Learner Attributes

FOUNDATIONS

DESCRIPTION

Learner attributes are the various pieces of data that inform us about who our learners are. These attributes may provide valuable insights about how learners learn and how we can individualize their instruction to better suit those attributes. Attributes are generally joined together to form a learner profile (Le, 2009) which can be used to support diagnosing learner needs and providing a treatment to assist them (Herold, 2014). Though research into certain parts of learner profiles, such as aptitude treatment interaction and learning styles, has shown little effect on learning (Pashler, McDaniel, Rohrer, & Bjork, 2008), certain attributes as well as dynamic monitoring of attributes have been shown to have increased impact on student learning (Arroyo, Mehranian, & Woolf, 2010). This principle will look at the large array of different attributes we may collect and how we could utilize the data.

LEARNER IMPACTS

- Behavior

CAPABILITIES

- Management: Cross-course portfolio/analytics/profile
- Management: Learning analytics

SAMPLE DESIGN IMPLEMENTATIONS

- Robust Technology: Content personalization to individual attributes
- Simple Technology: Diagnostics for understanding learner prior knowledge
- Content Support: Metatagging of content to enable attribute tracking

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SELF-ASSESSMENT INSTRUMENT

Principle Criteria	Integration (4-5 points)	Exploration (2-3 points)	Consideration (1 point)	Not Applicable (0 Points)	Total Points
Definition	Strong collection of relevant learner data from multiple sources Strong application of data towards the adaptation of products to learners	Some collection of relevant learner data from multiple sources Some application of data towards the adaptation of products to learners	Poor collection of relevant learner data from multiple sources Poor application of data towards the adaptation of products to learners	Does NOT use effectively or is not a related activity	= _____
Model	Strong application of the two-step approach built upon an initial learner profile that adapts over time based on data collection Strong robustness of analysis design that does not rely on a single imperfect source, such as attribute treatment interaction (ATI) or learning styles alone	Some application of the two-step approach built upon an initial learner profile that adapts over time based on data collection Some robustness of analysis design that does not rely on a single imperfect source, such as ATI or learning styles alone	Poor application of the two-step approach built upon an initial learner profile that adapts over time based on data collection Poor robustness of analysis design that does not rely on a single imperfect source, such as ATI or learning styles alone	Does NOT use effectively or is not a related activity	= _____
Design	Strong consideration of appropriate attributes in the design of the learner profile • Demographic • Cognitive • Motivational • Interactive • Metacognitive Strong consideration of how the learner profile will adapt over time through the collection, analysis, and adaptation from these attributes	Some consideration of appropriate attributes in the design of the learner profile • Demographic • Cognitive • Motivational • Interactive • Metacognitive Some consideration of how the learner profile will adapt over time through the collection, analysis, and adaptation from these attributes	Poor consideration of appropriate attributes in the design of the learner profile • Demographic • Cognitive • Motivational • Interactive • Metacognitive Poor consideration of how the learner profile will adapt over time through the collection, analysis, and adaptation from these attributes	Does NOT use effectively or is not a related activity	= _____
Data	Strong use of triangulated data from multiple sources, such as demographics, achievement, diagnostics, self-assessment, and user interactions Strong use of metacognitive, motivational, and self-explanation data to improve learning	Some use of triangulated data from multiple sources, such as demographics, achievement, diagnostics, self-assessment, and user interactions Some use of metacognitive, motivational, and self-explanation data to improve learning	Poor use of triangulated data from multiple sources, such as demographics, achievement, diagnostics, self-assessment, and user interactions Poor use of metacognitive, motivational, and self-explanation data to improve learning	Does NOT use effectively or is not a related activity	= _____

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