# An evaluation framework for microlearning tools

For designing and delivering microlearning content

Content engagement

methods

Higher education/digitalization factors:

Providing student progress tracking and

social interaction

Content development facilities

Higher education/digitalization factors:

Providing teachers efficient means of

creating and reusing e-learning material

togehter with content structuring

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Context aware delivery

methods

Higher education/digitalization factors:

Mobile technology learning context

sensing

Delivery system integration

Higher education/digitalization factors:

Integration possibilites for microlearning

delivery tools with existing higher

education systems like LMS

Learner notification methods

Higher education/digitalization factors:

Learning engagement through learning

progress based notfication

## Research aim and questions (1)

Conceptualising an evaluation framework for microlearning for designing and delivering microlearning content

### Main research question:

What are the potential and shortcomings of the current mobile learning t designing and delivering microlearning content and what would be t criteria of an evaluation framework for mobile learning tools of microl content in the context of digitalization and higher education?

#### Sub guestions:

1. What are the potential and challenges in designing and delivering microlearning con 2. What would be the core criteria for an evaluation framework for designing and c mobile learning content?

## Methodological approach (2)

Smartphones and/or tables are used

Study is performed in the higher

Article should be peer reviewed.

Article addresses microlearning

content design characteristics.

Article addresses microlearning

content delivery characteristics.

education setting or is applicable to

for microlearning.

this setting.

Search strategy	Search terms	
Literature review using PRISMA method	"mobile learning", "microlearning" "digitalization", "higher education"	
Open coding of the literature to categorize related papers	e to evaluation , design , delivery , pt notification", and "micro MOOC"	
Different databases for search:		
Springer	Inclusion and exclusion criteria	
Science Direct	Inclusion Criteria Exclusion Criteria	

- IEEE
- ACM
- Willey
- Year range 2010-2021
- This captures the increase in smartphone ownership
- Captures the beneficial multi-device environments for microlearning

	Literature filtering (PRISMA) (3)
icrolearning tools ent	Database hits: 176   To exclude:     Papers not about microlearning or higher education   Hits remaining: 56
bile learning tools for at would be the core cools of microlearning on?	Literature coding (4)   Key findings (5)     In the light of current literature:
nicrolearning content? designing and delivering	10 15 Support content design tools have the potential to:   9 7 Education Resources), content personalization and content engagement.
	Content   Context dependent   Notification   Microlearning content delivery tools benefit from tools:     Delivery system   Context dependent   Notification   Motification   Context awareness increases learning     development   engagement   adaptation   Context dependent   Notification   methods
h terms	Microlearning content design coding Microlearning content delivery coding Shortcomings of current microlearning tools: There exists a digital divide among the tools which can be negative for content reuse. Also learning complex subjects is difficult with current microlearning tools.
nigher education", nigher education", n", "delivery", "push	Final evaluation framework (6)
a "micro MOOC" xclusion criteria	Microlearning tool evaluation
Study does not use laptops as microlearning devices. Microlearning must not be limited to the formal (classroom) context	Content design

Content adaptation

techniques

Higher education/digitalization factors:

Providing personalized learning

experiance throught Educational Data

Mining using LMS data