sossa, & Kalsbeek, 2006; Nápoles-Springer, Santoyo-Olsson, O'Brien, & Stewart, 2006; Pasick, Stewart, Bird, & D'Onofrio, 2001; Willis et al., 2008). A recent issue in *Field Methods* devoted to cognitive interviewing in cross-cultural research argues that comparability represents only one goal of such research: "We emphasize not only the improvement in survey questions, the remediation of response error, and the establishment of comparable measures, but a true understanding of the manner in which survey questions and self-report items are approached, consumed, and digested across a wide range of human groups and subpopulations" (Willis & Miller, 2011, p. 337). An understanding of how students interpret "college teacher" will be of interest not only to questionnaire designers and survey researchers but also to higher education researchers and practitioners interested in appreciating how students view their world.

While survey experts commonly prescribe the use of cognitive interviews as a pretesting step for any new or adapted survey instrument, this procedure is often underutilized or even bypassed in the development of surveys used in higher education settings. Widely-used and long-standing student surveys (e.g., CIRP in the US) do not have published documentation on how survey questions were developed, but they might have asked respondents to explain the meaning survey items without publishing the findings. In designing and modifying the NSSE instrument, NSSE researchers used cognitive interviews as one of the methods to establish the validity of the college student survey, and publish their findings so that others might benefit from these insights in evaluating the soundness of the survey instrument (Haeger, Lambert, Kinzie, & Gieser, 2012; Ouimet, Bunnage, Carini, Kuh, & Kennedy, 2004). Little has been said regarding instrument development however, in Chinese college student survey research. One purpose of this article is to promote the use of cognitive interviewing as a pre-testing technique in the survey research community among higher education researchers in China.

The Chinese Higher Education Context: An Ecological Approach

For those unfamiliar with Chinese higher education, it is necessary to introduce the environment where Chinese undergraduate students learn and grow. Ecological approaches to understanding human development provide a way to understand how interactions between people and their environments promote growth and development. Bronfenbrenner (1993) presents one ecology model for understanding the influence of person-environment interactions in an individual's development. Four main components (process, person, context, and time, or PPCT) and the interactions among them comprise the model. The context component in the PPCT model is represented as nested circles (Fig. 1) that entail

microsystems, mesosystems, exosystems, and macrosystems, linked together in “a system of nested, interdependent, dynamic structures ranging from the proximal, consisting of immediate face-to-face settings, to the most distal, comprising broader social contexts such as classes and culture” (Bronfenbrenner, 1993, p. 4). In the paragraphs below, the Chinese higher education context is presented using this framework, and systems that might be associated with student understanding of “college teacher” are highlighted.

Fig. 1 Bronfenbrenner’s Model as Applied to a Postsecondary Environment

Source: Renn & Arnold, 2003, p. 268.

Microsystems. As defined by Bronfenbrenner (1993), a microsystem is “a pattern of activities, roles, and interpersonal relations experienced by the developing persons in a given face-to-face setting with particular physical, social, and symbolic features that invite, permit, or inhibit engagement in sustained, progressively more complex interaction with, and activity in, the immediate environment” (p. 15). Renn and Arnold (2003) suggested that classes, roommates, friendship groups, work settings, athletic teams, families, and faculty relationships represent potential microsystems for students in American higher education.

Chinese higher education entails similar microsystems, while it is worthwhile to elaborate three microsystems that illustrate difference: classes, cohort relationships, and student organizations. For Chinese college students, classroom

provides a setting where they share most time with course instructors, but it is not necessarily the context where learners and teachers interact most with each other. Lecturing is the traditional and still the most prevalent instructional method in college teaching, while students sit quietly and take notes. A cohort (*ban*) is a group of students admitted to the same academic program in the same year. A cohort often develops “stickiness” during its four years of college life: students in one cohort enroll in the same academic classes, live on the same floor of an on-campus dorm building, and are supervised by a class headteacher (*ban zhuren*) or a counselor (*fudao yuan*). Student organizations in Chinese universities include Party and League branches, student unions, and student clubs and associations. University-led organizations, such as Party and League branches at university, college and department levels, are supervised by faculty or professional staff with titles of Party Secretary and League Secretary. Student-initiated organizations, such as interest groups, usually invite a faculty or staff member as an advisor. These microsystems present face-to-face settings between students and teachers where potential interpersonal relations can be developed.

Mesosystems. The mesosystem is a web of involvements that “comprises linkages and processes taking place between two or more settings containing the developing person” (Bronfenbrenner, 1993, p. 22). College students are embedded in interacting mesosystems of academic, social, family, and work life. Each of these systems has developmental effects on the student. The effects within and across systems may reinforce one another or they may act against one another, drawing attention to discrepancies and causing the student to confront contradictory processes and messages between individual microsystems. For example, interactions between the cohort relationship and student-faculty relationship create a mesosystem; another mesosystem is created by student-teacher relationships and student-family relationships.

Exosystems. These do not contain the developing individual but exert an influence on his or her environment through interactions with the microsystems. Exosystems in U.S. higher education that may affect students include parents’ or partners’ workplaces, institutional decision makers who issue tuition and financial aid policies, faculty curriculum committees, federal financial aid policies, immigration and visa agencies, and others (Renn & Arnold, 2003). As the organizational structure and educational system differ in China, the exosystems function in ways different from those in the U.S. Higher education institutions are under the administration of either the Ministry of Education or local educational departments, which makes for centralized decisions on issues such as appointment of university presidents, approval of academic programs, and guidance on course syllabi. As a mesosystem, government policies affect the level of autonomy of institutions, departments, and faculty, and further affect a student’s microsystems in academic studies. For example, a bachelor’s degree in

China requires completion of an undergraduate thesis, which is a capstone experience that creates for each student a microsystem between a him/her and a thesis advisor (Standing Committee of the National People’s Congress, 1980). By contrast, financial aid decisions in most Chinese colleges and universities are decentralized: quotas for merit-based or need-based fellowships are assigned to schools and departments, and further to cohorts; initial nomination and competition take place within the cohort, which can potentially change cohort relationships in the microsystem. In addition, a fellowship nomination committee in the cohort, including teachers (*ban zhuren* or *judao yuan*) and student cadres (*ban ganbu*), forms an exosystem that exerts influence on fellowship candidates.

Macrosystems. The broadest level of context in the developmental ecology model is the macrosystem, which “consists of the overarching pattern of micro-meso- and exosystems characteristic of a given culture, subculture, or other extended social structure, with particular reference to the developmentally instigative belief systems, resources, hazards, lifestyles, opportunity structures, life course options and patterns of social interchange that are embedded in such overarching systems” (Bronfenbrenner, 1993, p. 25). The student-teacher relationship in collectivist East Asian cultures seems to be fundamental to understanding the notion of teacher in educational settings. This relationship, according to Confucianism, is the third most important in society after emperor-people and parent-son (Lee, 1996). The proverb “a teacher for a day is a father for a lifetime” depicts the image of a senior authoritative figure that attends to students’ intellectual development as well as their moral and personal development. Research studies that investigate conceptions of teaching held by secondary teachers in China show that the concept of teacher extends from a didactic figure in classroom teaching to include molding and cultivating students’ personal orientation, and that a good teacher is characterized by caring for students and guiding students’ all-round development in addition to knowledge transmission and lesson preparation (Chen, 2007; Gao & Watkins, 2001, 2002). Students’ understanding of teaching in higher education may reflect meanings embedded in cultural and historical context as well as those constructed in pre-college education. For many students, college classrooms, as secondary schools, are still characterized by large (or even larger) class size, lecturing, and rote learning. A cohort, as in primary and secondary education, is supervised by a head teacher or counselor who is supposed to “take care” of the family of a cohort, even though in college there is no longer a homeroom classroom for a *ban*. The massification of Chinese higher education also presents a micro-context that affects individual students through changing their microsystems (Min, 2004). One direct consequence of the massification is university migration. In order to accommodate increasing student enrollment, universities have moved out of old campuses in downtown areas to newly built campuses in the suburbs. The

migration brings about radical changes in resources and opportunities available to students, as well as ways of interacting with college teachers.

Macro-, exo-, and meso-systems may affect what face-to-face settings students are exposed to, whom students interact with in the microsystems, and students' understandings of interpersonal relationships. Drawing data from the cognitive interviews, this paper attempts to answer the question: from the student perspective, who are the college teachers undergraduate students interact with in Chinese higher education institutions? This seemingly simple question has not yet been systematically explored in the Chinese context, especially from the student perspective. Revealing the multiple meanings of the social concept "college teacher" as survey respondents understand it is the foundation of designing student surveys that use the concept. Answering this question is also helpful for higher education researchers to differentiate among college teachers as perceived by students, focus on certain types of college teachers in research studies, and communicate clearly with research participants and fellow researchers.

Research Methods

The data used in this study came from 45 interviews with undergraduate students in China in 2008. The primary purpose of the interview study was to evaluate the survey instrument in the Chinese language and to determine how well students understood the survey questions. Since student-faculty interaction was one benchmark of student engagement and the concept of faculty was not equivalent to the translated term *laoshi*, it was particularly interesting to see how respondents understood the term and explained the survey questions. In addition, the interviews generated rich data on college experiences, which further informed our understanding of how students interpret "college teacher" from concrete examples.

Selection of Interview Schools and Students

Since the purpose of this study was to understand students' understanding of college teachers, rather than generate findings that could be generalized to the entire population of Chinese undergraduate students, this study applied purposeful sampling to diversify institutional and individual participation. Five diverse institutions were selected to mirror the landscape of higher education in contemporary China. The diversity in academic backgrounds and achieved gender balance among interview participants was maximized so as not to confine the findings to any subgroup of undergraduate students. Based on the sample description detailed below readers may judge the general relevance of the findings,

that is, to consider to what extent the findings drawn from this study may inform further studies on college teacher and student-teacher relationships in China.

The interviews took place in five universities in three cities. Table 1 presents the institutional characteristics and number of students interviewed at each institution.

The five institutions were all four-year public baccalaureate universities. Three of them were located on the east coast, and the other two in the less developed west. The institutions were diverse in disciplinary focus. Despite the fact that higher education institutions had become more or less comprehensive in the past decade, like most Chinese universities and colleges, varied specialties for which the five universities were initially established remained their respective strengths. Among the five institutions, three were comprehensive universities, one was a normal college with a focus on teacher education, and one was an engineering college.

The five universities differed in selectivity, as shown in the column “Tier” in Table 1: Selective status was indicated by inclusion in national higher education development projects (*Project 211* and *Project 985*) as well as administration under the central government.² Nationally, only 5% of public baccalaureate institutions were admitted to *Project 985*, around 16% were listed in *Project 211*, and 15% were administered by the central government. University A was the most selective among the five, it was under the direct supervision of the Ministry of Education, and listed in both *Project 211* and *Project 985*. The other four were under provincial departments of education; among them, University B was a *Project 211* institution. As an emerging type of institutions in the internationalization process of Chinese higher education, University E was a branch campus of a foreign university with a small undergraduate enrollment and a good staff-student ratio. The size of undergraduate student body of the five institutions ranged from approximately 2,000 to 23,000, with a mean of about 12,800 students, compared with a national mean of 12,097 in 2008 (Ministry of Education, 2010). Excluding the Sino-foreign institution with exceptionally high fees, the tuition rate in this study ranged from 3,000 to 16,000 RMB. As described above, the five institutions presented a fairly balanced national picture of four-year public baccalaureate institutions in China.

Forty-five undergraduate students were recruited through campus

² *Project 211* was initiated in 1995 by the Ministry of Education. The project aimed at cultivating approximately 100 high-level universities in China in the 21st century. By the end of 2010, *Project 211* had admitted 121 public institutions. Institutions in *Project 985* are the most prestigious universities in China. The Project was launched by the Ministry of Education soon after the then-President Jiang Zemin’s speech in May 1998 that called for a number of world-class universities in China. The Project was named after the year (98) and the month (5) of Jiang’s speech. *Project 985* has 39 institutions and all of them are in *Project 211*. The announced fund for these 985 institutions in total was approximately 30 billion RMB (about USD 4.6 billion).

Table 1 Universities Included for Student Interviews

Institution	City	Region	Type	Tier	Undergraduate enrollment (2008)	Annual tuition rate (RMB, 2008)	No. of interviewees
A	Provincial capital	East coast	Comprehensive	National Project 211	985, 23,000	5,000	11
B	Provincial capital	West	Comprehensive	Provincial Project 211	10,000	3,000	8
C	Provincial capital	West	Normal	Provincial	9,000	3,400	10
D	Non-provincial capital	East coast	Engineering	Provincial	20,000	16,000	7
E	Non-provincial capital	East coast	Comprehensive	Provincial Sino-foreign	2,000	50,000	9

advertisement. Among them, 26 were female and 19 were male, 20 came from urban backgrounds and 25 from rural areas, 21 students were science or engineering majors, and 24 majored in humanities or social sciences. All class ranks (freshmen, sophomores, juniors and seniors) were represented. Twenty-nine of the interview participants held leadership positions at university, school, and department level as well as in student associations.

Methods of Data Collection and Data Analysis

Research participants were first asked to complete a survey instrument which the NSSE-China research team had translated from the U.S. NSSE questionnaire. It generally took 10 to 12 minutes to fill in the survey questionnaire. Ten items in the questionnaire were under the construct of student-teacher relationships. Nine of them had the term *laoshi*, or teacher, and the last item used the term “administrative personnel” (Appendix A). Next, participants were interviewed on their thinking process on selected items in the questionnaire. Since student-teacher interaction was a construct of particular interest, the respondent was asked to verbalize his/her thought processes as s/he answered the relevant questions. Participants were also encouraged to share their interaction experiences with teachers using specific examples, beyond those suggested in the survey questions. Each interview lasted approximately an hour. Interviews were recorded and memos were taken. For the purpose of evaluating survey questions, each item was coded into three categories: (a) no problem noted on the item; (b) minor misunderstanding or problem; and (c) significant problems. Key terms or concepts that were not well understood were identified. For this paper, the sections on student-teacher relationships in the interviews and memos were selected and analyzed. One hundred and one episodes on student-teacher relationships that involved interviewees were identified, excluding interviewees’ observations on how other students interact with teachers. The level of student-teacher interaction ranged from minimum (e.g., not asking teachers questions either in class or outside class) to intense (e.g., a student described in detail how a teacher advised her and her teammates on a research project). Categories of teachers were coded and developed in the episodes.

Findings

Consistent with anecdotal observations, the word *laoshi* was used to refer to a broader category than teaching faculty in Chinese higher education institutions. Five categories of adults were perceived as college teachers among the 171 episodes of student-teacher relationships: course instructors (86), academic

advisors (18), class headteachers and counselors (33), student organization supervisors (23), and student service personnel (11). Each category is presented in this section, and interview quotes are cited with a letter indicating the interview school and a number indicating the interview participant in the parenthesis.

Course Instructor (*Renke Jiaoshi*)

Course instructor was the most frequently mentioned category of college teachers. It was also the first category that popped out when students were asked who college teachers were. The undergraduate courses except for a few lab sessions were taught by professors in the universities where interviews were conducted. Attending classes, which was supposed to be a core activity in undergraduate education, seemed unappealing to students:

In class, how to say, we don't devote too much. We just go to class, the teacher lectures, we take notes, and there's an exam at the end. The teacher may tell you the coverage for the exam, give you some materials for cramming, and then you memorize and you just pass. (C06)

One student at another university shared similar experiences and related his class experiences to the traditional way of teaching and learning in China:

In college classroom...you know, the Chinese style of classroom education is like... a lecturer talking alone up there on the podium, and students sit down there listening or taking notes. I don't like this style, I enjoy some interactions. (D5)

Answering questions raised by course instructors was the only form of student-teacher interaction in class, either experienced or observed by research participants. Only one interviewee was involved in this form of interaction, yet passively: she was called up to answer a question and received a positive feedback, which increased her interest in the course content (B06). Activities that facilitated in-class student-instructor interaction (and peer interaction), such as class discussions and small group work, were not reported by research participants in this study.

Outside of class, course instructors were described as unavailable and inaccessible, yet students displayed understanding of professors. University migration from city centers to suburbs in the past decade was one reason cited for minimal student-instructor interaction outside of class:

Teachers in my university leave campus as they finish classes. If you want to discuss something with them, you have to grab them and talk as you walk. They hurry to catch

campus shuttles back to the city. I don’t want to be the one that makes them miss the bus. There’re few opportunities talking with them. (A05)

Students in another university cited exactly the same reason:

Unlike in high schools, teachers have regular offices and seats. University teachers are at times on this campus, at times on that campus. We’ve got their cellphone numbers, but we don’t want to disturb them, at mostly I text message. You don’t know when they’re in meetings, on the airplane, or off work. (A03)

Limited office space was another reason that drove students away from engaging in private and comfortable conversations with instructors after class:

She [the instructor] shares her office with another teacher, and I feel I will disturb the other teacher if I talk too much with my teacher in the office. As a matter of fact, I never go and meet with the teacher after class. I simply don’t know where her office is located. (D07)

Despite the fact that students had little interaction with professors in or outside of class on academic topics, seeking career guidance from course instructors was desired by students as a means to explore and affirm themselves:

Once I discussed with a course instructor my idea of starting my own business. The teacher was very supportive. My family owns a factory, but no one supports my start-up idea. The teacher, however, was very supportive, and he encouraged me to figure out feasibility and work on some concrete plans. It was a short conversation, you know professors are busy. But I felt my hope was lit up when it had almost withered. (E06)

Academic Advisor (*Daoshi*)

Daoshi, or academic advisors, worked with students outside of class and offered individualized guidance on academic progress. Unlike in American higher education where academic advisors were professional staffers, advisors reported in this study were all teaching faculty members. Student interactions with academic advisors were more in-depth and focused on academic topics. The first type of *daoshi* referred to advisors on the undergraduate thesis, a compulsory component of undergraduate degree programs in China. Styles of thesis advising varied from case to case, as one research participant put it:

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Thesis advisors are of different styles, I would say. Some advisors work with you hand-in-hand, like mine... He once sat down and read through my writings with me, and pointed out mistakes I made. But some advisors are of a “blueprint” style, approve the topic of your choice and let you do your own work. It’s hard to compare the two styles, but

I am very impressed by the rigor and sense of responsibility of my advisor. (B02)

At University A, the most selective among the five universities, undergraduate research programs offered another opportunity for students to voluntarily participate and work with professors, namely *daoshi*, on projects outside of class. Advisors' patience and willingness to work with students were equally important as their expert knowledge and intellectual guidance:

There is a university-level Undergraduate Creativity Project, and three of us formed a team and invited a teacher to be our advisor. It has been more than a year, and we are still making progress. Unless we have problems we really can't solve, we won't go meet him. But it's ok to ask him for help, like at the proposal writing stage, we went to meet him a lot, and he was very patient helping us revise the proposal. For example, our writing was full of everyday language, but proposal writing should be more formal. He gave comments, and we revised, back and forth. Altogether we had more than 10 rounds of revisions. Professors were all very busy. He often worked with us until 6 or 7 pm when he should take off from work at 5. The teacher was quite responsible.

The second type of academic advising established a kind of mentorship between professors and students in the early years of the undergraduate career. Among the interview universities, the Sino-foreign institution had an established advising program that required regular student-advisor interaction:

Generally, you can meet with your advisor if you make an appointment. He will send you a notice twice a semester for meeting, but you can choose whether to go or not... I was nervous at the beginning. You know in high school there must be something wrong if you are called to the office by teachers. But later I came to enjoy the conversations and became more active in seeking help. He checked with my academic progress and helped me develop my course-taking strategy. (E08)

Through regular interaction with professor mentors outside of class, the student was transformed from a passive learner to an active learner "seeking help" from teachers. His image of teachers was also transformed from that of an intimidating figure to that of a companion that assisted his learning.

Class Headteacher (*Ban Zhuren*) and Counselor (*Fudao Yuan*)

Student interactions with class headteachers and/or counselors took place in the cohort, and were generally related to non-academic affairs. Class headteacher and counselor could be a faculty member, a professional staffer, or a graduate student.

Our *fudao yuan* has a bachelor’s degree in counseling. Later I learned she’s taking graduate courses for a master’s degree. She is in charge of five administrative cohorts (*ban*) with more than 200 students... Many students turn to her for help, like falling ill, breaking up (in romantic relationship), applying for a fellowship. It seems that she takes care of everything, and she is quite busy. (A10)

We met our *ban zhuren* only once when we first started college, but never again. He teaches classes and must be very busy. At college, it is often the student cadres (*ban ganbu*) who solve problems. Teachers communicate with us ordinary students through *ban ganbu*, not directly with us. It’s not like in high school, here in college we don’t see our *ban zhuren*. (B08)

The microsystem between students and class teachers and the microsystem between students and student cadres (*ban ganbu*) formed a mesosystem where individuals confront conflicting or consistent messages. Class headteachers and counselors were the university teachers who made initial decisions regarding financial assistance, honors and awards, and Party membership. In some cases messages were filtered through student cadres, which created “a wall” between students and teachers:

There’s conflict among us in the same cohort, like competing for financial aid. In my second year, I wanted to take some student loans. Our family was not in good financial situation, three of us sisters attending college at the same time. It also happened that our family encountered some difficulty, and thus I wanted to take a loan. Our cohort had a fellowship quota of 3 or 4 students. I was not that close to our class president (*ban zhang*), but every message from our teacher was passed down through him. He named all of the 3 or 4 students and handed in the list, me not included. Later, *fudao yuan* talked with me and asked me to explain to my family, “don’t be unhappy.” Since then, I seldom talk with him. I feel *fudao yuan* is separated with us ordinary students, there is a wall between us, and the class president is the wall. (B07)

The student believed that, instead of addressing unfairness in fellowship nomination, the counselor reinforced the decision made by the class president, which led to her distrust in the leaders of the cohort microsystem. Her family microsystem, combined with her cohort microsystem, formed a mesosystem in which the individual was financially and emotionally affected by circumstances outside her control. Fellowship decisions were among core issues that affect student-teacher and peer relationships in the cohort, and such cases were brought up more than once in each of the five interview institutions. Class headteachers and counselors were seen as gatekeepers who set the rules and controlled resource distribution:

At the end of last semester, our cohort had a GPA ranking for fellowship competition. I had been at the 5th place but when the result was announced I fell to the 11th. I didn't know why, but later I learned it was the *fudao yuan*. He changed the criteria for fellowship competition and added a component of "comprehensive quality" to academic performance by GPA. I don't know what to say, he is the gatekeeper, even without notifying us. (D02)

Compared with course instructors and academic advisors, class headteachers and counselors had less responsibility in students' intellectual development, and they were expected to be held accountable for student behavior and to care about students' moral and personal development. Ideological education (*sixiang jiaoyu*) was cited as the content of a few conversations between class headteachers/counselors and students. Consistent with the finding in an earlier study (Zou & Luo, 2007) that class teachers were described as managers, an interview participant provided an example:

The university ordered that each cohort (*ban*) should be under tight control during big events. For example, if students hang out drinking and something happened, the university will be put into a complicated situation. If any harm or danger is done, the class headteacher is the first one to blame. As the class president, I was asked by the teacher to assist her and to report everyone's whereabouts. (D01)

Class headteachers and counselors had a watching brief over the academic progress of students and facilitated student learning by promoting an academic atmosphere in the cohort:

Those who fail the National College English Test in our college may use other proof to demonstrate English proficiency in order to earn the bachelor's diploma. Our counselor is concerned that we will not graduate on time in four years. He makes all kinds of effort to push us to study English: buying us books, organizing competitions, discussing alternative solutions, and etc. (C05)

Student Organization Supervisor (*Zhidao Laoshi*)

Active involvement in student organizations was associated with frequent interactions with supervising teachers, or *zhidao laoshi*. Party or League branches and Student Unions were considered as official (or institution-led) student groups with designated supervising teachers. Serving as supervisors on student organizations was part of the job responsibilities for the teachers, and they often took the lead in organizing student activities that resulted in frequent interaction with students, especially those in leadership positions. The following quote provides an example:

As the coordinator of Party members in my class, I always work with the teacher on preparing for meetings, membership management, and etc. He is the Party Secretary in our department and I’ve learned a lot from him.... He is a professor and teaches courses, but our interaction is mostly outside of class about Party affairs. He is a very organized and thoughtful person, and advises me on many details I have often neglected. (B05)

In comparison, teachers in student interest groups were invited to act as faculty or staff sponsors, and the level of involvement depended on how active the student groups were:

I’ve joined in a seal cutting club in college, and we have an expert teacher as the club advisor. We go out on study trips several times a year, like visiting Xiling Seal-En-gravers’ Society in Hangzhou. We invited the teacher to come with us, and on the trip, he explained to us the art of calligraphy, seals and art, and we had a lot of fun. (E03)

Student Service Personnel (*Fuwu Renyuan*)

One item in the construct of student-teacher interaction asked students to evaluate their “relationship with administrative staff (*xingzheng renyuan*),” and respondents reported a wide variety of understandings of the term. Examples provided by students included university presidents, school deans, class counselors, Party and League secretaries, canteen service staff and dormitory maintenance workers. This item was thus coded as with significant problems. In the NSSE survey, the same item used the term “administrative staff,” and cognitive interviews with survey respondents found that students were not entirely sure who was included as administrative personnel (Kuh, 2003).

Student service personnel, or *fuwu renyuan*, was an alternative term suggested by a research participant in sharing his interaction experience with university employees other than the aforementioned types of teachers. Student service personnel were campus-based staff in assisting roles to meet student needs and with direct student contact, such as librarians, lab technicians, residence hall service persons, staff in registrar offices and department offices. Later in the interviews when asked for examples of student service personnel, research participants included the above examples. The other four types of teachers—course instructor, academic advisor, class headteacher and counselor, and student organization supervisors—were not mentioned. When further probed as to whether they would count as student service personnel, research participants consistently answered “no” and emphasized on their guiding roles in comparison with the service role. Similar to lubricant that was almost invisible but essential for a machine to run smoothly in Chinese colleges, student service staff was indispensable yet so far involved at a low level in a student’s college life

in China:

Teachers in the first-year office collect our course papers, and they are familiar with policies and rules in the university and department. You can ask them questions, like, what if I don't pass the national English exam, how to transfer to another department, and etc., not too academic but definitely critical for my survival and success in college. (A09)

(As the leader of a thesis research group) I interacted a lot with teachers in different offices, like academic offices, university offices. I see them often, and they can easily tell my name, "hey, [the student's name], you come here!" I feel very close to the teachers. If you don't know them and simply go and ask about something, very likely the teachers are indifferent and ignore you. But I am kind of close to them, it seems like I have a network, and it will be much easier to get things done. (C01)

One research participant appreciated the effort of a dorm teacher who facilitated roommate change. He pointed out that being flexible was a desired trait of a student service teacher, which increased his satisfaction with the dorm microsystem and contributed to his college success:

When we moved from the downtown campus to the suburban campus, the teacher at the new campus allowed us to pick roommates. Those of us who got on well with each other moved into the same room, and we had less roommate friction compared with our first-year. This of course added to the workload of the dorm teacher, but we students benefited a lot from his policy. (D04)

Discussions and Implications

In response to the different meanings of the concept of college teacher as understood by survey respondents, the NSSE-China research team revised relevant items based on the following rules:

(1) It was agreed that the construct of student-faculty interaction in the U.S. survey was not sufficient to depict student interaction with college teachers in the Chinese context. While the name of the construct in the Chinese version remained "student-teacher interaction" (*sheng shi hudong*), the term teacher in survey questions was specified so as to differentiate the types of teachers.

(2) Among the five types of teachers, course instructors and class headteachers/counselors were the primary agents of socialization with whom the relationships were to be evaluated. These two were the most frequently mentioned categories in the interviews. Unlike academic advisors for senior students or student organization supervisors for those involved in extracurricular activities, course instructors and class headteachers/counselors were present in

the college life of every individual student. Hence, the survey questions were relevant to every survey respondent and could elicit responses other than “not applicable.”

(3) The word *laoshi* was used in the survey item if a setting was provided so that other interpretations were apparently excluded. For example, the phrase “in class” was used in the items so that survey respondents understood “*laoshi*” as course instructors. Under the circumstance that a setting was not provided, the type of teachers was specified in the item. For example, “how often have you received prompt feedback from a course instructor on your academic performance (oral or written)?”

(4) In a few cases, an item was divided into two items evaluating student interaction with both course instructors and class headteachers/counselors. For instance, the original item “How often have you talked about career plans and ideas with a teacher” was divided into two items “How often have you talked about career plans and ideas with a **course instructor**” [emphasis in original], and “How often have you talked about career plans and ideas with a class headteacher/counselor.” Similarly, the item “How often have you talked about life values and prospects with a teacher” was split into two items.

(5) In the group of items that asked students to evaluate their relationships with college teachers, three categories were identified: course instructors, class headteachers/counselors, and office administrative personnel (e.g., academic affairs office). The last term was developed after debates within the NSSE-China research team. Compared with the category “student service personnel” (*fuwu renyuan*), this term had a narrower coverage excluding librarians, lab technicians, residence hall service persons etc. Compared with “administrative personnel” in the original survey question, the revised term added “office” and a concrete example in the parentheses, both contributing to further clarification. When further tested with college students, this item improved significantly and respondent-offered examples did not extend inappropriately to include a broad range of administrative staff (from university presidents to dorm maintenance workers) as reported in this study.

The different meanings Chinese undergraduate students attributed to the term “college teacher” were developed in settings where direct student-teacher contact took place. The meanings generated in the microsystems reflected the ecological realities of Chinese higher education which were different from American university practices. For instance, class headteachers and counselors were a group of teachers that played roles as gatekeepers and managers in Chinese higher education, but they were absent in American undergraduate life. Their roles reflected the way how universities are structured, how financial aid decisions are processed, and how college life is affected by precollege experiences. For another instance, the concept of academic advisors on

undergraduate research emerged as selective institutions in China (University A in this study) took initiatives in promoting research capacity among undergraduate students and reinforcing the institution's leading status in academic research.

The level of student-teacher interaction in the microsystems also reflected changes in the systems external to the developing individuals, mesosystems, exosystems, and macrosystems. As revealed in this study, university migration to suburban campuses, as one of the consequences of higher education development in China, was related to reduced student-instructor contact outside of class. The globalization of Chinese higher education, as embodied by the Sino-foreign institution in the study, introduced the mentorship program which enhanced student-faculty interaction and altered student understandings of teachers and ownership of learning through regular meetings with advisors outside of class.

In studying college students, researchers should make attempts to understand student perspectives rather than impose their own lenses on their experiences. As found in this study, students did not perceive college teachers on the basis of their university appointments, such as faculty, researchers, student affairs professionals, and administrative staff. Instead, they perceived college teachers as agents of socialization and developed the framework through interpersonal relationship in microsystems. However, the meanings of college teacher as *students* understood are often neglected in college student survey research and researchers often bring in their own framework when communicating with survey respondents. If a key term is defined from the researchers' perspective or is left undefined, it is very likely that survey respondents understand the concept differently from what is intended by the researchers and differently among themselves, which leads to response error in survey research. For example, in response to the item "how often did you discuss your career plan with a *laoshi*," one research participant circled "never" since he understood teachers as course instructors; but later in the interview conversation he brought up an example of discussing career plans with a counselor whom he also referred to as *laoshi*. The different meanings students in China attributed to the term college teacher will help educational researchers develop student perspectives and define this key concept in college student studies. Understanding the meanings as survey respondents interpret them is a prerequisite for defining terms and concepts in survey instrument development.

The cognitive interview method is a critical measure to ensure the quality and accuracy of survey instruments, and it is used to identify and analyze sources of response error in survey questionnaires. Unfortunately, many institutions and individual researchers that administer surveys to college students in China do not have adequate resources or specialized knowledge to conduct cognitive interviews for survey question development. Instead of systematically collecting

and analyzing data to explore how students understand the concept of college teacher, researchers often ignore the ambiguity embedded in the term and are blind to what in fact is invalid response. In better cases, researchers do differentiate multiple categories of college teacher in a questionnaire design, but they develop the categories based on their own understanding of the concept without further testing them with the survey respondents. Given the increased emphasis on survey methods to explore higher education in China and increased resources invested in large-scale surveys to thousands of students, this paper argues that more attention be paid to the survey validation procedure. While substantive insights can be gained from cognitive interviews, the use of cognitive interviews in the development of surveys has been for the most part neglected by the educational research community (Desimone & Le Floch, 2004). This paper provides an example of using the cognitive interview method in adapting a college student survey across cultures, illustrates its usefulness in revealing multiple meanings embedded in one social concept, and highlights the importance of pretesting in developing and modifying a survey instrument. Rather than aiming at achieving cross-cultural comparability, the use of cognitive interviews in this study emphasizes how a concept is approached and digested by the target population.

In response to the question “who are college teachers,” one research participant put it as “all those who educate.” College educators are not limited to university professors that teach in class, but extend to include academic advisors, class headteachers and counselors, student organization supervisors, and student service staff. This study carries implication for research on college teachers and student learning in two ways. First of all, recognizing the educational roles of all types of teachers in student college experiences will expand college impact research from student-faculty interaction to student contact with all those who educate in college. It is true that faculty can and do shape student performance by what they themselves value and do (Kuh, Laird, & Umbach, 2004), and it is no less true that other types of college teachers can work with faculty to foster student success in microsystems other than classrooms. Boyer (1990) challenged college and university administrators to think more broadly about the context of learning, not only through curricular means, but also by creating collective expectations of faculty, students, and staff to meet the challenge of living and working together. In China, there have been many theoretical discussions that address the educational function of living communities, yet substantial policies and concrete practices need to be documented and evaluated (Sun, 2012). Secondly, more empirical research on college counselors in Chinese higher education needs to be done in connection with the world literature on student affairs professionals. Currently, a college counselor in China is snowed under with responsibilities that are often distributed among various units in American universities, for example,

orientation and new student programs, fellowship selection committees, counseling and psychological services, student legal services, career development centers etc. Understanding the career life and educational roles of college counselors in China will contribute to the world literature on student affairs professionals and their transformation into teachers (Moore, 2007). By the same token, comparative research on student affairs professionals worldwide will benefit career development and professional growth for Chinese college counselors, empowering them as they empower our students.

Conclusion

This study used data from cognitive interviews that was applied to pre-test a college student survey instrument in China, and revealed the multiple meanings undergraduate students in China attribute to the term “college teacher.” Students’ understanding of the term reflected the ecological realities of Chinese higher education. Course instructor, academic advisor, class headteacher and counselor, student organization supervisor, and student service personnel have shared privileges and responsibilities of making an impact on students in microsystems of working and living. No matter what appointment or title they hold in a university, these educators share the appellation of “college teacher”, which indicates the non-differential educational and enlightening roles in relation to college learners. It is hoped that college survey researchers will increasingly apply the cognitive interviewing method to carefully develop an instrument before a full survey administration. A concept as simple yet foundational as college teacher deserves a systematic investigation to demonstrate the academic rigor in survey research and educational research.

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Appendix A: Items Including the Term “Teacher” in the NSSE-China Survey Questionnaire

During current school year, about how often have you done each of the following?
[本学年，以下活动发生的频率如何?]

very often	often	sometimes	never
很经常	经常	有时	从未

- 9h. Discussed grades with a teacher [和老师讨论自己的分数]
- 9i. Worked with teachers on activities other than coursework (orientation, student activities, etc) [和老师一起参与课程以外的工作 (比如迎新，社团活动等)]
- 11b. Used email to communicate with a teacher [通过电子邮件和老师交流]
- 11c. Discussed ideas from your readings or classes with a teacher outside of class [课外和老师讨论课堂或阅读中的问题]
- 11d. Received prompt feedback from a teacher on your academic performance (oral or written) [学习表现得到老师及时的反馈 (口头/书面)]
- 11e. Worked harder to meet a teacher’s expectation [更加努力学习以达到老师的要求]
- 11g. Talked about career plans and ideas with a teacher [和老师讨论自己的职业计划和想法]
- 11h. Talked about life values and prospects with a teacher [和老师讨论人生观和理想问题]
18. Mark the box that best represents the quality of your relationships with people at your institution [请在以下选项中，选择最能表述你在大学中与他人关系的选项]

b. Relationships with teaching faculty [与教师的关系]

unavailable

available

unhelpful

helpful

unsympathetic

sympathetic

[需要时找不着他们, 没帮助, 不理解我] [需要时能找到他们, 有帮助, 理解我]

c. Relationships with administrative personnel and offices [与行政人员的关系]

unhelpful

helpful

inconsiderate

considerate

rigid

flexible

[没帮助, 缺乏体谅, 僵化]

[有帮助, 体谅, 有弹性]