# Targeting FRAME: A new tool for mLearning design

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**ABSTRACT**
Various attempts have been made to offer advice and guidance to mobile learning (mLearning) instructional designers. However, there is still a distinct need for guidance that is concise, theoretically grounded, and applicable across a wide variety of instructional design types and purposes. The Framework for the Rational Assessment of Mobile Education (FRAME) model developed by Koole (2009) meets these requirements. This paper proposes the development of an interactive online tool based upon the FRAME model that will allow educators to effectively reflect upon their mLearning instructional design decisions and target areas for design improvement.

**Author Keywords**
FRAME, instructional design, mobile learning, reflective practice,

**INTRODUCTION**
There is no single solution to effective mobile learning (mLearning) design. Various attempts have been made to offer advice and guidance on what effective mLearning design should entail (Elias, 2010; Koole, 2009; Traxler & Wishart, 2012). However, much of the guidance that has been provided is either based upon anecdotal experiences or is tailored to specific application design types. The Framework for the Rational Assessment of Mobile Education (FRAME) model developed by Koole (2009) is simultaneously succinct and well-grounded in established learning theory such as Activity Theory (Atwell, 2009; Impedovo, 2011, Kaptelinin & Nardi, 2011), Transactional Distance Theory (Moore, 1989, 1991), and the zone of proximal development (Chaiklin, 2003; Kaptelinin & Nardi, 2006). The FRAME model has been used by researchers and instructional designers to provide guidance on the necessary domains to address in effective mLearning design (Ally, Samaka & Abu Dayya, 2012; Power, 2012). These domains are the Learner Aspect, the Social Aspect and the Device Aspect. Their interrelationship is depicted is Figure 1 (below):
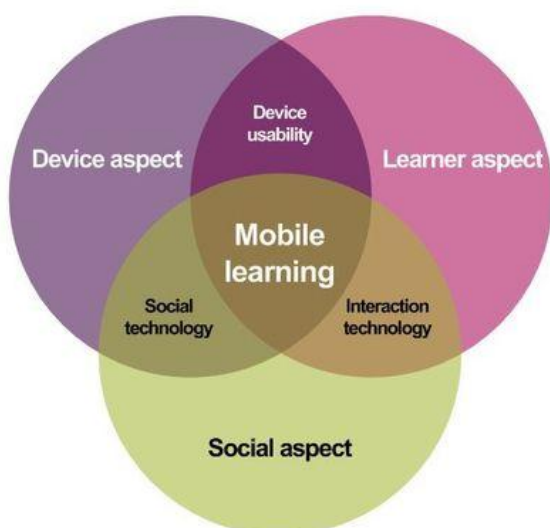


*Figure 1:* **The Framework for the Rational Assessment of Mobile Education (FRAME) (Koole, 2009, used with permission)**

Using the FRAME model requires an in-depth understanding of its domains and theoretical grounding. This paper proposes the development on an interactive online tool based upon the FRAME model that can be used by front-line educators and instructional designers. The FRAME Targeter tool should be easy to use, ask domain-related reflective questions that are applicable across any instructional design model, and provide domain-specific scores that will help users to target areas where their design decisions could be refined to create a more effective mLearning activity. Figure 2 (below) presents the conceptual framework for the proposed FRAME Targeter tool.
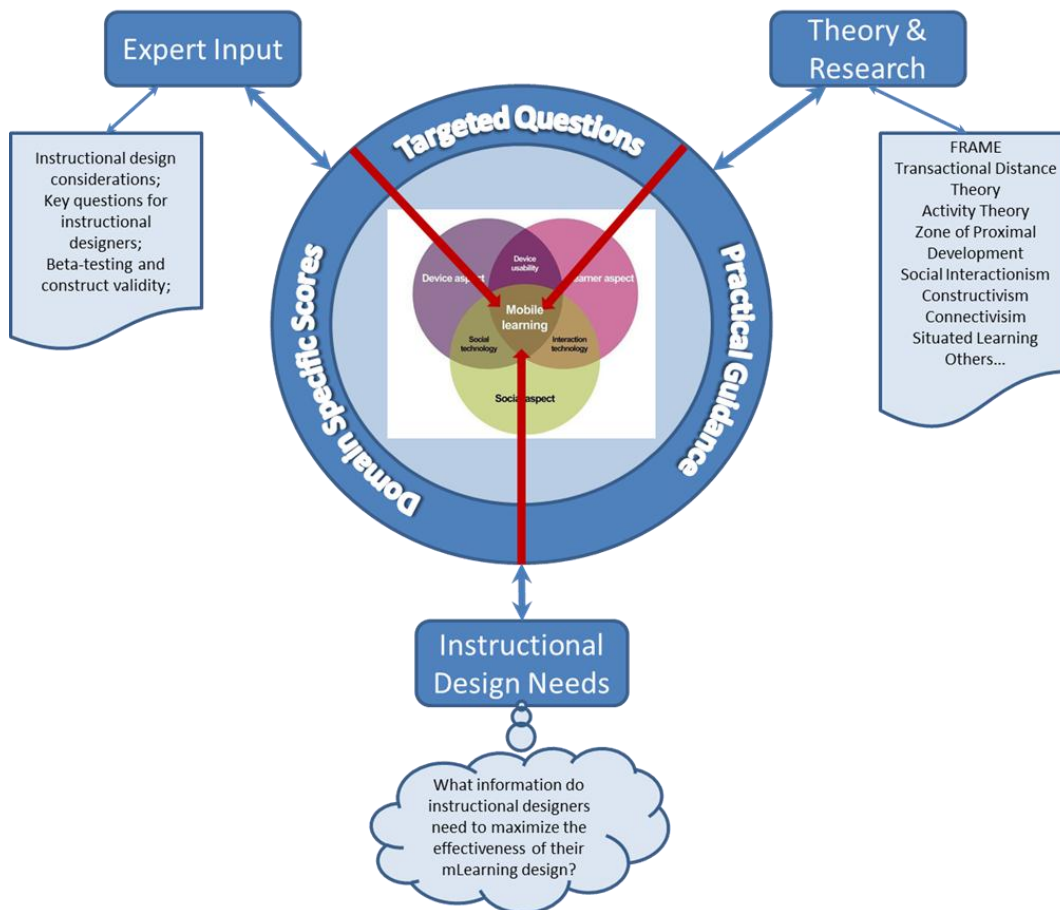
*Figure 2:* **Conceptual Framework for the FRAME Targeter Tool**

As the conceptual framework illustrates, the FRAME Targeter is a tool that would be developed based upon current research and understandings of learning theories related to FRAME and mLearning instructional design. The Targeter would be online tool presenting instructional designers with targeted questions related to each of the domains of FRAME (Device aspect, Learner aspect and Social aspect). The specific questions would be used to help assess mLearning design in each of the three domains, and would provide instructional designers with a set of three domain specific scores, which the online tool would display as points on a "bulls-eye" like target. The idea is to have the three scores converge as close to the center of the target as possible, representing the ideal convergence of the three Domains described by FRAME. This would give users a graphical representation of the effectiveness of their mLearning design, immediately highlighting areas to be addressed in order to improve the effectiveness of their mLearning design.

The online tool would work similar to Pratt and Collins' (2012) Teaching Perspectives Inventory (TPI). Users would answer a number of general questions related to the design of their mLearning projects. Responses to certain questions would automatically load relevant ranges of sub-questions. In addition to the graphical display of the domain-specific scores, the results would include a breakdown of the domain scores, including a list of questions, concerns, and possible suggestions for further consideration in the refinement of the user's mLearning design.

## RESEARCH QUESTIONS

The specific research questions to be explored are:

1. How has the FRAME model been used by researchers and instructional designers?

    a. How often has FRAME been referenced in the literature?

    b. How has FRAME been used to evaluate mLearning instructional design?

    c. Has FRAME been used to guide instructional design?

2. Would an interactive online FRAME Targeter application be useful to instructional designers?

    a. What questions would a FRAME Targeter tool need to ask?

    b. Would the domain-specific feedback scores (and graphical representation) be useful as tools for reflecting upon and improving instructional design decisions?

## PROPOSED METHODOLOGY

This proposed research would follow four distinct phases. In the first phase, an extensive literature review (including the identification of existing relevant surveys and questionnaires) would be used to develop a list of possible questions for each of the three domains. The second phase would involve consultations with mLearning researchers and practitioners in order to refine the question pool for the online tool. This phase could include a combination of surveys, focus groups and/or individual interviews (Cohen, Manion & Morrison, 2011). The third phase would involve the development of the online FRAME Targeter tool. The fourth phase would involve beta-testing of the online tool by both mLearning researchers and practitioners (including both experienced and novice mLearning practitioners). This phase would include participants actually using the tool with reference to their own mLearning projects, followed by the use of surveys, focus groups and individual interviews. Feedback instruments would be used to determine the usefulness of the FRAME Targeter as a tool for end-users when making decisions about mLearning design and refinements. The research instruments would collect a combination of both quantitative and qualitative data, which would be used to determine the utility of the tool, and to guide further refinements to the design of the FRAME Targeter (Cohen et al., 2011).

## CONCLUSIONS

An interactive online tool based upon the FRAME model may be useful as an aid to guide and reflect upon mLearning instructional design decisions. This paper has proposed the development of such a tool that would function similar to Pratt and Collins's (2012) online TPI tool. In order to develop the FRAME Targeter, it will be necessary to determine how FRAME has been used in the literature on mLearning instructional design and evaluation. A literature review and consultations with mLearning design experts will help in the development and beta-testing of a pool of questions that would be incorporated into the FRAME Targeter. The appeal and utility of the tool would then be evaluated by analyzing feedback from teachers and instructional designers after they use the tool in the contexts of their own mLearning projects.

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