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Taking a MOOC? Stop and think.
Recommendations for a more effective use of MOOCs

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Over the past decades, Massive Online Open Courses (MOOCs) have become widespread and many universities have incorporated this type of teaching as part of their innovative pedagogical strategies. As yet, the high dropout rates of MOOCs remain a major limitation across all higher tertiary education. It has been questioned whether such metric of success for traditional education is apt when examining OER, given that learners’ motivation when taking a course are very diverse (Alario-Hoyos, Estévez-Ayres, Pérez-Sanagustín, Delgado Kloos, & Fernández-Panadero, 2017). Completion of courses like MOOCs is highly dependent on self-regulated learning strategies.

Motivations to enroll in a MOOC can be highly diverse, from wanting to explore new content, the opportunity to learn from a top university or lecturer, for curiosity, to meet a personal challenge, to look for specific information or simply because they often are free of charge. Users of MOOCs go through different phases when undertaking a MOOC, displaying a funnel of participation (Clow, 2013) (see Figure 1). Each phase marks a significant decrease in users: learning about a course offer (awareness phase), enrolling in a course (registration phase), engaging in any activity (activity phase), meaningful progress (progress phase) and the tendency is that only a small fraction finish the course (completion phase) (Nawrot & Doucet, 2014).

![Figure 1. Funnel of participation in MOOCs.](image-url)
Participants in MOOCs are guided by elements of intrinsic motivation, related to learning and accomplishment of the task, or extrinsic, aimed at obtaining a certificate or achieving specific professional purposes. The objectives of the students can be classified into three main categories: performance targets (students looking for tangible results at the end of the course), mastery goals (students seeking to acquire expertise in a particular field of competence; with a long-term commitment), and social goals (students aiming to develop personal contacts through active involvement in the discussion forums (Bulger, Bright, & Cobo, 2015). This diversity of personal goals is reflected in turn in the indicators of persistence and completion of the course.

MOOCs provide a flexible learning context, in which students decide when, how and from where they access the material, what content they develop and in what activities they participate (Bulger et al., 2015; Castaño-Muñoz, Kreijns, Kalz, & Punie, 2017). They present a learning environment which allows learners to engage in non-linear learning trajectories which do not follow the sequential progress typical in traditional educational settings, whereby navigation jumps from assessments to lectures are very common (Guo & Reinecke, 2014). Users need to regulate their own learning process and adjust behavior to context. Self-regulation competencies can be defined as the competencies to plan, perform, and evaluate the learning process autonomously, which involve certain decisions about cognitive, motivational and behavioural factors. Thus, self-regulation involves the use of cognitive strategies (for acquisition, storage and retrieval of information), metacognitive strategies (i.e. the student's ability to control and reflect on his or her own learning process) and resource management strategies (capacity for establishing the own objectives, environmental structuring strategies, time management, and strategies for seeking help in case of need).

Most research on MOOCs can be divided into two main areas: (1) focus on the design of MOOCs with the aim to promote attractive courses that promote engagement and interaction, so to enhance retention; and (2) the studying of the users. In the latter studies, there is little work that aims to find better ways to prepare the users prior to starting the course. We believe that presetting the learning goals of the users and making them aware of how they could better design their own learning trajectory could enhance the learning experience from MOOCs. This means adding another dimension at the beginning of the course: not only what one is to expect from the course but also, what one is able to give so that the learning experience could be enhanced.

Given the heterogeneous population of learners in MOOCs, not only in their personal characteristics (age, race, language), but also in motivation and self-regulation competencies, looking in the different learners’ trajectories could be an interesting dimension to sum up to the MOOCs research (see, for instance, Maya Jariego, Holgado, González-Tinoco, Castaño-Muñoz & Punie, 2018). For this work, we have aimed to identify distinct learning pathways undertaken by different users. Based on previous research in this area, we elaborate the users’ pathways on the two major dimensions.
discussed above: users’ motivation and self-regulation competencies. Through these trajectories, we want to explore how learners with different learning goals can utilize the same MOOC for a variety of objectives and moreover, how becoming aware of one’s learning objectives and receiving some advice prior to initiating a MOOC can enhance the user’s learning experience in MOOCs.

MOOCs’ Disengagement

As with any other education environment, learners in MOOCS have different levels of engagement. Research has shown that some of the major reasons for withdrawal from MOOCs is lack of time management (Nawrot & Doucet, 2014). Time management, that is, scheduling, planning and managing personal study time is a self-regulated learning skill (Alario-Hoyos et al., 2017), which could be trained through learning strategies (Schunk, 2005). Time management is acknowledged as being crucial in the education field (Trueman & Hartley, 1996), nonetheless, students procrastinate, underestimate the time needed to complete a task, try to do too much or waste their time (Nawrot & Doucet, 2014).

The development of metacognitive skills is also argued to be an important element of the learning experience improving users’ engagement and motivation (Nota, Soresi, & Zimmerman, 2004; Zimmerman, 2002). Students who have better skills at self-regulating their learning, in either formal or informal settings, tend to do better in online settings (Bernacki, Aguilar, & Byrnes, 2011). Moreover, a learner’s self-efficacy, that is, the degree of how a student feel about their ability to engage and complete the learning activities and their ability not to give up easily, is related to his/her motivation and the specific learning strategies employed (Zimmerman, Bandura, & Martinez-Pons, 1992). While various software has been developed to enable users to improve their time management, up to recently there was little technological tools to enable users to develop skill and habits to improve their learning process (prioritization, planning, scheduling, monitoring and evaluation). In particular in the online learning setting, a vast number of users struggle with attaining self-discipline to become managers of their own learning (Nawrot & Doucet, 2014).

Studies looking into the major motivation in student attrition also suggest that although most students drop out at the beginning of the course, or after the first week, there is also a good proportion of students who remain in the course longer than that, but drop out along the way (Yang, Sinha, Adamson, & Penstein Rose, 2013). Yang el al (2013) argue that supporting the participation of these struggling students is something not to be overseen.

For this work, we have elaborated six types of MOOCs user based on previous literature (Cisel, Mano, Bachelet & Silberzahn, 2015; Greene, Oswald & Pomeranz, 2015; Hill, 2013; Kizilcec, Piech & Schneider, 2013; Koller, Ng, Do & Chen, 2013; Maya-Jariego et al., 2018; Milligan, Littlejohn & Margaryan, 2013; Tabaa & Medouri, 2013), namely: committed learners, shoppers, late starters, ghosts, forced users and browsers. In the next section, we describe these distinct learners’ profiles and elaborate some learning
strategies, which could be offered to each profile at the initiation phase of the course with the aim to improve the learning experience. See a summary in Table 1.

**Table 1. User profiles when studying a MOOC**

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<tr>
<th>Type of user</th>
<th>Characteristics</th>
<th>Recommendations</th>
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| Committed learners | Dedicate a significant number of hours to the course, carrying out activities and relating to other participants. | • Maintain your high motivation.  
• Develop your own contents.  
• Try to help other students and collaborate. |
| Shoppers | Engage with specific parts of the course, which they believe could be the most useful for them as learners. | • Revise the schedule for the contents and resources in which you are interested.  
• Collaborate with other students. |
| Late starters | Start later than the rest of students. | • Adopt your own rhythm and manage stress.  
• Take the opportunity to see how other users have interacted in the modules already taught. |
| Ghosts | Register for the course but at no time sign in. | • Evaluate your time availability before you start.  
• Self-evaluate your degree of motivation and your goals before you start. |
| Forced users | Take the course as part of promotion or as requirement in their careers and who tend to have low engagement in the course | • Plan the weekly time that you will dedicate to the course.  
• Set yourself small, achievable goals, and self-reinforce each achievement.  
• Try to relate the contents with your work activities. |
| Browsers | Users that are curious about the structure of the course and want to check some contents or resources. | • Explore different sections of the course to have a complete view.  
• Check the course at different moments to observe the evolution. |
User profiles

1) Committed learners:
   a. These students tend to dedicate a significant number of hours to the course, carrying out activities and relating to other participants. They willingly explore and engage with the content of the course and access the material of the course periodically. They tend to complete the majority of the assessments offered in the class and will obtain the final certificate.
   b. If this is your profile, it means you have a good self-discipline when it comes to learning. You can engage in online course and have the ability to exploit their potential for your own learning. Prior and during the MOOC you might want to evaluate:
      - Goal-setting: consider why you are taking the course, what grade you want to earn and how you plan to achieve that goal.
      - Keep a calendar of all the important dates of the course.
      - Try to read other materials that enable you to develop critical thinking about the subject matter.
      - Utilize your social media to collaborate with other classmates who might need some support.
      - Get support: look for collaboration and for help if needed.
      - Try to maintain a high motivation: For instance, celebrating small achievements or taking regular breaks to help you switch off.

2) Shoppers:
   a. Users who register for the course for some specific knowledge areas covered in the course. These students might already be knowledgeable of the area taught in the course and simply want to engage with specific parts of the course, which they believe could be the most useful for them as learners.
   b. Students with this profile seem to have a high understanding of what they want to learn from each course. Your desire to learn is an intrinsic motivation, often leading to positive results when it comes to learning objectives. In this aspect, you might want to:
      - Goal-orientation: Revise periodically why you wanted to learn this material and your outcome expectations.
      - Dedicate time specifically for the areas you want to learn.
      - Keep a calendar of the dates when your content will be published and the deadlines of any assignment submission.
      - Join the forums and collaborate with other users who might need your help and advice.

3) Late starters:
   a. There are students who start the MOOC later than the rest of the students. Students who start later than the rest are less likely to finish the course and
they seem less likely to integrate in the community discussion. On the other hand, early cohort students seem to have a higher centrality and seem more integrated in the course (Yang et al., 2013).

b. If you have registered late for this course, these are some suggestions to improve your learning experience:

- **Organization**: rather than starting with the material for the current week, it would be useful to start from Week 1.
- **Stress management**: when trying to catch up with other students and doing all the pending try not to get stressful.
- **Plan your time carefully**, allocating specific time for the catching up work to be done. Late starters tend to have some problems getting engaged in the community discussion. It could be useful to dedicate sometime to introduce yourself in the discussion forums and dedicate sometime for engaging with the community, not just with the course material.
- **Returning to discussions of earlier weeks** could help you integrate better in the community.

4) **Ghost**:

a. Students that register for the course but at no time sign in.

b. If this is your profile:

- Define very clearly your goals prior to registering to an online course.
- Assign some time weekly to the course.
- Take some time to reflect on your objectives and your personal decision to register for this course.
- If you cannot assign specific time for the course, it might be better not to register to a MOOC and do it later when you can be more productive and the course could be more useful.
- Prior to starting a MOOC, you might want to ensure it is relevant for your learning objectives.

5) **Forced users**:

a. Students who undertake the MOOC because it is part of their employment and student training. They are expected to do the course and will mainly do the course, for an extrinsic motivation: accreditation, a certificate, a promotion, etc. These students hardly engage actively with other learners.

b. If this is your profile, you might could improve your time management

- **Structure your learning environment**: set a routine, plan and assign some time very day/week to the classes and the assignments and avoid distractions (e.g. keep you mobile switched off for the time you dedicate for studying). You might
want talk to your boss or to your lecturer of how this time could be part of your working/studying scheme

- Reevaluate the situation: reassess whether any type of content could be reoriented towards any personal interest or whether this could be an opportunity for you to make new contacts through the forums?
- Do not leave the assignments until the last minute
- Seek help when you feel you do not understand how something works or any part of the content
- Set some time aside to engage in forums, to meet other fellow students following the same course

6) Browsers:
   a. Users who are curious about the structure of the MOOC. These users tend to be interested in the way the course is structured and how it functions. They could be lecturers, other MOOC creators, developers or simply people interested in the structure of the course. Their role in the MOOC is simply that of browsing the material without any real engagement with the content.
   b. Learners with this kind of profile tend to have very clear objectives of why they are taking the course. If this is your profile:
      - Keep a journal of the interesting aspects that you like about the course.
      - Allocate sometime to observe the MOOC at different phases of the course.
      - Define clearly which type of users you are, so you can tailor the course according to your needs.
      - Negotiate your expected goals with the course coordinator.
**ACTIVITY**

**What kind of student are you?**

The following list of questions are based on the MSLQ instrument elaborated by Alario-Hoyos et al (2017). The questionnaire asks about your learning experience through MOOCs, so as to help you engage more effectively in your learning experience in a MOOC. The questionnaire will take around 5 minutes to complete. You are kindly requested to select one answer for each question and then write a self-description as student of this MOOC. What kind of user do you think you are? Thank you for your cooperation.

**How prepared are you to take a MOOC?**

1) You are doing this course because: (general)
   a. You like the subject matter of this course.
   b. This course is part of your studies.
   c. You simply want to browse through the course.
   d. You want to learn how a MOOC works (it is the first time you take one).
   e. You are interested in the structure of the course.

2) In a course like this, you prefer: (intrinsic)
   a. Course material that challenges you to learn new things.
   b. Course material that arouses your curiosity, even if it is difficult to learn.
   c. Course material that is easy to learn.
   d. Being able to understand the content as thoroughly as possible.
   e. Being able to browse through the material quickly.
   f. To try and do all the exercises and course assignments that you can learn from even if they don’t guarantee a good grade.
   g. To be able to skim through the exercises and assignments.
   h. Not to have any additional work to be done apart from doing the course.

3) It is important for you that: (TV)
   a. You can use what you learn in this course in other courses.
   b. You learn the material in this course.
   c. Course material in this course is useful.
   d. You learn something about the subject of this course.
   e. You like the subject matter of this course.
   f. Understand the subject matter of this course.
4) You are confident that you can: (SELP)
   a. Understand the most difficult material presented in this course.
   b. Learn the basic concepts taught in this course.
   c. Understand the most complex materials that will be presented.
   d. To master the skills that you will be taught in this course.
   e. To do well.

5) In this course, you expect to: (SELP)
   a. Obtain an excellent grade in this course.
   b. Learn the subject matter irrelevant of the grade.
   c. Do an excellent job on the assignments and tests in this course.

6) When doing a course: (CT)
   a. I often find myself questioning things I hear or read to decide if I find them convincing.
   b. When a theory, interpretation, or conclusion is presented in the course, I try to decide if there is good supporting evidence.
   c. I treat the course material as a starting point and try to develop my own ideas about it.
   d. I try to play around with ideas of my own.
   e. Whenever I read or hear an assertion or conclusion in a course, I think about possible alternatives.

7) When doing a course:
   a. I usually study in a place where I can concentrate.
   b. I make good use of study time.
   c. I find it hard to stick to a study schedule.
   d. I have regular place set aside for studying.

Taking into account the previous answers, what kind of user do you think you are? Please, write a self-description and connect your answer to the types of users previously described:
REFERENCES


