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Creating Fit between Student Learning and Information Technology in Distance Education

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With the advance of information technology (IT), a variety of sophisticated online communication tools have been applied in distance education. However, more IT does not necessarily improve learning effectiveness. Each student has unique cognitive style and learning habits which require personalized technology configuration to achieve a fit. We propose an online course in which students are categorized into different groups according to their learning styles (e.g., visual, aural, verbal, physical, logical, social, and solitary) and design appropriate online learning tools to match with each style. The rationale is that a person-technology fit could improve student learning. The challenges of this task and preliminary results from a MIS course will be discussed.

Theory

Multiple Intelligences

Howard Gardner developed the theory of multiple intelligences in the late 1970’s and early 1980’s. The theory posits that individuals possess eight or more relatively autonomous intelligences. Individuals draw on these different intelligences, individually and corporately, to create products and solve problems (Gardner, 1983, 1993, 1999, 2006). The original eight identified intelligences include verbal intelligence, logical-mathematical intelligence, visual intelligence, musical intelligence, bodily-kinesthetic intelligence, naturalistic intelligence, interpersonal intelligence, and intrapersonal intelligence (Gardner, 1999).

Problem

Online distance learning:

• Time constraint
• Information overload
• Lack of intrinsic or extrinsic motivation
• Heterogeneous IT capability
• Different media preferences

Implementation

Student Categorization

Visual (text based): prefers to read

Visual (image based): prefers to use graphics or diagrams to learn

Auditory: prefers to listen to learn

Visual (video based): prefers to watch to learn

Tactile: prefers to use hands-on practices to learn

Mixed: prefers to use a combination of two or more of the above learning methods

Preliminary Evaluation Results

Efficiency: reduced learning time

Effectiveness: increased student performance

Other: more positive attitude, increased enjoyment, heightened motivation, more personal touch