Conceptual Modeling Special Event:
Evaluate and Critique the Importance of Essential AIS functions

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Background: Adaptive instructional systems (AIS) have demonstrated utility in training and education across a wide range of domains. However, the parameters of what constitutes adaptivity and instructional have not been explicitly stated and agreed upon. An enumeration of functions that must be present for classification as an AIS is necessary to differentiate from simplistic or conceptually distinct approaches.

Discussion:

Talking Point #1: How do we balance the need for standards and essential functions against the ingenuity of the research community constantly seeking novel structures and implementations? In other words, how do we future-proof our conceptual standards?

Talking Point #2: Is there value in defining an *upward* bound of functionality? For example, should we exclude systems that have adaptive instructional components secondary to some alternative purpose?

Talking Point #3: Attention is primarily focused on the adaptivity aspects of essential functions in AIS, potentially diminishing a necessary consideration for ensuring that the system's focus lies in instruction (rather than decision support or cognitive aids, for example). This distinction may be as susceptible to blurring.

Recommendations:

Recommendation #1: Keep the essential functions as simple as possible, both in terms of verbiage and in technical complexity required. The development and expansion of AIS could be hampered by excluding exceptionally clever uses of basic adaptivity that may create the impression of deeper machine intelligence. For example, requiring a student model may bar entry to systems that rely on multi-tiered simple heuristics to create adaptive interactions.

Recommendation #2: Let user experience inform the enumeration of essential functions. Consumers and learners likely care less for the technical implementation of the adaptivity and instruction than they do about the perceived sensitivity and intelligence.

Recommendation #3: Because decision support and cognitive aid systems can have instructional aspects, identify time frame as the essential distinction. That is, an instructional system should impart learning to be used later, rather than for an ongoing task.