

## Development of Pre-service Teachers' Assessment Literacy in Assessment Education

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**Abstract:** This qualitative study explored how current assessment education courses offered by American academy-based teacher education programs prepare pre-service teachers from China for using real-time classroom assessment. Following an instrumental case study approach, the study collected data from two individual Chinese international students via interview. Analysis of the data suggested that the current assessment-related courses offered by American teacher education program were perceived by Chinese pre-service teachers as useful and helpful in improving their assessment-related knowledge and skills. Principal contributors to the effectiveness of these courses include their great emphasis on learner-centered teaching belief and the content-oriented development appropriate assessment strategies. However, more cultural responsive and process-based teaching methodologies should be integrated in assessment courses in order to better fit international students' assessment learning needs.

### Introduction

Over the past decades, researchers have conducted plentiful studies of the essential core knowledge of teaching as a profession. It has been realized that more attention should be paid to teacher assessment literacy and teacher assessment education (Plake & Impara, 1993; Stiggins, 2001). Actually, there is an urgent need of support and training for teacher candidates to help them promote their assessment literacy (Zhang & Burry-Stock, 2003; Popham, 2009; Deluca, 2012).

In this light, there have been a number of district-wide, state-wide, or even nation-wide quantitative studies examining how teacher candidates' assessment literacy are influenced by the current assessment education courses in teacher education programs ( DeLuca, 2012; Campbell, 2013). Yet few have explored how teacher candidates' assessment literacy changes in "contextually unique classroom environment" (Campbell, 2013, p. 81). One of such "contextually unique classroom environment" that needs a focused examination is the assessment education courses in American teacher education programs that are delivered for not only domestic but also international students, and more specifically, Chinese students. Little attention has been paid to examine the impacts that American-delivered programs may have on Chinese pre-service teachers, regarding the change of their assessment literacy. Therefore, researchers are encouraged to expand our understanding of this specific issue with the qualitative research method.

### Literature Review

Popham (2011) describes assessment literacy informally as "individual's understandings of the fundamental assessment concepts and procedures deemed likely to influence educational decisions" (p. 267). American Federation of Teachers (AFT), National Council on Measurement in Education (NCME), and National Education Association (NEA) describe this construct by setting the Standards for Teacher Competence in Educational Assessment of Students. According to the seven standards (AFT, NCME, & NEA, 1990), teachers should be skilled in 1) choosing assessment methods appropriate for instructional decisions; 2) developing assessment methods appropriate for

instructional decisions; 3) administering, scoring, and interpreting the results of both externally produced and teacher-produced assessment methods; 4) using assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement; 5) developing valid pupil grading procedures that use pupil assessments; 6) communicating assessment results to students, parents, other lay audiences, and other educators; 7) recognizing unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information (AFT, NCME, & NEA, 1990).

In order to explore in what ways do current assessment education courses offered by an American academy-based teacher education program prepare pre-service teachers from China for using real-time classroom assessment, the present study focuses on the following research questions:

- 1) What do Chinese pre-service teachers who are participating in an American academy-based teacher education program know about the complexities of classroom assessment?
- 2) How do these Chinese pre-service teachers perceive their assessment-related courses?

## Methodology

This study follows a case study approach. Respondents in this study were selected purposefully. At the outset, a current teacher preparation program in America, which is designed for training qualified teachers of all levels, was chosen as the site for study. One administrator who is responsible for this program was identified as the gatekeeper. Then, respondents were selected by employing the following two criteria: 1) they are involved in this teacher preparation program; 2) they are the Chinese students in one of the assessment-related courses and thus have the experiences of assessment education for the improvement of pre-service teachers' assessment literacy. As a result, two individual Chinese students were identified as sources of information for the study. Their ongoing real-life experience with this international-oriented teacher preparation program as well as its embedded assessment-related course may deepen our understanding of the impacts such an international teacher preparation program may have on pre-service teachers from China.

After obtaining permission from the respondents, data were collected via interview. Face-to-face interviews were conducted with the administrator as well as the two pre-service teachers. After interviewing the administrator to gain some general information about the assessment education courses, the two pre-service teachers from China were interviewed for an in-depth examination of their perceived assessment-related training experience. Each of the interviews lasted for thirty minutes to one hour. Eleven open-ended interview questions developed by the researcher, which focused on teaching beliefs, assessment knowledge, and assessment-related training experiences, were asked to gain information on Chinese pre-service teachers' beliefs and understanding of educational assessment as well as their perception of the assessment-related courses they are taking or have taken.

## Findings

After an in-depth and holistic analysis of the data gained from the interviews, classroom observation, and documents, three major themes emerge.

**Pre-service Teachers' Learner-centered Beliefs.** Both Chinese pre-service teachers, Liu hua and Wang mei (pseudonym), express their "student-centered" teaching and assessing beliefs. According to them, teachers should no longer be the dominator or rule setter of classroom, but be the "guide" or assistant for students, who "remind students what to do" and "help them with their learning". Therefore, they think that "all the classroom rules, classroom procedures, and learning goals" should be created by students themselves, with the guidance and help from their teachers. Furthermore, they think that it is important for teachers to give priority to students' learning and view learning as a continuous process. In order to promote the learning of students from various cultural backgrounds or at different levels, they think it is necessary to help students "set different learning goals" for themselves and "provide differentiated instructions" for each individual student.

In their opinion, throughout this whole learning process, assessment is closely connected to students' learning and plays a critical role. Liu hua described the "KWL chart" as an assessment tool that can help her know and facilitate the learning process. With the tool, assessment can not only promote students' learning, but also provide useful information for teachers about their teaching practices. Through analyzing the data collected from various assessments, teachers can "modify their teaching plans to meet students' needs".

**Pre-service Teachers' Hands-on Experience of Assessment.** The assessment-related courses not merely introduce some essential assessment-related concepts, theories, and strategies; moreover, they incorporate pre-service teachers' hand-on experience into the training experience in order to inform them on how to apply these concepts, theories and strategies into practice. Pre-service teachers are trained to develop content-based and development-appropriate lesson plans, in which they are supposed to integrate assessment into every step of the teaching process.

Here is Wang mei's description of her hand-on experience: "Since we are from different subject areas, after we learned the ideas of those assessments, based on the subject, we designed our assessment together. Our math group had seven people there. We Came up with a certain topic, like polynomial, and then we designed some assessment for how to assessment students' learning of polynomial. We are going to assess them before their learning with the diagnostic assessment. During the lesson, how we are going to check their understanding of polynomial. After the lesson, we designed an exam for them. We also designed a poster at the end of the unit. Have students to do poster, showing their understanding of the concept. And then, in the next lesson of our course, we went up to the classroom and presented. We taught a lesson. Our professor listened to us. The rest of our classmates pretended to be high school students."

**Instructors' Assessment Practices in Assessment Education.** According to Liu hua, one of the instructors of the assessment courses relies too much on exams, which turn out to be too difficult for pre-service teachers. As she mentioned: "We have mid-term and final exams. The multiple choice items are very difficult. The total score is 80. And most of us only got 30 or 40. Most of my classmates said that we might get a C or D in this course. Even for the top student who did very well in the exam, her score is 59, is still C." Another instructor, according to Wang mei, assesses pre-service teachers' performance in class through just one assessment tool. As she stated: "The way we were assessed was that we first presented our lesson in the class, and then the teacher gave us a score just based on the lesson we presented. She gave us A, B, C, or D. ... She also gave us feedback on the strength of our presentation, but she didn't mention what we need to be improved."

## Discussion

DeLuca and Bellara (2013) criticize current assessment education for not preparing pre-service teachers for performing assessment practices in actual classrooms. However, it is revealed from this study that American assessment educators are offering improved assessment training courses and thus better assessment education outcomes, despite the fact that more cultural responsive and process-based teaching methodologies need to be added. To be specific, the strengths and weaknesses of the assessment courses are as follows.

**Learner-centered Teaching Belief.** From this study, it is revealed that, in this American-delivered teacher education program, the Chinese pre-service teachers are prepared to teach with a learner-centered teaching belief. The pre-service teachers perceive students as active constructors of learning and view teacher as the guide for students' learning tour. With such a partnership established between teacher and students, a continuous learning process may occur naturally, starting from students' understanding what they want to know (setting learning goals), moving to teacher-students co-assessing what they have already known (assessment), and reaching the point that students understand how they can improve. It is this embedded value of learner-centered teaching belief that helps the Chinese pre-service teachers understand how important assessment can be in students' whole learning process. That is to say, by setting a high value on learner-centered teaching belief, the assessment education courses help Chinese

pre-service teachers understand the purpose of assessment, and moreover, greatly motivate them to learn assessment-related knowledge and skills.

**Content-oriented and Development Appropriate Assessment Strategies.** It is revealed from the findings of this study that, by putting emphasis on hand-on experiences, the current assessment-related courses not only broaden Chinese pre-service teachers' horizons and deepen their understanding in the role of assessment, assessment concepts, strategies, and tools, but also help pre-service teachers internalize assessment-related knowledge and skills.

The Chinese pre-service teachers are prepared for different education field, general or special education, in order to fit into their future teaching and assessing for diverse students. Since teachers from different content areas or grade levels tend to assess their students with different methods and skills, it is essential for assessment-related courses to "suit the deferential needs of teachers working in different content areas and grade levels" (Zhang & Burry-Stock, 2003, p. 336). In the current American assessment courses, the Chinese pre-service teachers have been exposed to different assessment tools and strategies for their future students, who may possess distinctive cognitive-abilities and come from dissimilar content areas or age groups.

**Disconnection between American Teacher Educator and Chinese Pre-service Teachers.** As more and more diversity in race, ethnicity, socio-economic status, and language are found in today's classrooms, highly-qualified teachers should always take students' diversity into account and make every effort to instruct and assess each individual student (Lee, Butler, & Tippins, 2007). Nevertheless, as we examined the courses from the perspective of Chinese pre-service teachers, it appears that some teacher educators who are involved in assessment-related courses are not aware of students' diversity in the classroom, so that they cannot understand international students' needs, learning difficulties and their alienation in the classroom and fail to establish an active interaction with them. Actually, in order to engage all the students in assessment-related learning activities, it is necessary for these teacher educators to teach in a more cultural responsive way and invest more time and energy in promoting active interaction with each individual student in and out of the class.

**Talk the Talk, but not walk the Walk.** Graham (2005) asserts that modeling classroom assessment in assessment education courses for pre-service teachers have positive impacts on pre-service teachers' assessment literacy. However, it is noted that the teacher educators in current assessment-related courses are not effective enough in assessing pre-service teachers during their assessment-related learning process. According to the school administer, by taking the assessment-related courses, the pre-service teachers are expected to be prepared for their future assessment practice. However, it is revealed from the interviews that some instructors' assessment practices in two of the assessment-related courses are somewhat simplex and static. Furthermore, there is no informative feedback provided on what pre-service teachers need to be improved and how they can improve in their learning of assessment. All these suggest that, these assessment educators fail, to some extent, to serve as effective models for their students from the standpoint of their course assessment practices.

## **Conclusion**

To sum up, the current assessment-related courses offered by American teacher education program are perceived by Chinese pre-service teachers as useful and helpful in improving their assessment-related knowledge and skills. Principal contributors to the effectiveness of these courses include their great emphasis on learner-centered teaching belief, pre-service teachers' hand-on experience, and the development of content-oriented and development appropriate assessment strategies in pre-service teachers. However, effective assessment education involves not only the breadth of course content, but also the depth of assessment-related learning of each individual pre-service teacher. Therefore, more cultural responsive and process-based teaching methodologies need to be integrated in current assessment courses in order to help diverse pre-service teachers internalize assessment-related knowledge and skills for using real-time classroom assessment. Future study could dig into this problem and explore the differences between the assessment education courses designed for general education and special education.

## References

- [1] S. M. Brookhart, The “standards” and classroom assessment research, Paper presented at the annual meeting of the American Association of Colleges for Teacher Education, Dallas, TX. (ERIC Document Reproduction Service No. ED451189), 2001.
- [2] C. Campbell, Research on teacher competency in classroom assessment, in: J. McMillan (Eds.), SAGE handbook of research on classroom assessment, SAGE Publications Inc., Thousand Oaks, CA, 2013, pp. 71-85.
- [3] C. Campbell, J. A. Evans, Investigation of preservice teachers' classroom assessment practices during student teaching, *The Journal of Educational Research*. 93(2000) 350-355.
- [4] C. DeLuca, Preparing teachers for the age of accountability: Toward a framework for assessment education, *Action in Teacher Education*. 34(5-6) (2012) 576-591.
- [5] C. DeLuca, A. Bellara, The current state of assessment education: aligning policy, standards, and teacher education curriculum, *Journal of Teacher Education*. 64(4) (2013) 356-372. doi:10.1177/0022487113488144
- [6] Ghaicha, Abdallah, Theoretical framework for educational assessment: A synoptic review, *Journal of Education and Practice*. 7(24) (2016) 212-231.
- [7] P. Graham, Classroom-based assessment: Changing knowledge and practice through preservice teacher education, *Teaching and Teacher Education*. 21 (6) (2005) 607–621. doi: 10.1016/j. tate. 2005. 05. 001
- [8] S. Lee, M.B. Butler, D.J. Tippins, A case study of an early childhood teacher’s perspective on working with English language learners, *Multicultural Education*. 15(1) (2007) 43-49.
- [9] L. E. Lukin, D. L. Bandalos, T. J. Eckhout and K. Mickelson, Facilitating the development of assessment literacy, *Educational Measurement: Issues and Practice*. 23(2) (2004) 26-32.
- [10] B. Plake, J. Impara, J. Fager, Assessment competencies of teachers: A national survey, *Educational Measurement: Issues and Practice*. 12(4) (1993) 10-12, 39.
- [11] W. J. Popham, Assessment literacy for teachers: faddish or fundamental? *Theory into Practice*. 48(1) (2009) 4–11.
- [12] R. J. Stiggins, *Student-involved Classroom Assessment*, third ed., Upper Saddle River, NJ: Merrill-Prentice Hall, 2001.
- [13] Z. Zhang, J. A. Burry-Stock, Classroom assessment practices and teachers’ self-perceived assessment skills, *Applied Measurement in Education*. 16 (4) (2003) 323–342. Doi: 10. 1207/S15324818AME1604\_4