



Psychometric properties of a self-efficacy scale for English language learners in China



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ABSTRACT

This study provided preliminary evidences for the validity of the Questionnaire of English Self-Efficacy scale in a sample of college students in China. Results showed that the scale had adequate reliability and validity. Examination of the rating scale structure showed that participants reliably distinguished response categories. The item hierarchy was consistent with the expected item order, supporting the construct validity of the scale. Overall, the items were fairly well matched to the ability of the sample except that there seems to be a need for more difficult items. The information pertaining to the scale is quite encouraging from measurement perspectives and fills the gap in the literature by providing a valid instrument to measure English language learners' self-efficacy in China. The implications of this study to English as a foreign language and English as a second language educators and researchers in the United States and other countries are also discussed.

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Success in school performance depends on a collection of personal competences, such as motivation, self-regulation, and cognitive skills (Bandura, 2006a). Within the social cognitive theoretical framework, self-efficacy beliefs impact human thought, affect, motivation, and behaviors (Bandura, 2006a). Self-efficacy is defined as a person's judgment of his/her capabilities to complete a specific task with the skills he/she possesses (Bandura, 1997) and is described as being task specific (Bandura, 1986; Schunk, 1989, 1991). High efficacious students usually meet challenges and are more persistent while low efficacious students are more likely to avoid difficulties (Stevens, Olivarez, Lan, & Tallent-Runnels, 2004; Wang & Pape, 2005). Previous studies indicated that self-efficacy is predictive of students' academic achievement (Li & Wang, 2010; Pajares & Graham, 1999; Pajares & Valiante, 1997; Schunk, 1994; Shih & Alexander, 2000). Tseng, Dornyei, and Schmitt (2006) posit that educational psychology constructs, such as self-efficacy and self-regulation, can be successfully transferred to the field of second language acquisition. Not much attention, however, has been paid to the self-efficacy beliefs of Chinese English language learners (Huang, Lloyd, & Mikulecky, 1999), especially the measurement of these learners' self-efficacy beliefs (Wang, Kim, Bong, & Ahn, 2013). Chinese students are the largest group among the two billion English language learners (ELLs) in the world followed by Indian and Eastern European students (Francis, 2010). Enhancing Chinese students' self-efficacy beliefs may be crucial to their English language learning process and might be included in classroom teaching approaches. Therefore, developing and validating an instrument to measure Chinese ELLs' self-efficacy is necessary before any effort is put into the investigation into this area.

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In the study of ELLs' willingness to communicate, many researchers have emphasized the role of student cognitive skills, such as perception of communicative competence and self-efficacy, and the lack of a measure specifically designed for this group of students (Matsumoto, Hiromori, & Nakayama, 2013; Subtirelu, 2013; Zhong, 2013). Although several measures are available for student self-efficacy beliefs, some are embedded with learning strategies (e.g., Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1993)), some are for content areas other than English as a second or foreign language (e.g., Mathematics Self-Efficacy (Kitsantas, Cheema, & Ware, 2011)), and others are generic without a focused content area (e.g., Salmeron-Perez, Gutierrez-Braojos, Fernandez-Cano, & Salmeron-Vilchez, 2010). None of which was targeted toward measuring self-efficacy for learning English in general or for Chinese college students learning English as a second or foreign language in particular. As a consequence, researchers in the field of teaching English as a second/foreign language have to use an instrument for general self-efficacy (e.g., Mahyuddin et al., 2006). The purpose of this study is to examine the psychometric properties of the Questionnaire of English Self-Efficacy (QESE) scale developed by Wang (2004). Specifically, the Rasch model (Rasch, 1960) was applied to examine the construct validity of the scale in a sample of college students in China. A review of literature related to self-efficacy was presented and then followed by a description of the design of this study. Results and discussions were aligned with implications for teaching ELLs.

1. Literature review

It is important to distinguish self-efficacy from other self-referent constructs (e.g., self-esteem and self-concept) before measuring self-efficacy. Self-efficacy is a person's judgment of perceived capability whereas self-esteem is how a person feels about self-worth, although these two constructs are positively correlated (Fan, Meng, Gao, Lopez, & Liu, 2010). Bong (2006) and Zimmerman and Cleary (2006) contain detailed discussions of the distinctions between self-efficacy, self-esteem, self-concept, outcome expectations, and perceived control/locus of control.

In the context of learning English as a second/foreign language, self-concept refers to one's beliefs about how good he/she is in English whereas self-efficacy is one's beliefs about how well he/she can successfully perform a task in English based upon his/her past experiences. For example, an item to measure self-concept could be "I am good at reading in English" whereas an item to measure self-efficacy could be "I can read an English short story very well". Although some scholars claim that self-efficacy is one of the components of self-concept because self-concept consists of competence judgments and evaluative reaction (Pajares, 1996; Schunk, 1991) and self-concept was viewed as global construct and operationally defined as a composite score from multiple scales such as behavior, academic status, physical appearance, anxiety, happiness, and satisfaction (Byrne, 1996; Piers & Harris, 1964), other scholars criticized such a practice noting that global self-concept measures cannot distinguish activities in different domains (e.g., Bong, 2006; Marsh, 1992; Marsh, Byrne, & Shavelson, 1988). Perceived competence is the common factor between self-concept and self-efficacy, but measuring self-efficacy is not simply asking about one's generalized perceptions of competence but asking whether or not one can execute the specific course of action to achieve successful performance (Bandura, 1997). It is therefore not surprising that empirical research consistently found no or weak relationships between student academic performance and global concept such as self-esteem and self-concept (Hansford & Hattie, 1982) but revealed direct and mediating effects of self-efficacy on student's academic achievement (Bong & Shaalvik, 2003).

The construct of self-efficacy has four distinctive features: (a) predicted capabilities; (b) domain specific, context specific, and task specific; (c) mastery criterion of performance; and (d) fore-thought process (Zimmerman & Cleary, 2006). The first and last characteristics of the self-efficacy construct suggest that self-efficacy has to be measured prior to attempting the tasks and items included in the instrument to measure self-efficacy have to be worded to reflect the fore-thought process and predicted capabilities. The second characteristic of the self-efficacy construct implies that the self-efficacy measure has to be multi-dimensional in nature and vary across specific tasks within a particular domain. The third characteristic of the self-efficacy construct suggests that participants are asked to rate their own capabilities without comparison to their peers.

Students generate self-efficacy judgments for specific classroom tasks, and these beliefs vary as a function of tasks or classroom features (Pintrich & Schunk, 1996). Four major sources of self-efficacy information impact the level of self-efficacy: (a) mastery or enactive experience, (b) vicarious experience, (c) social persuasion, and (d) physiological or emotional state (Bandura, 1997). Mastery or enactive experience refers to past experience of success and/or failure. Bandura (1986) further points out that "successes raise efficacy appraisals; repeated failures lower them, especially if the failures occur early in the course of events and do not reflect lack of effort or adverse external circumstances" (p. 399). Vicarious experience refers to observations of others' successes and failures. As we observe, we draw conclusions about our ability in similar contexts. Thus, peer models are important sources of self-efficacy information (Schunk & Hanson, 1985). Self-appraisals of competence are also partly based on the opinions of significant others (Bandura, 1997). That is, social persuasion in the form of feedback from adults in the environment regarding the adequacy of performance impacts students' self-efficacy beliefs. The final source of information related to competence is somatic information conveyed by physiological or emotional states (Bandura, 1997). It is not the arousal state per se but the meaning given to it that affects one's perceived self-efficacy. For example, high achievers may read arousal as challenge, which bolsters their sense of efficacy. Similarly, mood also has an impact through activation of associated memories (Bandura, 1997). A positive mood activates thoughts of past accomplishments whereas a negative mood activates memories of past failings.

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