How adults learn formally and informally using digital media?

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The over emphasis of formal learning has led to the presumption that learning is fixed in a physical location. Technology and specifically, digital media has opened infinite possibilities of learning beyond the class room.

Introduction

- Digital media: the format of content delivery (Masters and Nykvist, 2006)
- To have a better understanding of how learning takes place from informal to formal, we need to look at:
  - How learners use different devices in different learning context
  - The activities they engage in on digital media.

Background to this Study

Learning = formal and Informal (Colley et al, 2003)
Both types of learning are considered to interact and overlap
(Schugurensky 2000; Eraut 2004)

- Formal learning is
  - Intentional
  - learner's perspective
  - structured context
  - formal recognition (Livingstone, 2001).

- Informal learning is
  - outside established structured context
  - not organised
  - do not lead to any certification.
  - intentional, non-intentional, incidental or random.

Background

- Many have addressed areas of adult informal learning
- The **process** of informal learning (Hunt, 1986; McGivney, 1999; Eraut 2000; Billett, 2001; Tough, 2002; Schugurensky, 2004)
- In different **contexts** such as the workplace, home and in everyday living (Eraut, 2004, Clarke, 2005, Hague and Logan, 2009, Puijenbroek, 2014).
- The use of **technology** in shaping adult informal learning (Clough et al, 2007, Dabbagh and Kitsantas, 2012)
- How informal and formal learning can be **bridged** (Dabbagh and Kitsantas, 2012), **experienced** (Peeters et al, 2014) or **integrated** (Tynjala and et al, 2014).

Background

Given the ease in which learners cross over from one platform to another (using different digital devices) and one context to another (formal and informal learning), it becomes necessary to know more than just **what learners learn**, but **how learners learn** and **when they learn**.

To situate the activities, this study builds on the informal mobile learning framework by Clough et al (2007):

Using the seven identified pedagogical categories: **Referential, Location Aware, Reflective, Administrative, Constructive** and **Data-Collection** and using two additional qualifiers such as **individual** and **collaborative**.

The pedagogical categories reflect the type of learning learners encounter and with the qualifiers to reveal more details about how they learn i.e. individually or collaboratively.

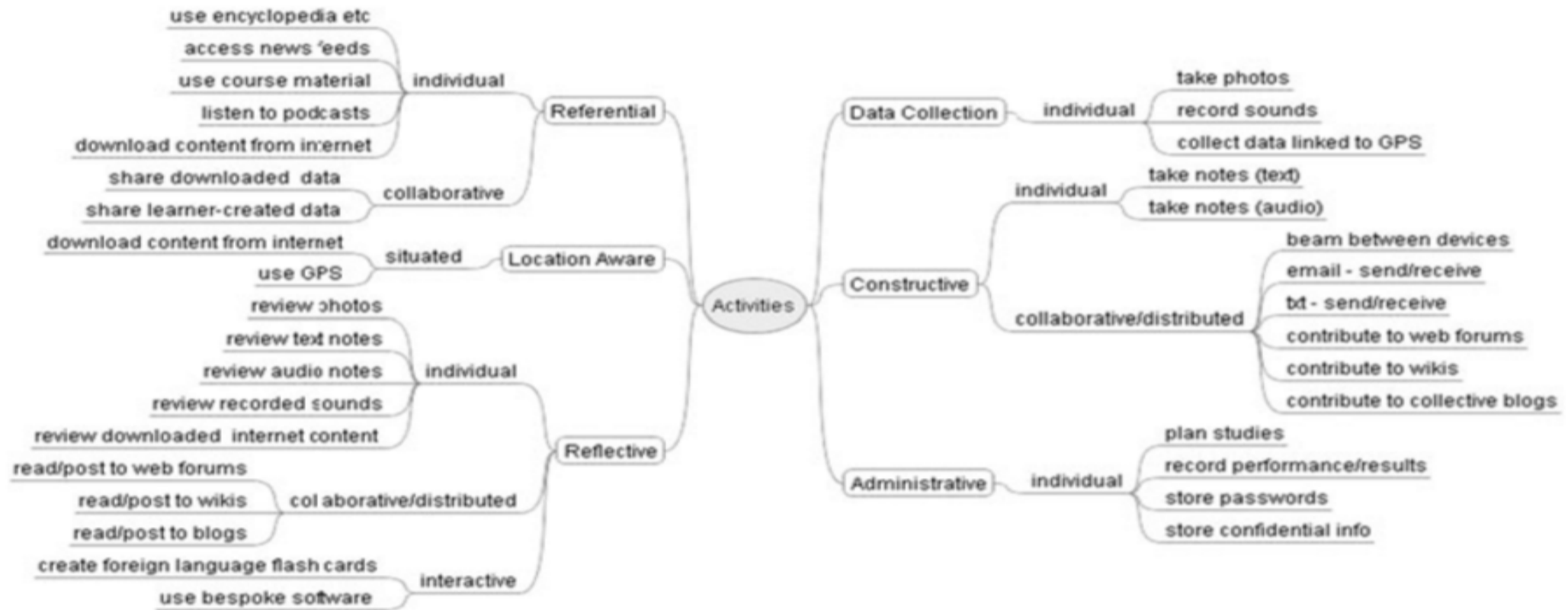# Clough et al (2007) Informal mobile learning framework

Fig 3 Informal mobile learning framework.

Key Questions

How do adult learners use digital media in formal curriculum?

How do adult learners use digital media outside of formal curriculum?

Method and Data collection

- An online questionnaire was created and released in March 2015 to participants of Antwerp Management School (AMS) of the Executive Masters Programme and SIM University, School of Arts and Social Sciences, Communications Programme.

- Participants are 25 yrs and above, full-time working and part-time studying.

- Parts of the questionnaire was based on Clough's mobile informal learning framework.

- Total there are 78 responses, 44 incomplete and 34 completed surveys.

- Data collection is still ongoing.

Questionnaire

Section One pertains to Personal Information:

- types and number of digital devices they own;

- frequency of use and amount of time used;

- digital device considered to be the most important at work, school and leisure;

- reasons that the selected digital device is important to them at work, school and leisure

Questionnaire

Section Two: How adult learners use digital media in formal curriculum: which digital devices are more frequently used;

- **which recommended websites and apps are more frequently used;**

- **which recommended online activities are more frequently used; and**

- **the top three online activities that have contributed to their formal learning.**
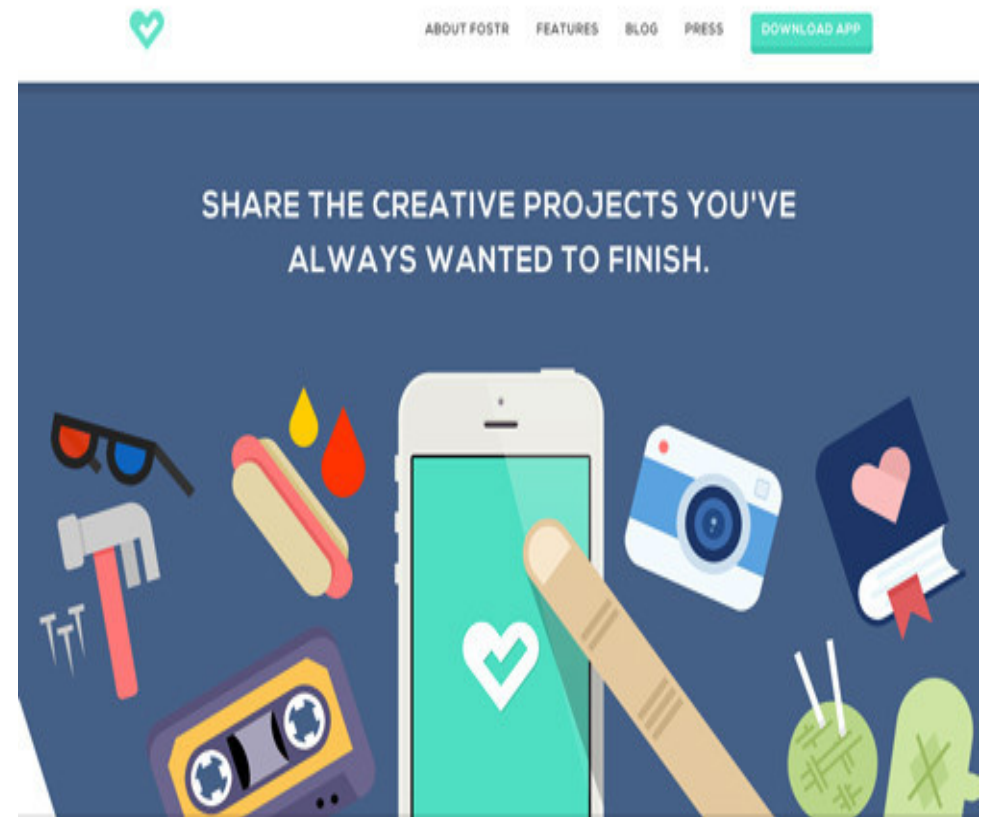
Questionnaire

Section 3 Part One: How adult learners use digital media outside of formal curriculum:

- which websites and apps that are <u>not required</u> as part of their curriculum but they **have used to help them in their formal learning**;
- which online activities that are <u>not required</u> as part of their curriculum but they **have used to help them in their formal learning** and the frequency of use.

Section 3 Part Two: How adult learners use digital media outside of formal curriculum:

- which websites and apps that they use <u>outside</u> of formal curriculum for their own purposes and

which online activities they frequently use <u>outside</u> of formal curriculum for their own purposes.

Activities

Data-collection Individual activities: take photo or record sounds.

Constructive Individual activities: Take notes (text or sound).

Constructive Collaborative activities: Send and receive emails or text messages; Contribute something new to web forums or web blogs.

Administrative Individual activities: Plan studies.

Referential Individual activities: Access news feeds; Use course materials; Listen to podcasts; Download content from the Internet.

Referential Collaborative activities: Share downloaded content (data/files) from the Internet; Share your own created content (data/files) onto the Internet or with friends and colleagues.

Reflective Individual activities: Review downloaded content from the Internet such as photos, text notes, audio notes and recorded sounds.

Reflective Collaborative activities: Read and post to web forums or web blogs; Read and post to social media like Facebook, Twitter, Linkedin, Tumblur).

Location Aware activities: Using GPS.

Results: Profile

- Total 78 responses, 44 incomplete and 34 completed (19 Males and 25 Females)

- Average age: 36 years old

- Data collection is still ongoing.

- Reported data is based on individual question.

- 75 percent are Full-time paid employment

- 15 percent in Part-time paid employment

- All have internet access in their places of residence

- 90 percent have subscribed to an internet access plan for their digital devices.

Digital Devices owned (Table 1)

Digital devices owned	One digital device	Two digital devices	Three digital devices
Smartphones	**36**	5	1
Laptop Computers	**21**	**8**	2
Digital Cameras	**26**	**7**	2
Game Console	12	2	0

Frequency of devices used and Daily Usage (Table 2 and 3)

Frequency of use/Digital devices	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month
Smartphones	**44**	9	0	0	0
Laptop Computers	35	8	0	1	0
Digital Cameras	1	4	6	13	11

Time spent on a daily basis/Digital devices	3-4 hours	>4hours
Smartphones	7	19
Laptop Computers	10	**28**

Most important devices in different context (Table 4)

Context	Digital Devices	Total
At Work	Smartphones	**25**
	Laptop computers	20
At School	Laptop computers	**11**
	Tablet PCs	7
At Home	Digital cameras	**25**
	Tablet PCs	21

Most cited reason for choosing device

At Work: Communication

At School: Computing

At Home/Leisure: Surf the Internet

Digital devices used in and outside of formal curriculum (Table 5)

Digital Devices	Digital devices used in formal curriculum		Digital devices used outside of formal curriculum	
	Daily	2-3 times a week	Daily	2-3 times a week
Laptop computers	**19**	12	22	8
Smartphones	17	5	**31**	0
Tablet PCs	4	5	10	8

Websites and apps recommended or used in the formal learning programme (Table 6)

Webs & Apps	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month
Blackboard Content		12	**8**	7	
Blackboard Discussion Board				**9**	**8**
Google Search	**23**	8			
Google Scholar		**13**		7	
Facebook	10				
Instant Messaging	7				
Wikipedia		10	6		7
Youtube			5		
Dropbox					7

Activities that are most frequently used in formal learning (Table 7)

Frequency/ Types of Activities	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month
Referential Individual	**23**	53	16	10	22
Referential Collaborative		13	11	10	14
Constructive Individual		13			13
Constructive Collaborative	**14**		8	11	
Reflective Collaborative	**18**				

Referential Individual activities are featured prominently across all frequencies.

Individual and collaborative activities seem to happen more frequently on a daily and weekly basis.

Of the activities participated and have helped them in the formal curriculum, the **top three** most mentioned activities are **Referential Individual**, **Constructive Collaborative** and **Reflective Collaborative** which coincide with the most frequently used activities in formal learning.

Websites and apps not required in formal curriculum but have helped in formal learning (Table 8)

Webs & Apps	Daily	2-3 times a week	1 time a week	2-3 times a month	1 time a month
Google Search	**16**	7		5	
Facebook	10				
Newsfeeds	7		**12**	5	
Google Scholar		**9**		6	
Forums/Bulletin Boards outside of Blackboard				4	
Wikipedia		8	4	5	7
Youtube			5	6	6
Text Messaging					8
Linkedin			4		5

It is observed that **Referential** or information-seeking websites and apps helped in formal learning.

Activities not required in formal curriculum but have helped them in formal learning (Table 9)

Frequency/ Types of Activities	Daily	2-3 times a week	1 time a week	2-3 times a month	1 time a month
Referential Individual	13	14	6	11	15
Referential Collaborative		13	9		
Constructive Individual				7	
Constructive Collaborative	11			5	10
Reflective Collaborative	12	12	6		9

Referential Individual activities feature prominently across all frequencies.
Reflective Collaborative activities feature consistently across all frequencies except 2-3 times a month

Websites and apps used outside of formal curriculum (Table 10)

Webs & Apps	Daily	2-3 times a week	1 time a week	2-3 times a month	1 time a month
Google Search	27				
Facebook	15	8			
Newsfeeds	10				
Instant Messaging	10				
Youtube	10	10			
Wikipedia		8	5	4	
Forums/Bulletin Boards outside of Blackboard			5	6	
Video Conferencing				4	10
Google+					6
Twitter				4	
Link Sharing Sites					7

Similar to the other contexts, information seeking websites and apps seem more frequently used on a daily basis.
This pattern of usage then moves towards a more collaborative and sharing websites and apps on a weekly and monthly basis.

Activities used outside of formal curriculum (Table 11)

Frequency/ Types of Activities	Daily	2-3 times a week	1 time a week	2-3 times a month	1 time a month
Referential Individual	24	18	5	4	12
Referential Collaborative		13	7		11
Constructive Individual		15		4	
Constructive Collaborative	28		4	5	6
Reflective Collaborative	22	15	4	7	7
Administrative Individual				5	
Data Collection Individual					6

It would seem too that more collaborative activities take place outside of formal curriculum   .
And on a daily basis, more activities are taking place outside of formal learning different pedagogical categories.
engage across more
It would seem too that more collaborative activities take place outside of formal curriculum.
And on a daily basis, more activities are taking place outside of formal learning

curriculum (Table 12)

Context	Activities	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month
In Formal Curriculum	Referential Individual	23	53	16	10	22
	Referential Collaborative		13	11	10	14
	Constructive Collaborative	14		8	11	
	Reflective Collaborative	18				
Outside of Formal Curriculum But helped in Formal Learning	Referential Individual	13	14	6	11	15
	Reflective Collaborative	12	12	6		9
Outside of Formal Curriculum	Referential Individual	24	18	5	4	12
	Reflective Collaborative	22	15	4	7	7
	Constructive Collaborative	28		4	5	6

- **Referential**
- **Reflective** Individual activities such as reviewing downloaded contents from the Internet.
- **Constructive** Collaborative activities such as email exchanges or contribute something new to weblog.
- This seems to suggest that learners in formal learning context first seek out information on their own and then reflect upon them before constructing them collaboratively through information sharing.
-
  context where the smartphones and the laptop computers, two highly frequently used devices on a daily basis provide the platforms from which Referential Individual and Collaborative activities could take place.
-
  have helped them most in their formal learning: **Referential Individual**, **Constructive Collaborative** and **Reflective Collaborative**.

How do adult learners use digital media outside of formal curriculum?

- Half of all the participants in this survey would like for these websites and apps to be included in the formal learning programme while about slightly

  less than half of them were ambivalent.

- One possible reason for this ambivalence could be they are uncertain how these websites and apps could directly help them in their formal learning.

- It is noteworthy that the top two most engaged activities are similar to those in formal learning context i.e.

Collaborative **Referential Individual** and **Reflective Collaborative**.

How do adult learners use digital media outside of formal curriculum?

to their formal learning are similar to the three most engaged activities outside of formal learning:

- Referential Individual,
- Constructive Collaborative and
- Reflective Collaborative.
- It is also observed that outside of formal learning activities engaged are spread over a wider range of pedagogical categories (Table 11) and in higher

frequencies (Table 12).
frequencies (Table 12).

Conclusion

and outside formal learning context.   repeated in formal learning context

These three activities are also perceived by participants to have contributed most to their formal learning.

Also noteworthy that more activities are engaged outside of formal learning context and over a wider range of pedagogical categories.

THANK YOU!

Q&A