THE ROAD OF MOOC-LEARNING IS PAVED WITH GOOD INTENTIONS, BUT WHAT HAPPENS ALONG THE WAY?

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INTRODUCTION

01 Alternative way of looking at success
02 Intention-behaviour dynamics
03 Study results
04 Conclusion
DEFINE SUCCESS

MOOC success measured by number of certificates issued → outcome related perspective

01 Scholars agree that due to the exceptional learning circumstances MOOCs should not be compared to traditional education (Huin, Bergheaud, Caron, Codina, & Disson, 2016; Koller, Ng, Do, & Chen, 2013; Liyanagunawardena, Parslow, & Williams, 2014)

02 Scholars acknowledge that getting the certificate is not the ultimate measurement. Learners may have other intentions (Koller, Ng, Do, & Chen, 2013; Reich, 2014)

? Intention to complete predominates when determining learner success
MOOC-TAKER INTENTIONS

In an open learning environment, the most important variable in the equation is the individual learner.

I intend to get the certificate
I intend to finish the first 3 weeks
I just want to know what a MOOC looks like
I also want to get a certificate
I intend to finish most activities of week 4 and 5
INDIVIDUAL INTENTION

Alternative approach to success measurement

The intention of the individual as a starting point
THE REASONED ACTION APPROACH

FISHBEIN & AJZEN (2011)
INTENTION-BEHAVIOUR APPROACH

3 possible scenario’s

Intention = behaviour
Intention > behaviour
Intention < behaviour

= possible intentions
= initial intention
= actual behavior
= MOOC covering themes and topics

Henderikx, Kreijns, Kalz (2017a)
EXAMPLE
COMPARING MEASUREMENT APPROACHES

CERTIFICATE ORIENTED PERSPECTIVE

MOOC on Marine litter

6452 Participants
422 Certificates

6,5% successful learners
93,5% Unsuccessful learners

INTENTION PERSPECTIVE

a. Intention-behavior patterns

N=68

<table>
<thead>
<tr>
<th></th>
<th>SUCCESS</th>
<th>SUCCESSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EQUAL</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>MORE</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>LESS</td>
<td>41%</td>
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Intention perspective paints a different, but probably slightly tainted picture due to some important limitations:

- Self reported data
- Small sample
- Prompting learners to share intentions might influence them to follow through
- Survival bias effect

What happens with the good intentions along the way??
INTENTION-BEHAVIOUR DYNAMICS

Henderikx, Kreijns, Kalz (2017, in preparation)
DATA COLLECTION

Short questionnaire based on the intention-behavior dynamics state diagram

Request for participation send to 139 MOOC learners

36 MOOC learners completed the questionnaire
EXPLORATORY STUDY RESULTS-I

Gender: N=36
- Male: 39%
- Female: 61%

Age (range 22-90): N=36
- 20-40: 42%
- 41-60: 39%
- 61+: 19%

$M_{age} = 46$ years
EXPLORATORY STUDY RESULTS-II

Specific intention at the start?

- Yes: 83%
- No: 17%

N=36

If NO at what point did your intention become clear?

- After I saw that the MOOC was interesting
- After the first couple of lessons
- After 2 weeks
EXPLORATORY STUDY RESULTS-III

Did intention change?  
N=36

Intention change more often than once?  
N=11

- Did intention change?
  - Yes: 31%
  - No: 69%

- Intention change more often than once?
  - Yes: 55%
  - No: 45%
EXPLORATORY STUDY RESULTS-IV

Participated in more MOOCs?  
- Yes: 42%  
- No: 58%  
N=36

Did your intention change then?  
- Yes: 40%  
- No: 60%  
N=15
Top-5 reasons indicated for one or more changes of intention:

- Lack of time in general
- Work issues
- Family issues
- Technical issues (internet, software)
- Time investment indication MOOC incorrect
TOP-5 BARRIERS TO ONLINE LEARNING RESEARCH

- Lack of time
- Lack of interaction
- Insufficient academic knowledge
- Family issues
- Workplace issues

Knowledge about barriers to learning is important. Especially in an environment where learners are not individually monitored or motivated but where we still aim for learners to succeed in reaching their individual learning intentions.

### Big data MOOC N=71
1. Lack of time
2. Workplace issues
3. Insuff. academic background
4. Course too easy
5. Family issues

### Adolescent Brain MOOC N=82
1. Lack of time
2. Workplace issues
3. Family issues
4. Problems with the site
5. Course too easy
A PATTERN EMERGES

Most mentioned barriers

- Lack of time
- Family issues
- Workplace issues
- Technical issues
- Insufficient academic background
- Course too easy

Called for further research

NOT MOOC RELATED

Called for further research
A CLASSIFICATION OF BARRIERS-I

01 Designed a barrier questionnaire; 44 items drawn from various barriers to online learning studies

02 After elimination of outliers, 295 respondents

03 After data cleaning 35 items left

04 Principal component analysis, resulted in 4 components
<table>
<thead>
<tr>
<th>Component</th>
<th>Label</th>
<th>Example items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical and online learning related skills</td>
<td>Lack of IT skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of typing skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of information literacy skills</td>
</tr>
<tr>
<td>2</td>
<td>Social context</td>
<td>Feelings of isolation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Learning feels impersonal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of interaction with students</td>
</tr>
<tr>
<td>3</td>
<td>Course design</td>
<td>Lack of clear instruction/expectations</td>
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<tr>
<td></td>
<td></td>
<td>Lack of decent feedback</td>
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<tr>
<td></td>
<td></td>
<td>Low quality course</td>
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<tr>
<td>4</td>
<td>Time, support and motivation</td>
<td>Lack of time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family issues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of motivation</td>
</tr>
</tbody>
</table>
## A CLASSIFICATION OF BARRIERS-III

<table>
<thead>
<tr>
<th>Component</th>
<th>Label</th>
<th>Type</th>
<th>Coping level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical and Online learning related skills</td>
<td>Non-MOOC related</td>
<td>Can be dealt with on a personal level</td>
</tr>
<tr>
<td>2</td>
<td>Social context</td>
<td>Partly MOOC and partly non-MOOC related</td>
<td>Can be dealt with on both personal and MOOC-level</td>
</tr>
<tr>
<td>3</td>
<td>Course design</td>
<td>MOOC related</td>
<td>Can be dealt with on MOOC level</td>
</tr>
<tr>
<td>4</td>
<td>Time, support and motivation</td>
<td>Non-MOOC related</td>
<td>Can be dealt with on a personal level</td>
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Henderikx, Kreijns, Kalz (2018, submitted)
WHAT DOES HAPPEN ALONG THE WAY?

- Nearly 1/3 of the learners does change their intention once or more often than once
- The main reason for this is the encounter of barriers
- Most often mentioned barriers are lack of time, work issues and family issues
- Barriers learners experience are predominantly not MOOC-related

Limitations
- Self reporting
- Relatively small samples
SOME INTERESTING QUESTIONS

01 What does the dynamical intention-behaviour process mean for measuring MOOC success?

02 How prevent unnecessary re-design interventions of MOOCs as many barriers are not MOOC related?

03 How can learners who struggle with non-MOOC related barriers be supported