

# Design principles for m-learning

## Outcome:

To determine basic design principles for mobile learning and identify the key limitations to the design and development of mobile instruction.

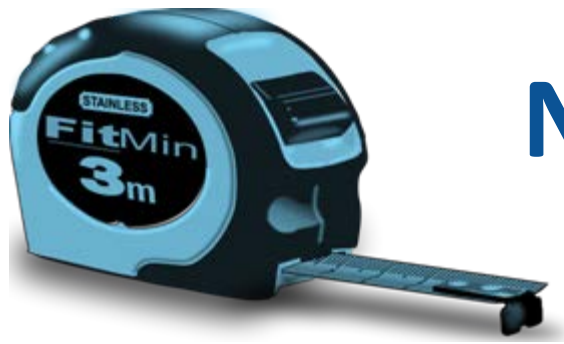
# Needs Assessment

Before you start the design...

- True need for m-learning?
- What educational problem?
- M-learning versus other educational solutions?
- Benefits of mobile learning in the unique educational context?
- Resource requirements (physical/logistic, technological, human, and monetary)?



Consider the potential enablers, challenges and risks.



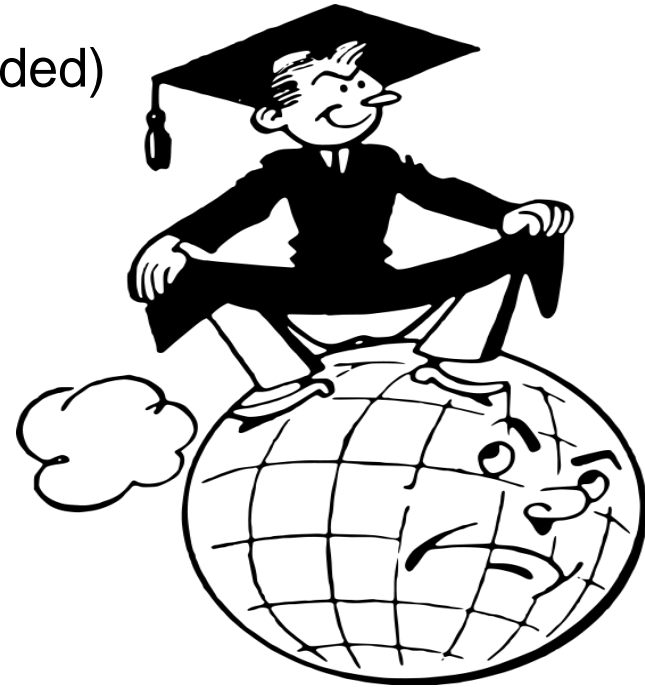
# Needs Assessment

- Mobile technologies
  - Access to the Internet and power
- Device usage and mobility patterns and context
- Learning outcomes
- Learner needs and preferences
- Theoretical framework
- Existing materials incl. educational apps

# Key Characteristics of M-Learning

## Design learning experience that is:

- Authentic
- Contextual (context-independent vs. embedded)
- Collaborative, connected
- Personalized
- Active
- Relevant and meaningful
- Formal and informal
- Flexible and focused
- Guided by experts
- Supported by experts and peers
- Engaging and empowering



# Aspects of Design

m-learning ≠ compact/ shrunk e-learning

- Content (incl. learner-generated artifacts)
- Delivery (incl. the physical and temporal setting)
- Interaction, sharing, and communication
- Learning and teaching activities



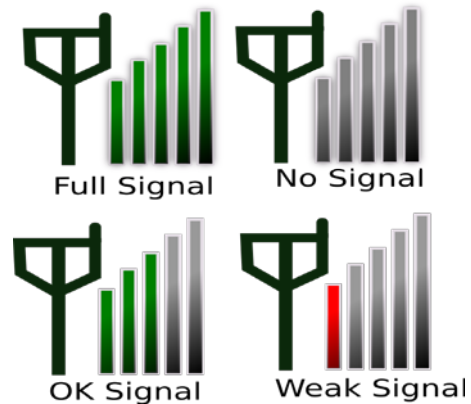
# Content Design

- Multimedia
- Bite-sized yet connected
- Access to existing content and resources
- Required and optional
- Personalized and student-generated
- Reminders, notifications, updates
- Educational apps
- Social media

*...contingent on needs and context*

# Delivery Design

- Physical aspect (location)
  - context-dependent <> independent (flexible <> location-bound)
  - personal <> social space
  - quiet <> loud and busy
- Temporal
  - brief event <> series of episodes <> long activity <> course-long (continuous)
  - flexible <> focused
  - spaced-out
- Technology
  - offline vs. online
  - resources web-based or residing locally
  - phones vs. tablets
  - cross-platform
  - social network usage



*...contingent on needs and context*

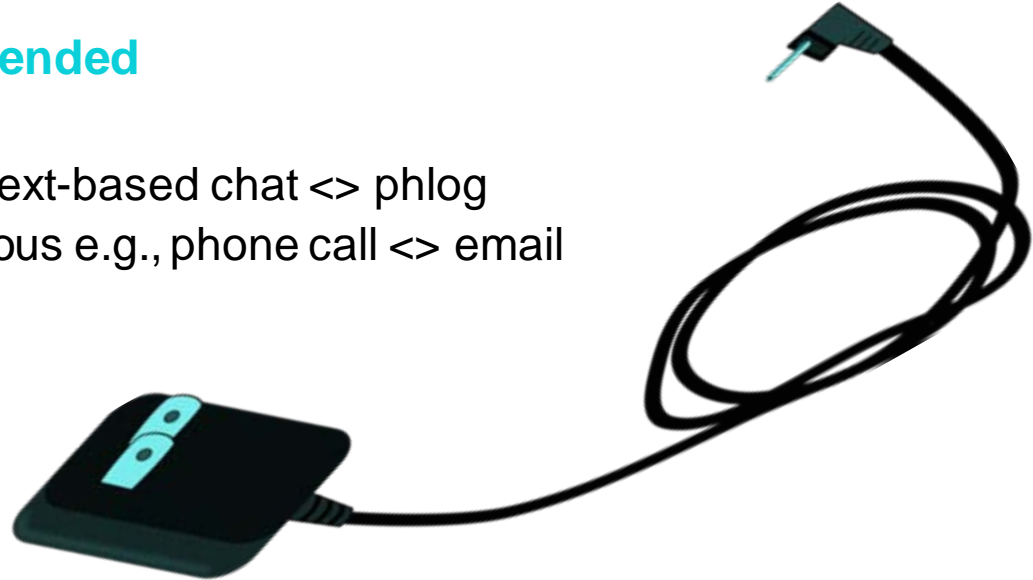
# Interaction Design

Individual <> collaborative

Formal <> informal

F2F <> via mobile devices <> blended

- Communication
  - channel and medium, e.g., text-based chat <> phlog
  - synchronous <> asynchronous e.g., phone call <> email
- Sharing and exchange
  - artifacts
  - questions
  - resources
  - peer evaluation
  - peer support



*...contingent on needs and context*



# Activities Design

## According to the type of learning (behaviourist, constructivist, situated...)

- More suitable for mobile:
  - blend focused and spontaneous tasks and activities
  - data collection and sharing
  - personal reflection
  - accessing resources (just-in-time, on-demand information)
  - connecting with the community of practice
  - accessing experts and supports
  - assessments
  - augmented reality tasks and games...



*...contingent on needs and context*

# Activities Design

- Start with the learner
- Educational problem >> outcomes
- Technologies and unique context
- Make the learning experience:
  - Engaging and empowering
  - Authentic and active
  - Situated and context-aware (*whenever possible*)



**Be prepared for change...**

*...contingent on needs and context*