

Chinese Pre-service Teachers' Perceptions of Effects of Teacher Self-Disclosure

Shaoan ZHANG, University of Nevada, USA
Qingmin SHI, Hebei Normal University, China
Xiao LUO, Jimei University, China,
Xueyu MA, Xingtai University, China

Abstract :

Background: As an instructional tool, teacher self-disclosure is used widely by teachers. While researchers abroad have conducted a number of studies, scarce literature on teacher self-disclosure has been found.

Aims: This study aims to explore the Chinese pre-service teachers' perceived effects of teacher self-disclosure on student learning, teacher-student relationship and classroom communication, and classroom participation. In addition, this study investigated whether gender and major influence the participants' perceptions of effects of teacher self-disclosure.

Sample: The participants were 509 pre-service teachers from a northern university and a southeastern university in spring 2007.

Method: A self-reported survey was conducted. The Teaching Effects of Teacher Self-Disclosure Scale was administered to the participants. A total of 531 questionnaires were distributed, of which 509 were usable, yielding a response rate of 95.85%.

Results: Results showed that Teacher-Student Relationships and Communication ($M = 3.86, SD = 0.54$), as one dimension of the effects of teacher self-disclosure, received the highest acceptance; Classroom Learning ($M = 3.55, SD = 0.59$) ranked second; and the Classroom Participation ($M = 3.26, SD = 0.61$) ranked third. There was no significant difference between male and female pre-service teachers in their perceptions of the effects of teacher self-disclosure. The Chinese pre-service teachers of science majors had significantly higher acceptance on the effects of teacher self-disclosure on classroom participation compared with those of social science majors.

Conclusion: The results of this study have important implications to teaching practice and research. It is suggested that teachers should pay attention to the use of teacher self-disclosure.

Keywords: Teacher self-disclosure; Chinese pre-service teachers

中國師範生對教師自我表露效果的理解

摘要：

背景：教師自我表露作為一種教學工具在教學實踐中普遍使用。儘管國外學者在這方面進行了相當的研究，但是關於中國教師自我表露的文獻並不多見。

目的：本研究的目的是在於檢查中國師範生對教師自我表露在學生的學習，師生關係和課堂交流以及課堂參與等方面的效果的理解，探討性別和專業對其知覺的影響。

調查物件：研究物件是中國師範生，分別來自南方和北方的兩所大學的 509 名師範生於 2007 年春季參加了問卷調查。

調查方法：本研究採用問卷調查法收集資料，共發放 531 份問卷，回收有效問卷 509 份，回收率達百分之九十六。

調查結果：調查發現師範生普遍接受教師自我表露對師生關係和課堂交流的效果，其次是學生的學

習，最後是課堂參與。與文科師範生相比，理科師範生在教師自我表露對“課堂參與”維度上得分顯著高於文科師範生；而性別則沒有影響對自我表露的理解。

結論：研究結果對教學實踐和研究有很大的啟示。建議教師重視教學自我表露的使用。

關鍵字：教師自我表露，中國師範生

Introduction

With social and economic development, education in China is becoming internationalized. China responded to global changes and challenges, not only in economic development but in education as well. In 1983, the former senior leader Deng Xiaoping proposed an educational goal named “Three Fors”, which means that education in China should be oriented for the modernization, for the world, and for the future. His proposal has led to dramatic changes in education in China. The changes involved “the full range of educational experiences from kindergarten through university graduate studies” (Winchester, 2002, p. 105), and both curriculum and instruction (Ouyang, 2004, p. 145; Winchester, 2002, p. 106). One of the changes and challenges in instruction is teacher authority. Traditionally, Chinese teachers tended to teach in a formal way in order for them to establish authority that should be respected by students (Winchester, 2002). Educational reform called for instructional strategies that enhance positive and respectful teacher-student relationship and classroom interaction. One instructional strategy that is connected with classroom communication and teacher-student relationships is teacher self-disclosure (Cooper & Simonds, 1999). This study was intended to examine how Chinese college students as teacher candidates perceived the effects of teacher self-disclosure on teacher-student relationships and classroom communication as well as classroom learning and classroom participation.

Study of teacher self-disclosure in the U. S. began in the late 1970s. Several

researchers defined teacher self-disclosure with the consideration of its instructional characteristics. According to Nussbaum and Scott (1979), teacher self-disclosure is “any message about the self revealed to another, not only occurs in the classroom both voluntarily and involuntarily but also occurs and varies on the dimensions of intent, amount, direction, honesty-accuracy, and depth” (p. 569). Goldstein and Benassi (1994) adopted the definition of teacher self-disclosure as a teacher’s sharing of personal and professional information about himself or herself in a believable way. Sorensen (1989) defined teacher self-disclosure as “teacher statements in the classroom about self that may or may not be related to subject content, but reveal information about the teacher that students are unlikely to learn from other sources (p. 260).” According to Sorensen (1989), teacher self-disclosure is a unique instructional tool because it originates from a teacher rather than a textbook. The information disclosed from a teacher serves as a part of informal teaching materials and as an instructional tool for student learning as well. The personal information, no matter whether it is directly relevant to the teaching content, may produce certain effects on student academic learning, teacher-student relationships and classroom communication, and student classroom participation.

Teacher self-disclosure can be used in different classrooms. For example, an elementary school math teacher said, “I often use stories about hikes I have been on or mountains I have climbed, and so forth to create fun word problems the children are really interested in. You can estimate distances, sizes of objects, areas, volumes, and so forth with photos. You can compare measuring units. I often let the students come up with problems from my stories and photos of many of my experiences.” Another example is the use of

teacher self-disclosure in a high school AP (Advanced Placement Program) American history class. The teacher taught AP American history to the students in a high school. The subject was fighter jets in World War II. This teacher had a lot of ties to this subject; his father was in many missions on one of those jets, and so he was able to tell his students many stories that he heard. He also pulled up pictures from the Internet and was able to show students the very jet his father had been on. This example is “like a live, primary source, because all of the emotions and feelings of the stories were right there for the students and myself to experience. Then, he was able to relate it to the lesson, because students now had the textbook and the personal sides of the history” (from a preservice teacher).

Several studies in the U. S. investigated the use of teacher self-disclosure as an effective instructional tool for enhancing students’ cognitive learning (Cayanus, Martin & Weber, 2003; Hartlep, 2001; McCarthy & Schmeck, 1982). In addition to academic achievement, researchers found that teacher self-disclosure has positive effects on students’ affective learning (Nussbaum & Scott, 1979; Sorensen, 1989; Walker, 1999), and even classroom participation (Goldstein & Benassi, 1994). Zhang (2007) focused his study at the K-12 level and documented that both American preservice and K-12 teachers believe that teacher self-disclosure enhances classroom learning, creates a more positive classroom environment, establishes a more caring and respectful teacher-student relationship, and to some degree enhances students’ active classroom participation.

This study also included the examination of the influence of teacher gender on classroom teaching. According to Cooper & Simonds (1999), several factors such as audience size, setting, age, gender, race, culture, and nationality influence self-disclosure (p. 35).China

possesses several thousands of years of feudal history. However, the women's liberation movement and modernization dramatically changed people's mentality about gender. We assumed that there should be no significance between male and female preservice teachers in their perceptions of effects of teacher self-disclosure. The examination of Chinese male and female teachers' perceptions of teacher self-disclosure may mirror the reality of gender influences in classroom teaching in the changed society.

In addition to the examination of the impact of teacher gender on their perceptions of teacher self-disclosure, this study also explored the preservice teachers' majors which may be one factor that influences their perceptions of teacher self-disclosure. For example, social studies teachers may have different perceptions of teacher self-disclosure than math teachers. The result of this part of study may provide suggestions that in some subject areas teacher self-disclosure may be more popular than in other subject areas. We assumed that social science preservice teachers should show higher degree of acceptance of the effects of teacher self-disclosure compared with the science teachers. This aspect of study was ground-breaking, thus, it made contributions to the study of teacher self-disclosure.

Through Chinese preservice teachers' self-reported survey, this study was intended to explore how Chinese preservice teachers value teacher self-disclosure in terms of its effects on student learning and to provide suggestions for teacher education programs in China as well as in other countries concerning the use of teacher self-disclosure. Furthermore, this research evokes educational researchers around the world to study teacher self-disclosure in their specific educational contexts.

Purposes

The purpose of this study was three-fold: (1) to examine how preservice teachers accepted the three dimensions of effects of teacher self-disclosure: Classroom Learning, Teacher-Student Relationships and Communication, or Classroom Participation; (2) to investigate whether gender affects preservice teachers' understandings of effects of teacher self-disclosure on the three dimensions; (3) to investigate whether preservice teachers' majors influence their perceptions of effects of teacher self-disclosure on the three dimensions. In this study, social science refers to the preservice teachers' majors such as English, Chinese, political science, and history while science refers to the majors such as mathematics, chemistry, physics, biology, and information technology.

In this study, classroom learning was not measured by students' academic achievement; instead, it was measured by preservice teachers' beliefs in such outcomes and behaviors that relate to students' academic achievement as easily understanding the lecture, memorizing and retrieving information, broadening students' knowledge, enhancing teaching clarity, making students more interested in the subject, making more vivid teaching, and providing different ways of understanding teaching materials. The effects of teacher self-disclosure on Teacher-Student Relationships and Communication were measured on how preservice teachers believe that teacher self-disclosure creates caring relationships between teachers and students, helps students open up to their teachers about problems they may be having, helps students feel comfortable about communicating with their teachers, and contributes to developing trust between teachers and students. The effects of teacher self-disclosure on Class Participation were measured on how preservice teachers believe that

teacher self-disclosure contributes to classroom discipline, contributes to students' willingness to learn, makes students enthusiastic about classroom activities, makes students' learning experiences more engaging, and reduces students' misbehaviors.

Literature Review

A number of studies were conducted in the United States on the effects of teacher self-disclosure on students' cognitive learning, classroom communication, and classroom participation. McCarthy and Schmeck (1982) examined the effects of a male teacher's self-disclosure on 32 female and 32 male college students' recall of lecture material. Results showed that teacher self-disclosure lowered the female students' recall but raised the male students' recall. On the basis of the findings, the authors suggested that teacher self-disclosure encourages self-reference in the student and self-reference improves memory. Hartlep (2001) also investigated the effects of teacher self-disclosure on improving students' retention of lecture material. Participants included sixty-three students at California State University enrolled in an undergraduate course in life-span developmental psychology. Hartlep found that lectures with teacher self-disclosure led to better exam performance than lectures without teacher self-disclosure. These two studies indicated that teacher self-disclosure may help students learn better. While the two studies revealed a positive relationship between teacher self-disclosure and students' academic achievement, one study produced the opposite results. Nussbaum and Scott (1979) investigated the relationship between perceived teacher communication behaviors and classroom learning, and they intended to investigate whether students' perceptions of teacher self-disclosure, together with communicator style and solidarity, are related significantly to the cognitive, affective, and behavioral learning in the

classroom environment. Among the five dimensions of teacher self-disclosure, and the other variables such as general evaluation of communication style, competence of communication style, and solidarity, Nussbaum and Scott found that perceived honesty of the instructor's disclosure, general communication style, and competence of communication style negatively associated with cognitive learning ($r = -.56, p < .001$). Nussbaum and Scott (1979) synthesized the research findings and considered that the negative relationship between teacher self-disclosure and cognitive study results from too much affect between teachers and students because "too much homophily between teacher[s] and student[s] may detract from cognitive learning" (p. 579). The inconsistent findings suggested that it may be practical to measure the perceived effects of teacher self-disclosure on student learning. Thus, this study employed a self-reported survey for student learning instead of using cognitive assessment tools such as tests.

In addition to cognitive learning, several studies also found that teacher self-disclosure was related to teacher-student relationships and communication. Rouse and Bradley (1989) investigated whether teacher self-disclosure produces more student self-disclosure in reading instruction. They found that teacher self-disclosure was very effective in creating such a classroom communication climate conducive to personally relevant talk that students revealed themselves in a way that fostered a strong sense of mutual understanding and human bonding. Accordingly, Rouse and Bradley argued that teacher self-disclosure appeared to be a factor that created "a warm and emotionally safe classroom environment", in which students are willing to open up through self-disclosure and consequently teachers and students understand each other better. Rouse and Bradley (1989)

further pointed out that this feeling of emotional warmth may help students learn better. They stated that when the artificial barriers between students and teachers are broken down, students are also provided with a stronger sense of personal involvement in the educational process. Deiro (2005) observed six carefully selected secondary teachers' classroom teaching for three days, interviewed each teacher four times for ninety minutes each time, and interviewed two students from each teacher's class. From her observations and interviews, she identified six effective strategies for teachers to make healthy connections with students: creating one-to-one time with students, using appropriate teacher self-disclosure, having high expectations of students while conveying a belief in their capabilities, networking with parents, family members, and friends of students, building a sense of community among students within the classroom, and using rituals and traditions within the classroom. Deiro found that teacher self-disclosure helps establish caring and respectful teacher-student relationship. These studies suggested that teacher self-disclosure may not only enhance students' learning, it may also help establish a positive classroom communication environment and a caring and respectful teacher-student relationship. Zhang (2007) examined the perceived effects of teacher self-disclosure on teacher-student relationship and classroom communication. Results showed that this perceived effect was more accepted by American both pre-service teachers ($M = 4.15, SD = .44$) and in-service teachers ($M = 4.27, SD = .55$) than were academic learning and classroom participation.

Scholars also studied the effects of teacher self-disclosure on classroom participation; however, the results were inconsistent. Goldstein and Benassi (1994) hypothesized a positive relation between teacher self-disclosure and classroom participation and found that teacher

self-disclosure was positively associated with students' classroom participation in a natural classroom setting. However, Wambach and Brothen (1997) questioned Goldstein and Benassi (1994)'s study and conducted another study. In their study, Wambach and Brothen found no relation between teacher self-disclosure and classroom participation. Zhang (2007) investigated the 180 in-service and 135 pre-service teachers' perceived effects of teacher self-disclosure on classroom participation. The results indicated that both pre-service teachers ($M = 3.38, SD = .57$) and in-service teachers ($M = 3.66, SD = .64$) did not consider the influences of teacher self-disclosure on student classroom participation so much as its effects on another two dimensions: Classroom Learning, and Teacher-Student Relationships and Classroom Communication. The inconsistent results cast doubts about whether teacher self-disclosure may enhance more classroom participation. The problem that existed in the studies is the different definitions and research methods in their studies.

As mentioned in the introduction of this study, gender was a factor that influenced the use of teacher self-disclosure (Cooper & Simonds, 1999). Zhang (2007)'s study also investigated whether teacher gender affected teachers' understanding of effects of teacher self-disclosure. He found that gender did not affect pre-service teachers' (Wilks' $\Lambda = .99, F = .23, p = .88$) and in-service teachers' (Wilks' $\Lambda = .96, F = 1.78, p = .16$) perceptions of effects of teacher self-disclosure on the three dimensions.

A brief review of studies on teacher self-disclosure showed that scholars have studied its effects on one of the three dimensions: Classroom Learning, Teacher-Student Relationships and Classroom Communication, and Classroom Participation. Zhang (2007) investigated all these effects of teacher self-disclosure in his study. Since no systemic study

on teacher self-disclosure was conducted in China, it seemed significant to conduct the initial study based on Zhang's study.

The following three research questions were generated from the literature review:

- 1) How did Chinese pre-service teachers consider the effects of teacher self-disclosure on Classroom Learning, Teacher-Student Relationships, and Classroom Participation?
- 2) Do male and female Chinese pre-service teachers have different perceptions of effects of teacher self-disclosure on students?
- 3) Do the majors of Chinese pre-service teachers affect their perceptions of effects of teacher self-disclosure on students?

Method

Participants

Participants consisted of 509 pre-service teachers in one southeastern university (n = 383) and one northern university (n = 126) in China. In addition, 162 (31.8%) participants were male students and 347 (68.2.0%) were female students. They were enrolled in undergraduate teacher education programs ranging from freshmen to seniors in the departments of history, English, Chinese, political science, math, chemistry, physics, biology, and information technology. Two hundred and seventy-eight (54.6%) were social science majors and 231 (45.4%) were science majors.

Instrument

Based on Zhang (2007)'s self-developed survey (The Teaching Effects of Teacher

Self-Disclosure Scale), the Teaching Effects of Teacher Self-Disclosure Scale for Chinese pre-service teachers (see Appendix II) was developed in both English and Chinese by the first two researchers.

The Teaching Effects of Teacher Self-Disclosure Scale investigated how pre-service teachers perceived effects of teacher self-disclosure. Participants responded to items using the following scale: 1-strongly disagree, 2-disagree, 3-undecided, 4-agree, and 5-strongly agree. An exploratory factor analysis was conducted to examine the loading of each item. An exploratory principal components analysis with Varimax rotation of the items produced three components. By deleting 7 items which loaded $\leq .40$ or had similar loading in two dimensions, three components were rotated among 17 items with Eigenvalues 6.28, 1.42, and 1.12, respectively, accounting for 51.87% of the variance (see Appendix I). Results of the factor analysis revealed the three components as assessed: Classroom Learning, Teacher-Student Relationships and Communication, and Classroom Participation. In this current study the internal consistency reliability check (Cronbach's coefficient alpha) for all subscales of the measure showed acceptable results, for Classroom Learning, $\alpha = .85$ (8 items); for Teacher-Student Relationships and Communication, $\alpha = .71$ (4 items); and for Classroom Participation, $\alpha = .77$ (5 items).

Procedures

Two of the researchers conducted data collection in two universities in China in spring 2007. The researchers brought the survey to the classes that the participants were attending. They explained the purpose of this survey and then read the instructions and gave necessary explanations to supplement the directions for completing the survey successfully.

Afterward, they asked the participants to complete and return the survey within 15 minutes. The participants were asked to sign their names on the informed consent letters before they began the survey. During the survey, researchers walked around and answered any questions the pre-service teachers had. Researchers examined each survey to ensure completion before accepting the surveys. A total of 531 questionnaires were distributed, of which 509 were usable, yielding a response rate of 95.85%.

Data Analysis

A 2 x 2 MANOVA was conducted to analyze the interaction between gender and major, and gender and majors' main effects on three dimensions of effects of teacher self-disclosure. Meanwhile, the mean scores and standard deviations for each of the three dimensions (Classroom Learning, Teacher-Student Relationships and Communication, Classroom Participation) were reported to examine the rankings of the three dimensions.

Results

The descriptive analysis results revealed how Chinese pre-service teachers considered the effects of teacher self-disclosure on Classroom Learning, Teacher-Student Relationships and Communication, and Classroom Participation. Teacher-Student Relationships and Communication gained the highest mean ($M = 3.86$, $SD = 0.54$); Classroom Learning ranked second ($M = 3.55$, $SD = 0.59$); and Classroom Participation ranked third ($M = 3.26$, $SD = 0.61$). The means and standard deviations for gender and major are presented in Table 1.

A 2 x 2 MANOVA was conducted to evaluate the effects of gender and major on perceived Classroom Learning, Teacher-Student Relationships and Communication, and Classroom Participation. The means and standard deviations for the three dependent variables

Table 1

*Means and Standard Deviations for Pre-service Teachers on Effects of Teacher**Self-Disclosure*

Variables	N	Classroom Learning		Teacher-Student Relationships & Communication		Classroom Participation	
		M	SD	M	SD	M	SD
Gender							
<i>Male</i>	162	3.54	.56	3.81	.55	3.54	.58
<i>Female</i>	347	3.55	.60	3.88	.53	3.47	.57
Major							
<i>Social Science</i>	278	3.53	.58	3.82	.57	3.42	.58
<i>Science</i>	231	3.57	.61	3.91	.50	3.58	.55

as a function of gender and major are presented in Table 1. The MANOVA results indicated a nonsignificant gender by major interaction, $F(3, 503) = 1.20, p = .309$, partial $\eta^2 = .007$; a nonsignificant gender main effect, $F(3, 503) = 2.18, p = .089$, partial $\eta^2 = .013$; and a significant major main effect, $F(3, 503) = 4.41, p < .001$, partial $\eta^2 = .026$.

The follow-up test results showed that science major pre-service teachers obtained a significantly higher score ($M = 3.58, SD = .55$) in dimension of Classroom Participation than did social science major pre-service teachers ($M = 3.42, SD = .58$), $F(1, 505) = 11.60, p < .001$; however, no significant differences in Classroom Learning ($F(1, 505) = 1.82, p = .178$) and Teacher-Student Relationships and Communication ($F(1, 505) = 5.61, p = .018$) were found.

Discussion

Previous investigations have studied effects of teacher self-disclosure on students' classroom learning, teacher-student relationship and communication, and classroom participation in the U. S. Our study used a self-reported survey to investigate pre-service teachers' perceived effects of teacher self-disclosure in China. The sample obtained in this study was quite representative since our study included social science and science courses from different nine departments.

Consistent with previous studies (Deiro, 2005; Rouse & Bradley, 1989; Zhang, 2007), the results indicated that effects on Teacher-Student Relationships and Communication were the most accepted dimension of effects of teacher self-disclosure, and Classroom Participation was least accepted. This finding suggested that Chinese pre-service teachers believed that teacher self-disclosure may create positive teacher-student relationships, help students open up to their teachers about the problems they may be having, help students feel comfortable about communicating with their teachers, and contribute to developing teacher-student trusting relationships. There is a lack of evidence showing the exclusion of teacher self-disclosure in traditional classroom teaching. Nonetheless, before the 1980s, it was common that teachers attempted to be formal in their teaching and keep an image of being authoritative so teacher self-disclosure may be excluded in teaching. It perhaps is likely that educational globalization and educational reform in China led to pre-service teachers' appreciation for some informal teaching strategies such as teacher self-disclosure. Further, it seems logical that preservice teachers' educational philosophy may influence their classroom teaching practice. In other words, if they believe that teacher self-disclosure may lead to

positive and caring teacher relationships (Deiro, 2005) and contribute to establishing productive classroom community, pre-service teachers may be willing to use their self-disclosure in their future teaching. This argument suggests the necessity of further study on in-service teachers' perceptions or use of teacher self-disclosure in order to find out whether in-service teachers use teacher self-disclosure.

Another finding that was similar to Zhang (2007)'s study in the U.S. is that Chinese pre-service teachers also believed that teachers used teacher self-disclosure to interest students because it is more vivid to them and they also believed that teacher self-disclosure provided different ways for students to understand content knowledge and to enhance teaching clarity. Therefore, students may understand lectures more easily, and memorize and retrieve information (Hartlep, 2001; McCarthy & Schmeck, 1982).

Zhang (2007) found that pre-service teachers in the U.S. believed that teacher self-disclosure was not so related to students' classroom participation. Similarly, in this study, Chinese pre-service teachers did not report a high degree of consensus about the effects of teacher self-disclosure on student classroom participation. One reason that may account for this result may be the problems of the items in this dimension. This finding suggested that it could not be concluded that teacher self-disclosure enhances classroom participation. Maybe classroom participation needs to be redefined or another research needs to be designed to revisit the relationship between teacher self-disclosure and classroom participation. One flaw that may have existed in the survey is the statement that teacher self-disclosure may reduce students' misbehavior. This statement has received very low acceptance from the pre-service teachers, and in turn, affected the acceptance of the whole dimension.

Another finding from this study was a nonsignificant difference in the perceived effects of teacher self-disclosure between male and female Chinese pre-service teachers. This result was consistent with Zhang (2007)'s study in which both male and female pre-service and in-service teachers in the U.S. did not differ in their perceptions of the effects of teacher self-disclosure and showed that pre-service teacher gender does not influence their acceptance of teacher self-disclosure. It seems to be safe to conclude that male and female preservice teachers had the same degree of acceptance of the effects of teacher self-disclosure. One explanation for this finding may be that both male and female pre-service teachers understood the value of teacher self-disclosure in a similar way. Maybe the women liberation and modernization in China lead to the similar teaching beliefs of male and female pre-service teachers. Indeed, attention to the gender issues in teacher education in China may have reduced the differences between male and female pre-service teachers. Although gender equality was advocated before the social and economic reform in the 1980s, gender equality has been tremendously enhanced by the social development since then. Consequently educational reform led to the changed mentality. As results shown in this study, both male and female pre-service teachers accepted the effects of teacher self-disclosure.

However, the finding only showed that male and female pre-service teachers have similar perceptions of effects of teacher self-disclosure and it did not indicate their use of teacher self-disclosure. The further study may explore whether male and female teachers use teacher self-disclosure differently. Nonetheless, this finding added initial literature to the study of teacher self-disclosure in China.

Another contribution of this study to the research of teacher self-disclosure was the

exploration of influence of subject area on perceptions of teacher self-disclosure.

Contradictory with the assumption that social science pre-service teachers had higher degree of acceptance of the effects of teacher self-disclosure, science major pre-service teachers reported significantly higher degree of acceptance of the effects of teacher self-disclosure on Classroom Participation than did social science major pre-service teachers. Unfortunately, no empirical evidence could be found to support this finding. However, it may be tentatively assumed that pre-service teachers of science majors believed that science teaching needs more teacher self-disclosure which may make the teaching more interesting to students. It is generally believed that the teachers of social science will more easily find something from their own experiences to relate to the teaching material compared with the teachers of science. However, in K-12 classroom teaching, as one of the examples of teacher self-disclosure aforementioned, teachers of science should make be able to add themselves as learning resource to their teaching. Here is the documentation by one pre-service teacher about a biology teacher's use of self-disclosure in her teaching:

The teacher used her experience as a triathlete to introduce the importance of proteins in body systems. The use of her self-disclosure posed a great introduction to a lecture topic and it created a lot of interest for the students. She talked about how she incorporates proteins into her diet and how they help her diet and how she trains for her triathlons ... She just disclosed how the proteins helped her body systems to operate more efficiently.

This study may make science teachers realize that they can and need to use their self-disclosure to create an interesting and positive classroom environment where students

can participate in learning activities.

This study focused on the perceived effects of teacher self-disclosure. To study the actual effects of teacher self-disclosure, researchers may examine students' academic achievement to find the learning effects, and observe in-service teachers' class and interview teachers and students for the effects of teacher self-disclosure on teacher-student relationships and classroom participation. It may be exhaustive to examine the three dimensions of effects in one study. While the perceived effects may weaken the generalizability of this study, it has its own worth. First of all, this study as an initial study showed that teacher self-disclosure became accepted in China. The findings also exemplified how the social development may have changed educational philosophy and teaching practice. Second, this study may cause teachers' attention in their teaching practice and learn how to use teacher self-disclosure effectively to reach the goals of education. Finally, this study will also provide the research methodology and evidence for the interested researchers to conduct further related studies.

Conclusion

This study suggests that Chinese pre-service teachers held beliefs about effects of teacher self-disclosure on classroom learning, teacher-student relationships and communication, and classroom participation. Results showed that, of the three dimensions of effects of teacher self-disclosure, teacher-student relationships and classroom communication was most accepted. The findings may have resulted from the educational globalization and educational reform which weakened the teacher authority in teaching and emphasized the caring and respectful teacher-student relationship and positive classroom communication. The study found that gender did not influence pre-service teachers' perceptions of the

effects of teacher self-disclosure. The study also found that Chinese pre-service teachers of science majors had significant differences in their understandings of effects of teacher self-disclosure on classroom participation.

References

- Cayanus, J. L., Martin, M. M., & Weber, K. D. (2003, April). *The relationships between teacher self-disclosure with out-of-class communication, student interest, and cognitive learning*. Paper presented at the annual meeting of the Southern States Communication Association, Birmingham, AL.
- Cooper, P. J., & Simonds, C. (1999). *Communication for the classroom teacher*. Boston, MA: Allyn Bacon.
- Deiro, J. A. (2005). *Teachers do make a difference: The teacher's guide to connecting with students*. Thousand Oaks, CA: Corwin Press.
- Goldstein, G. S., & Benassi, V. A. (1994). The relation between teacher self-disclosure and student classroom participation. *Teaching of Psychology, 21*(4), 212-217.
- Hartlep, K. (2001). *Self-reference and instructor self-disclosure: Is gossip easier to remember?* The Online Journal of Teaching and Learning in the CSU. Retrieved on February 3, 2006, <http://www.exchangejournal.org>
- McCarthy, P. R., & Schmeck, R. R. (1982). Effects of teacher self-disclosure on student learning and perceptions of teacher. *College Student Journal, 16*, 45-49.
- Nussbaum, J. F., & Scott, M. D. (1979). Instructor communication behaviors and their relationship to classroom learning. In D. Nimmo (Ed.), *Communication Yearbook 3* (pp. 561-583). New Brunswick, NJ: Transaction Books.
- Ouyang, K. (2004). Higher education reform in China today. *Policy Futures in Education, 2* (1), 140-149.
- Rouse, R. E., & Bradley, D. (1989). Personally shared reading: How teacher self-disclosure effects student self-disclosure. *Middle School, 20*, 34-35.
- Sorensen, G. (1989). The relationships among teachers' self-disclosive statements, students' perceptions, and affective learning. *Communication Education, 38*, 259-276.
- Walker, S. R. (1999). *College teachers' use of self-disclosive messages and students' affective learning*. Unpublished master's thesis, California State University, Long Beach.
- Wambach, C., & Brothen, T. (1997). Teacher self-disclosure and student classroom participation revisited. *Teaching of Psychology, 24*(4), 262-263.
- Winchester, I. (2002). On the applicability of western models to China. *Journal of Educational Thought, 36* (2), 105-110.

Zhang, S. (2007). *Preservice and inservice teachers' perceptions of appropriateness of teacher self-disclosure and its teaching effectiveness*. Unpublished doctoral dissertation, Old Dominion University, Norfolk.

Appendix I

Factors Loading of Teaching Effectiveness of Teacher Self-Disclosure (TSD) Scale

Items	1	2	3
TSD allows students to understand the lecture easily.	.769		
TSD helps students to memory and retrieve information.	.691		
TSD broadens students' knowledge.	.662		
TSD helps students understand teachers' lectures.	.642		
TSD enhances teaching clarity.	.638		
TSD makes students get interested in learning the subject matter.	.616		
TSD makes teaching more vivid to students.	.552		
TSD provides different ways for students to understand the class content.	.547		
TSD creates caring relationships between teachers and students.		.738	
TSD helps students open up to their teachers about problems they may be having.		.697	
TSD helps students feel comfortable about communicating with their teachers.		.688	
TSD contributes to developing trust between teachers and students.		.598	
TSD contributes to classroom discipline.			.745
TSD contributes to students' willingness to learn.			.738
TSD makes students enthusiastic about classroom activities.			.638
TSD makes students' learning experiences more engaging.			.539
TSD reduces students' misbehaviors.			.516

Note: 1. Classroom Learning 2. Teacher-Student Relationships and Communication
3. Classroom Participation

Authors:

張紹安[Shaoan Zhang] 內華達大學拉斯維加斯校區教育學院課程指導系，助理教授
馬里蘭路 4505 號，453005 信箱，內華達大學拉斯維加斯校區，89154-3005
電子郵件: shaoan.zhang@unlv.edu; 電話: (702) 8955084; 傳真: (702) 8954898

史清敏[Qingmin Shi]，河北師範大學教育學院心理系，副教授
河北省石家莊市河北師範大學西校區 河北師範大學教育學院心理系，050091
電子郵件: psychqms@yaho.com; 電話: (702) 434-7183

羅曉[Xiao Luo]，廈門集美大學教師教育學院，教授
福建廈門集美大學，361021
電子郵件: luoxiao666@sina.com; 電話: (592) 6180924

馬雪玉[Xueyu Ma]，邢臺學院教育科學教學部，講師
 河北省邢臺市師專街3號 邢臺大學教育教學部，054001
 電子郵件: xueyu_77@hotmail.com; 電話: (319) 7300796

Appendix II Teaching Effectiveness of Teacher Self-Disclosure (TSD) Scale

Instructions: Please mark the following statements to reflect how you perceive the effectiveness of teacher self-disclosure by circling ONLY one number for each statement. A 1 means you strongly disagree (SD), a 2 means you disagree (D), a 3 means you are undecided (UND), a 4 means agree (A), and 5 means you strongly agree (SA).

Items	SD	D	UND	A	SA
TSD allows students to understand the lecture easily.	1	2	3	4	5
TSD helps students to memorize and retrieve information.	1	2	3	4	5
TSD broadens students' knowledge.	1	2	3	4	5
TSD helps students understand teachers' lectures.	1	2	3	4	5
TSD enhances teaching clarity.	1	2	3	4	5
TSD makes students get interested in learning the subject matter.	1	2	3	4	5
TSD makes teaching more vivid to students.	1	2	3	4	5
TSD provides different ways for students to understand the class content.	1	2	3	4	5
TSD creates caring relationships between teachers and students.	1	2	3	4	5
TSD helps students open up to their teachers about problems they may be having.	1	2	3	4	5
TSD helps students feel comfortable about communicating with their teachers.	1	2	3	4	5
TSD contributes to developing trust between teachers and students.	1	2	3	4	5
TSD contributes to classroom discipline.	1	2	3	4	5
TSD contributes to students' willingness to learn.	1	2	3	4	5
TSD makes students enthusiastic about classroom activities.	1	2	3	4	5
TSD makes students' learning experiences more engaging.	1	2	3	4	5
TSD reduces students' misbehaviors.	1	2	3	4	5

[Received: 23.1.08, accepted 4.3.08, revised 12.3.08]