University English language learners' readiness to use computer technology for self-directed learning

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Abstract

This study adopted a between-network approach to examine the relationships between three key constructs of self-directed learning (SDL) (self-management, desire for learning, and self-control), computer technology use and related personal factors (age, gender, language learning anxiety and language learning style) in a specific domain — English language learning in the university context. Students from two universities in Hong Kong (N = 404) were surveyed about their readiness for SDL and using the computer to learn on their own. The three SDL factors were found to be positively related to computer use and individual learning but negatively related to language learning anxiety, further supporting the validity of the constructs. Among the three SDL constructs, desire for learning had the strongest association with computer use. Gender and age differences were not found in the use of computers for SDL, but the older students scored higher both in desire for learning and anxiety. To facilitate university students' computer technology use for ESL learning, it is essential to promote their desire for learning, especially for the younger students.

1. Introduction

Self-directed learning (SDL) has been an important area of study of adult education since the 1970s. It has shifted the focus of education and the learning process from teacher-directed to learner- or self-controlled (Candy, 1991), and expects learners to take responsibility for their own learning. The learner’s control may be characterized in a range of processes, from needs analysis, selection of material and learning strategies to evaluation of learning outcomes (Knowles, 1975). This new learning experience and process is believed to be more suitable for adult learners as they are expected to be more capable of managing their own learning process than younger learners (e.g., teenagers) within formal learning settings (Grover, Miller, Swearingen, & Wood, 2014).

SDL has attracted a lot of attention in various disciplines in adult education, including the field of language learning and teaching. Like other disciplines, SDL in the field of language learning and teaching calls for the learner’s own direction and management of the learning process with limited, or no, peer assistance or teacher guidance to achieve a long-term language learning goal (Benson, 2011; Holec, 1996). However, as Benson (2011) has pointed out, the extent of learning effectiveness in...
an SDL context may hinge on the language learner’s capacity to manage and control the SDL process. With a view to facilitating SDL, some language researchers have recommended a variety of methods including, but not limited to, the provision of expert guidance (Lai, 2015; Morrison, 2011), support in self-reflection and management (Du, 2012; Gan, 2009; Lai, Gardner, & Law, 2013; Lee, Tsai, Chai, & Koh, 2014), and enhanced competence in the use of computer technology (Benson, 2011; Lai, Shum, & Tian, 2016) in self-access centers or guided programs in the university context. Some studies have further investigated individual learners’ attitudes towards the use of computer technology (Lai, 2013) and cultural values (Lai, Wang, Li, & Hu, 2016), as the computer is used by many learners as a tool to aid or improve language. All these studies, despite promoting SDL for university students and examining the learning and teaching effectiveness of the new learning process, have failed to take into account a basic determining factor – readiness. That is, students’ level of readiness for SDL and for using the computer in language learning, and their interplay with personal factors, has not been rigorously explored.

In light of the need to address the basic factor, the present study adopted a between-network approach (Arens, Yeung, Craven, & Hasselhorn, 2011) to examine the relationships between personal factors, readiness for SDL and for using the computer to learn on their own. Three key factors of readiness within the constructs of SDL developed by Fisher, King, and Tague (2001) and further supported by Fisher and King (2010) are: (a) the ability to manage oneself (self-management), (b) the learner’s desire for learning, and (c) the ability to control oneself (self-control). In the present study, these three factors were investigated together with the learner’s use of computer technology and related personal factors (age, gender, anxiety associated with language learning, and language learning style) in a specific domain – English language learning in the university context. Language learning anxiety was chosen to be used as a negative construct and individual learning style as a positive construct to highlight the contrasting relationships among constructs. The purpose was to identify which SDL factors would impact English language learning, and the extent to which individual differences play a role. Data were collected from a survey which asked over 400 university students in English courses offered by two universities in Hong Kong about their SDL and use of computers to learn language by themselves. Findings have practical implications for optimizing university English learners’ computer use for SDL.

2. Using computer technology for SDL in language learning

SDL, as a learning model, promotes self-control in the learning process and provides space and opportunities for the learner to interact with people outside the classroom to reach the learning goal (Benson, 2011; Holec, 1996). However, being self-directed “does not necessarily mean learning on your own” (Pemberton & Cooker, 2012, p. 206), nor does it only serve short-term purposes, as the aim can also be for “longer-term language learning projects” (Pemberton & Cooker, 2012, p. 207). With the advancement of computer technology in the new millennium, the technology has become a common and indispensable tool which allows students to control their own learning to achieve a longer-term learning goal (Laurillard, 2002; Pemberton, Li, Or, & Pierson, 1996). The emphasis on self-control has led to a notable increase in SDL practice in the English language teaching and learning field since the 1990s (e.g., Lee, 2012; Van Waes, van Weijen, & Leijten, 2014). The purpose of the present study is to examine the relationships between personal factors, readiness for SDL and for using the computer to learn on their own. Three key factors of readiness within the constructs of SDL developed by Fisher, King, and Tague (2001) and further supported by Fisher and King (2010) are: (a) the ability to manage oneself (self-management), (b) the learner’s desire for learning, and (c) the ability to control oneself (self-control). In the present study, these three factors were investigated together with the learner’s use of computer technology and related personal factors (age, gender, anxiety associated with language learning, and language learning style) in a specific domain – English language learning in the university context. Language learning anxiety was chosen to be used as a negative construct and individual learning style as a positive construct to highlight the contrasting relationships among constructs. The purpose was to identify which SDL factors would impact English language learning, and the extent to which individual differences play a role. Data were collected from a survey which asked over 400 university students in English courses offered by two universities in Hong Kong about their SDL and use of computers to learn language by themselves. Findings have practical implications for optimizing university English learners’ computer use for SDL.

Regarding technology use for language learning, Lai (2013) surveyed university students in Hong Kong and found three attitudinal factors that were crucial to the extent to which technology was used by them for SDL. The three attitudinal factors were: “perceived usefulness of technology, attitude to technology use and educational compatibility” (2013, p.102). In another study also with Hong Kong university students, Lai, Wang, and Lei (2012) found that technology use for learning was mainly affected by students’ technology compatibility, attitudes towards technology use and learning styles, as well as peer and teacher support. Aside from individual factors, in their survey of 661 foreign language learners’ cultural values in three countries drawing on Hofstede’s cultural dimensions (2001), Lai, Wang, Li, and Hu (2016) found that learners with long-term orientation, collectivistic and high power orientations were more likely to adopt technology for SDL outside the classroom. In contrast, students with high uncertainty avoidance might not actively engage in technology use for SDL. To maximize the potential of technology for SDL, Lai et al. called for “the development of culturally-responsive approaches to fostering self-directed technology use for informal learning” (2016, p.685). Along the same line, Lai, Shum, and Tian (2016) also developed an online training platform for foreign language learners in a Hong Kong university to address these issues.

Use of computer technology to learn a foreign language, though tempting, is determined by a number of personal and contextual factors. Two internal factors are found to have a contradictory impact on computer use. In particular, learners’ individual differences in learning styles and levels of anxiety related to language learning ranked relatively higher than other factors, with certain learning styles having been found to facilitate SDL via computer while anxiety has an adverse effect on learning. Ames (2003) found that learners with an abstract sequential learning style had greater confidence, in and were less anxious about, using computers for learning than those with an abstract random, concrete sequential, or concrete random learning style. Females with an abstract random style were not receptive to computer-based instruction. From another perspective of different learning style models, visual and kinesthetic styles were found to be the styles that facilitated the use of computer technology by university students in Hong Kong (Lee, Yeung, & Ip, 2016). Students with these learning styles used the technology to seek advice, solve problems, and look for materials by themselves more than those with auditory and tactile...