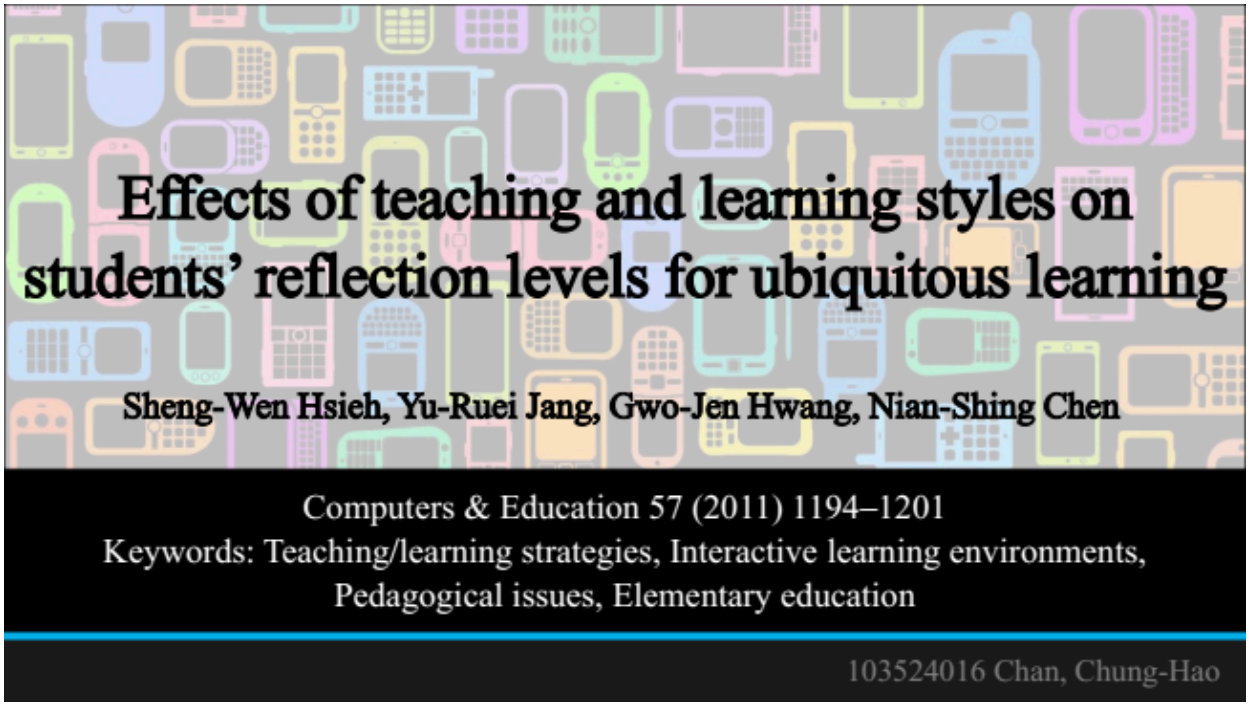

Effects students' reflection of teaching levels and for learning ubiquitous styles learning on
Sheng-Wen Hsieh, Yu-Ruei Jang, Gwo-Jen Hwang, Nian-Shing Chen
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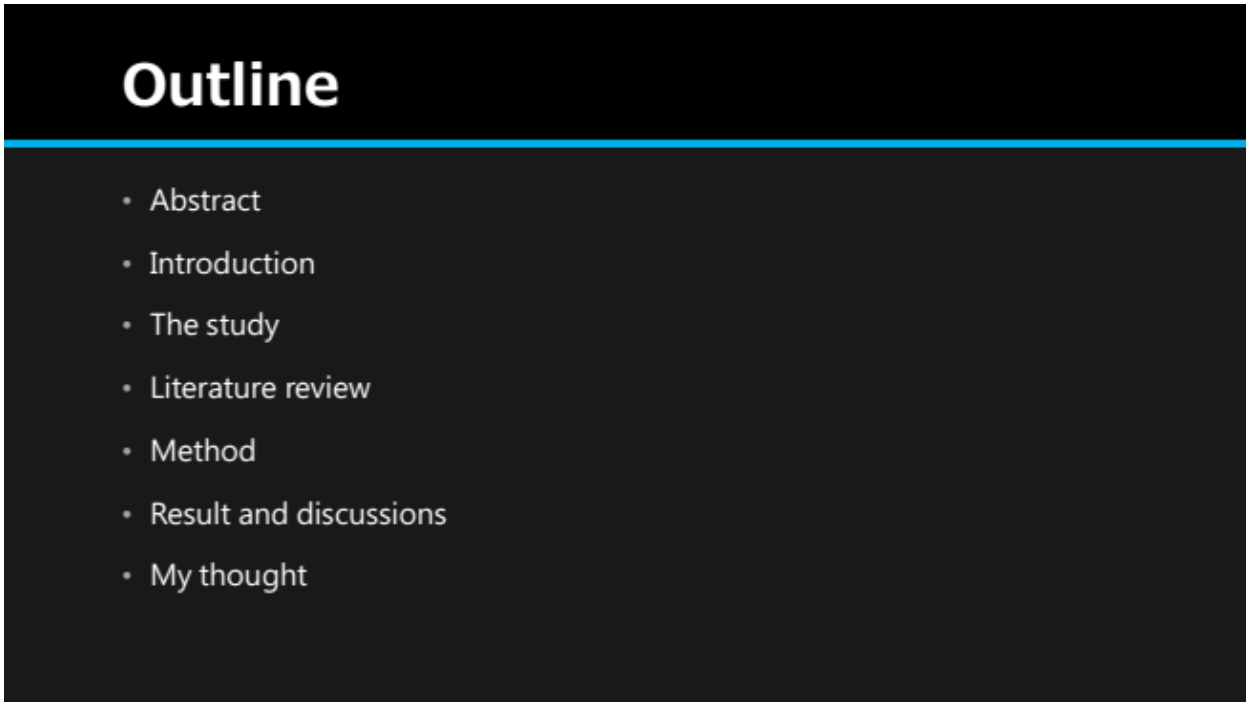
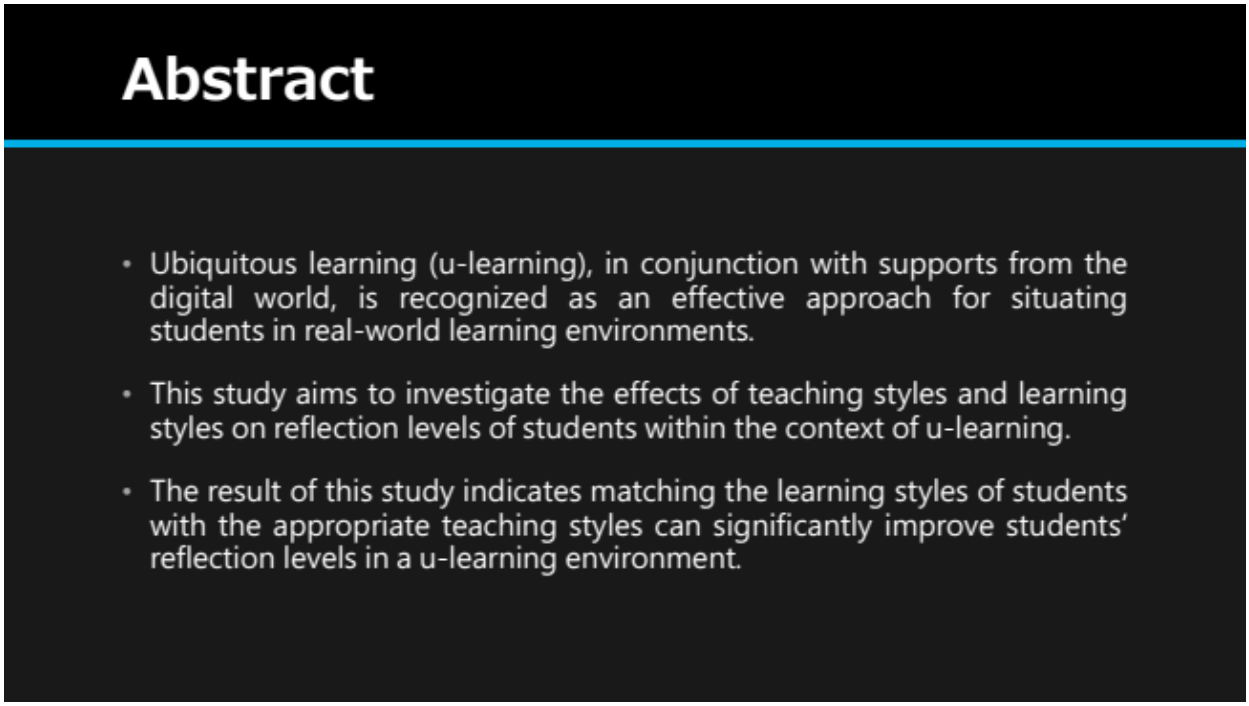
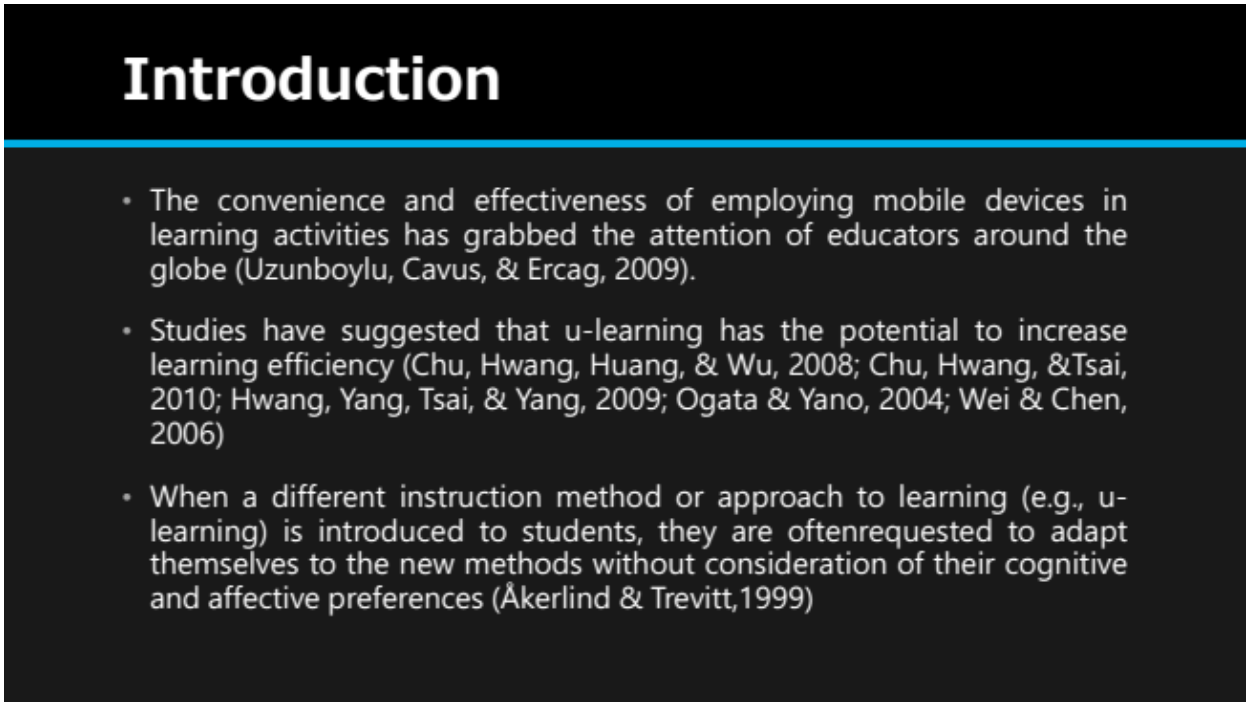


Outline
• Abstract
• Introduction
• The study
• Literature review
• Method
• Result and discussions
• My thought

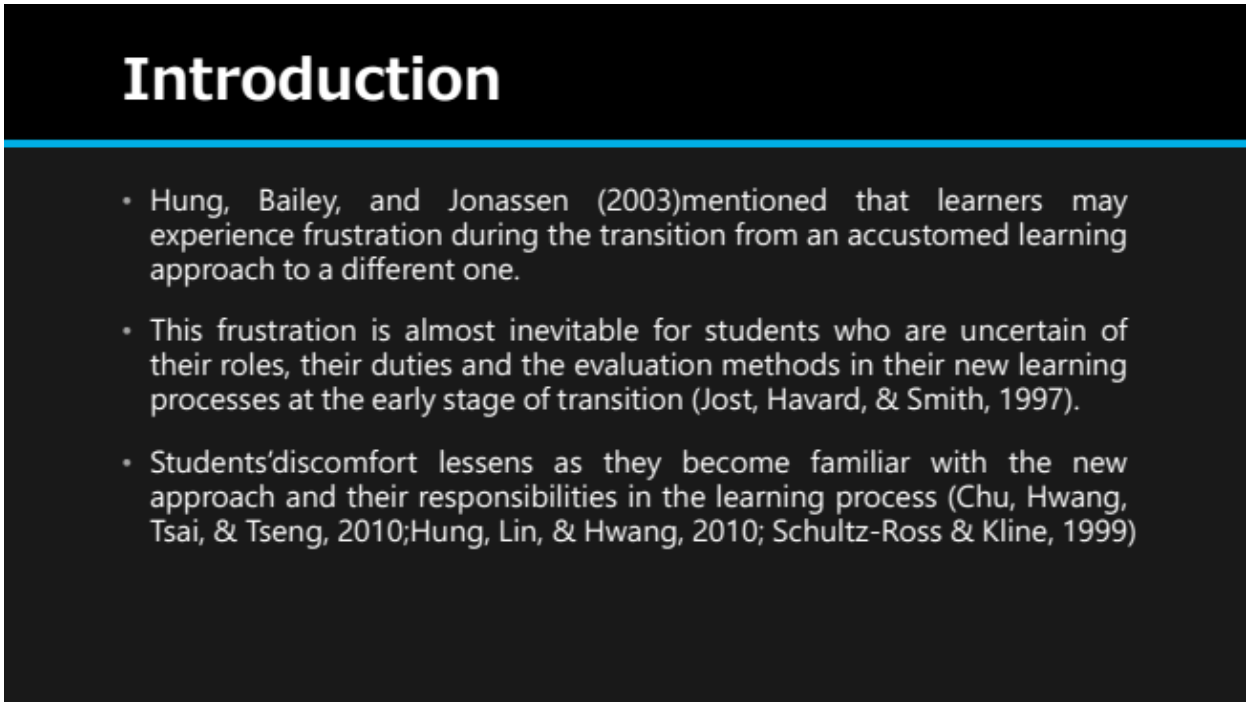


Abstract

• Ubiquitous learning (u-learning), in conjunction with supports from the digital world, is recognized as an effective approach for situating students in real-world learning environments.
• This study aims to investigate the effects of teaching styles and learning styles on reflection levels of students within the context of u-learning.
• The result of this study indicates matching the learning styles of students with the appropriate teaching styles can significantly improve students' reflection levels in a u-learning environment.



Introduction
• The convenience and effectiveness of employing mobile devices in learning activities has grabbed the attention of educators around the globe (Uzunboylu, Cavus, & Ercag, 2009).
• Studies have suggested that u-learning has the potential to increase learning efficiency (Chu, Hwang, Huang, & Wu, 2008; Chu, Hwang, &Tsai, 2010; Hwang, Yang, Tsai, & Yang, 2009; Ogata & Yano, 2004; Wei & Chen, 2006)
• When a different instruction method or approach to learning (e.g., u- learning) is introduced to students, they are oftenrequested to adapt themselves to the new methods without consideration of their cognitive and affective preferences (Åkerlind & Trevitt,1999)

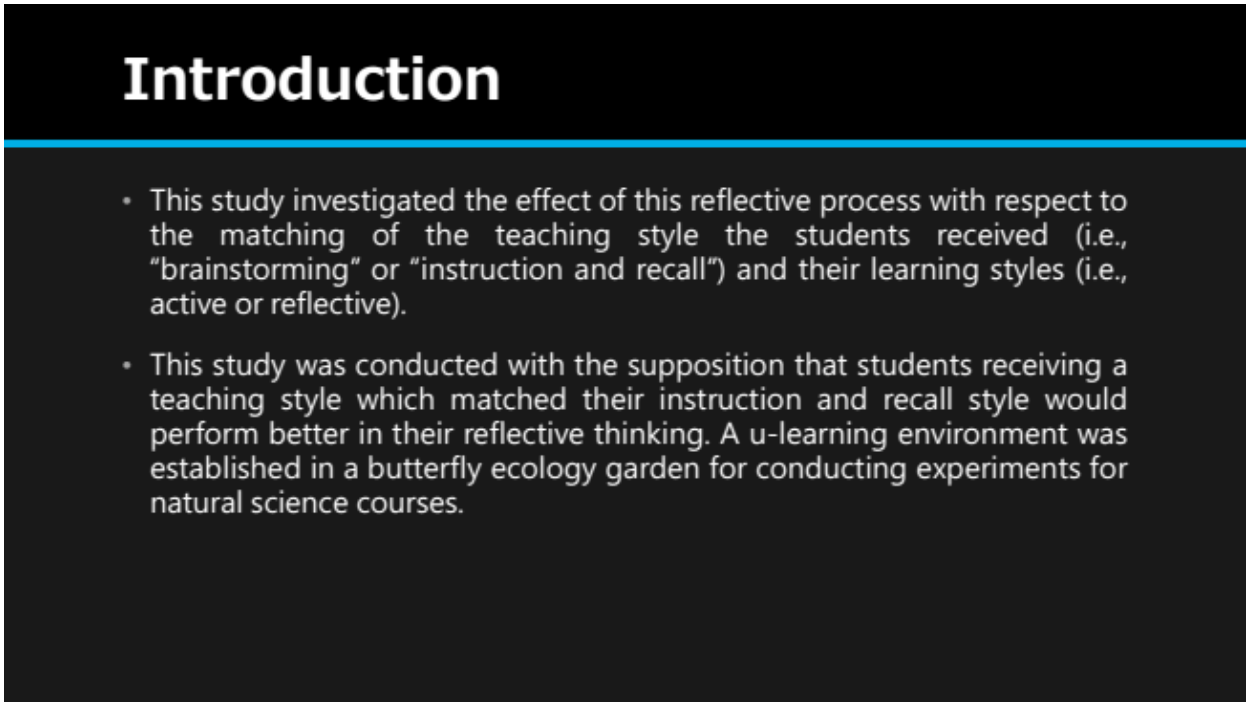


Introduction

• Hung, Bailey, and Jonassen (2003)mentioned that learners may experience frustration during the transition from an accustomed learning approach to a different one.

• This frustration is almost inevitable for students who are uncertain of their roles, their duties and the evaluation methods in their new learning processes at the early stage of transition (Jost, Havard, & Smith, 1997).

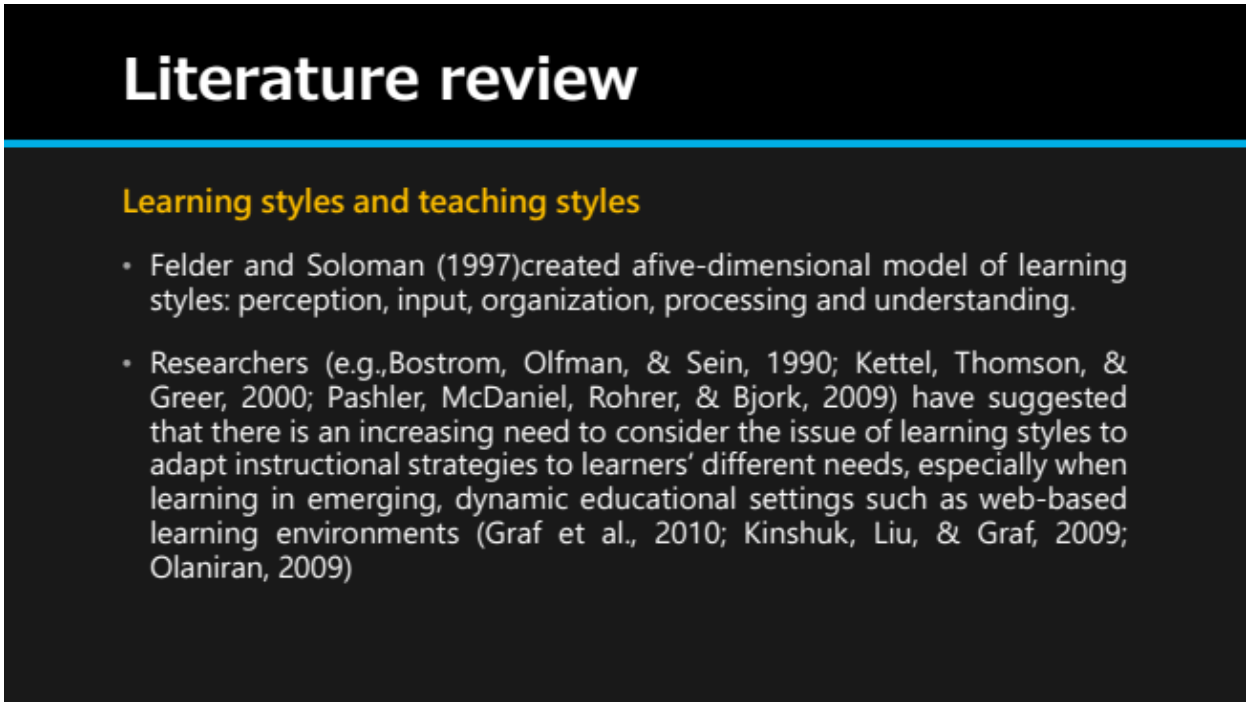
• Students'discomfort lessens as they become familiar with the new approach and their responsibilities in the learning process (Chu, Hwang, Tsai, & Tseng, 2010;Hung, Lin, & Hwang, 2010; Schultz-Ross & Kline, 1999)



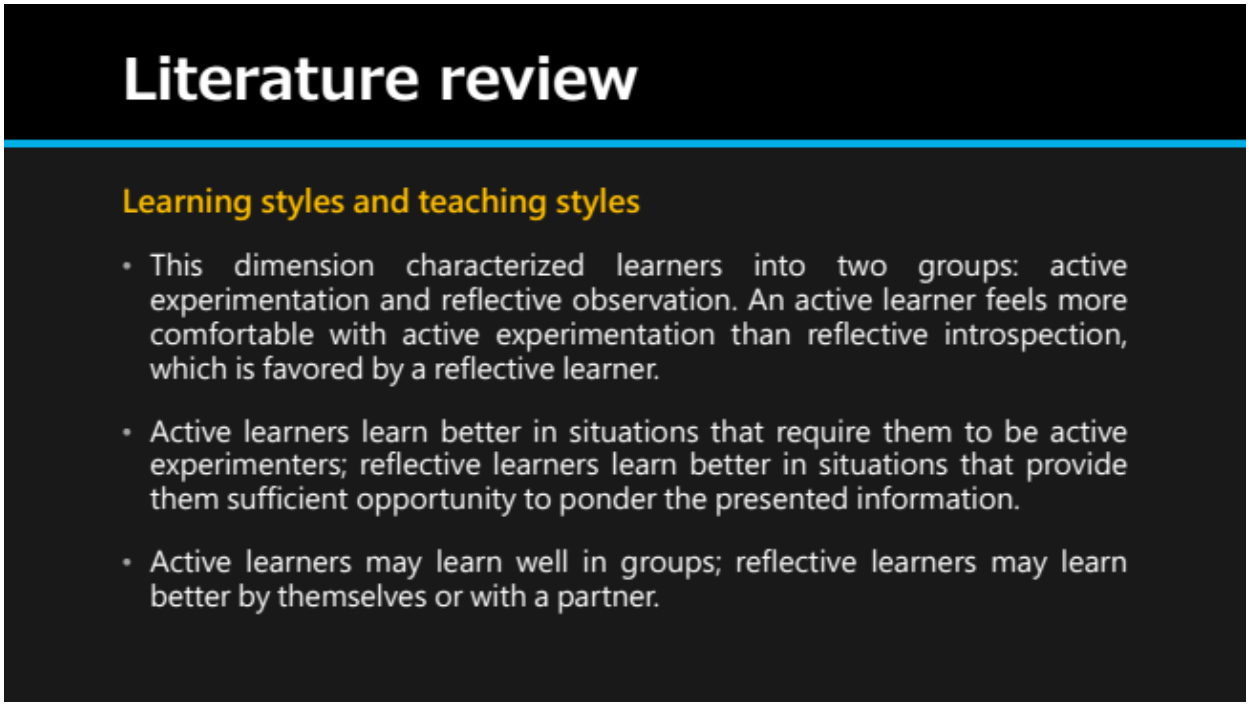
Introduction

• This study investigated the effect of this reflective process with respect to the matching of the teaching style the students received (i.e., “brainstorming” or “instruction and recall”) and their learning styles (i.e., active or reflective).

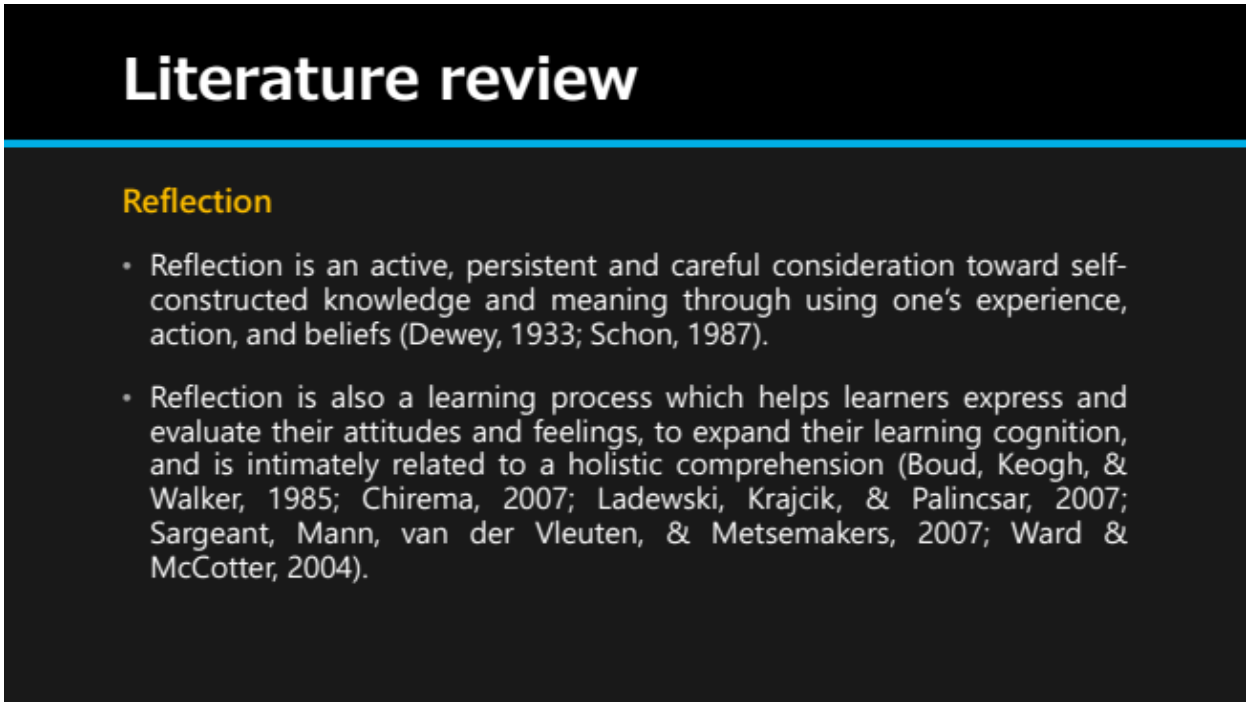
• This study was conducted with the supposition that students receiving a teaching style which matched their instruction and recall style would perform better in their reflective thinking. A u-learning environment was established in a butterfly ecology garden for conducting experiments for natural science courses.



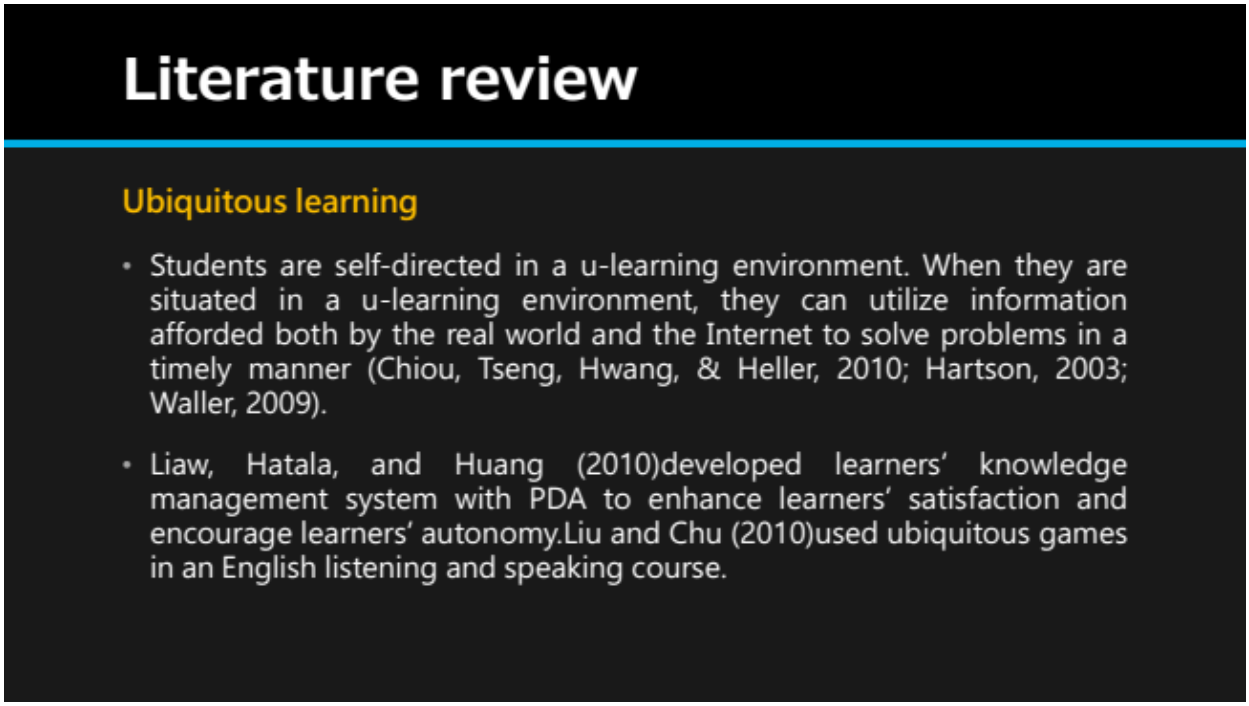
Literature review
Learning styles and teaching styles
• Felder and Soloman (1997)created afive-dimensional model of learning styles: perception, input, organization, processing and understanding.
• Researchers (e.g.,Bostrom, Olfman, & Sein, 1990; Kettel, Thomson, & Greer, 2000; Pashler, McDaniel, Rohrer, & Bjork, 2009) have suggested that there is an increasing need to consider the issue of learning styles to adapt instructional strategies to learners' different needs, especially when learning in emerging, dynamic educational settings such as web-based learning environments (Graf et al., 2010; Kinshuk, Liu, & Graf, 2009; Olaniran, 2009)



Literature review
Learning styles and teaching styles
• This dimension characterized learners into two groups: active experimentation and reflective observation. An active learner feels more comfortable with active experimentation than reflective introspection, which is favored by a reflective learner.
• Active learners learn better in situations that require them to be active experimenters; reflective learners learn better in situations that provide them sufficient opportunity to ponder the presented information.
• Active learners may learn well in groups; reflective learners may learn better by themselves or with a partner.



Literature review
Reflection
• Reflection is an active, persistent and careful consideration toward self- constructed knowledge and meaning through using one's experience, action, and beliefs (Dewey, 1933; Schon, 1987).
• Reflection is also a learning process which helps learners express and evaluate their attitudes and feelings, to expand their learning cognition, and is intimately related to a holistic comprehension (Boud, Keogh, & Walker, 1985; Chirema, 2007; Ladewski, Krajcik, & Palincsar, 2007; Sargeant, Mann, van der Vleuten, & Metsemakers, 2007; Ward & McCotter, 2004).



Literature review
Ubiquitous learning
• Students are self-directed in a u-learning environment. When they are situated in a u-learning environment, they can utilize information afforded both by the real world and the Internet to solve problems in a timely manner (Chiou, Tseng, Hwang, & Heller, 2010; Hartson, 2003; Waller, 2009).
• Liaw, Hatala, and Huang (2010)developed learners' knowledge management system with PDA to enhance learners' satisfaction and encourage learners' autonomy.Liu and Chu (2010)used ubiquitous games in an English listening and speaking course.