Motivation in a Language MOOC: Issues for Course Designers

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Abstract: Whilst several existing studies on foreign language learning have explored motivation in more traditional settings (Dörnyei, 2003), this paper presents one of the first studies on the motivation of participants in a MOOC.

The MOOC, *Travailler en français* (https://sites.google.com/site/mooctravailleren-francais/home), was a 5-week open online course for learners of French at level B1 of the CEFR, and aimed to develop language and employability skills for working in a francophone country. It took place in early 2014 and attracted more than 1000 participants.

Intrinsic motivation (Wigfield & Eccles, 2000) is directly linked to one's enjoyment of accomplishing a task. We conducted a study based on the cognitive variables of the Self-Determination Theory (Deci & Ryan, 1985), and adapted the Intrinsic Motivation Inventory to the context of a MOOC in order to understand the expectancy beliefs and task values of participants engaging with the MOOC.

Participants answered a 40 Likert-type questions on enjoyment/ interest (i.e. I will enjoy doing this MOOC very much), perceived competence (i.e. I think I will be able to perform successfully in the MOOC), effort (i.e. I will put a lot of effort in this MOOC), value/usefulness (i.e. I think that doing this MOOC will be useful for developing my skills), felt pressure and tension (i.e. I think I might feel pressured while doing the MOOC) and relatedness (i.e. I think I will feel like I can really trust the other participants).

Results highlight significant factors that could directly influence intrinsic motivation for learning in a MOOC environment. The chapter makes recommendations for LMOOC designers based on the emerging profile of MOOC participants, on their motivation and self-determination, as well as on the pressures they might feel, including time pressures. Finally, the extent to which participants relate to each other, and are able to engage in social learning and interaction, is a real challenge for LMOOC designers.

Keywords: LMOOC, motivation, self-determination, enjoyment, competence, usefulness, pressure, relatedness

4.1 Introduction

Although the term MOOC was coined in 2008, MOOCs emerged into the mass media in 2011, and The New York Times heralded 2012 as the Year of the MOOC (Pappano,

2012). MOOCS have been hailed in the press as democratising education, offering free learning or affordable education for all, especially from top-ranking universities; whilst there was mention of some of the problems, such as the high drop-out rates of MOOCS, up to 2013 much of the media reporting was positive (Haggard, 2013). Although it has been generally acknowledged that MOOCs provide access to education on a massive, international scale (Educause, 2012), it is only in the last year or so that an understanding is beginning to emerge of who exactly the MOOC participants benefiting from this education bonanza are.

Christensen et al. (2013) conducted research on students enrolled in the University of Pennsylvania's 32 MOOCs offered on the Coursera platform, and concluded that students tended to be young, well educated, in employment, and mainly originate from developed countries. De Boer et al.'s (2013) investigation of a single MOOC, MITx *6.002x: Circuits and Electronics*, which had more than 150,000 students, also concluded that, whilst students came from a wide variety of geographical backgrounds, most had a graduate or postgraduate qualification. In his comparative study of c-MOOC and x-MOOC participants, Rodriguez (2012) also reported that they were mostly well-educated to at least graduate level, and employed. Christensen et al. (2013) explained that the students' main reasons for taking a MOOC were advancing in their current job and satisfying curiosity, something which has also been corroborated by De Boer et al. (2013), who cite personal challenge and employment/job advancement opportunities as the two main reasons cited for participating in their MOOC.

So, whilst MOOCs might have been seen as opening up education, some exploding of the MOOC myths are beginning to be heard. Laurillard (2014), for instance, argues that the idea that some content is "free" does not mean that it does not have to be curated – and that comes at a cost; she also argues that MOOCs will not solve the problems of expensive university education in the West, or educational scarcity in emerging countries, which she exposes as a "cruel myth" precisely because of the profile of a typical MOOC learner that is beginning to emerge.

So far, little research has been conducted into the profile of participants specifically in language MOOCs, with perhaps the notable exception of Bárcena et al. (2014). Their 2013 *Professional English* MOOC, the first language MOOC in Spain, attracted students that were geographically and linguistically fairly homogenous (mostly from Spain and Latin America) and well-educated (half of the participants were university graduates, nearly a quarter of them were undergraduates and almost 10% were postgraduate students). Nearly half of the participants were aged between 36 and 45 years, and 61% were female. In terms of English language ability, the authors explain that "they all had to take a diagnostic test at the beginning of the course and they were in the bracket of A2+ / B1 according to the Common European Framework of Reference" (Council of Europe, 2001). The participants in another notable LMOOC, Fernando Rubio's *Improving your Spanish Pronunciation,* also had a similar profile:

well-educated to graduate level or above, and overwhelmingly doing the MOOC for personal interest (Rubio, 2014).

In the scant LMOOC literature, some difficulties around creating and running language MOOCs and some recommendations for LMOOC designers are beginning to emerge. For instance, Bárcena et al. (2014) report on challenges such as "the change of role of teachers [...] away from being an instructor, how to provide effective feedback with such an unbalanced teacher-student ratio, the sheer heterogeneity of the group and the difficulties of the individual evaluation of language communicative competences." (Bárcena et al., 2014, p. 12). Perifanou and Economides (2014b) have surveyed and classified language MOOCS using the MOILLE (Massive, Open Interactive Language Learning Environment) framework, which evaluated LMOOCs against six dimensions: content, pedagogy, assessment, community, technical infrastructure and financial issues. Some of the issues they highlight are the fact that a high level of interaction is difficult to achieve, that it is difficult to engage in social learning of language skills, that there is a substantial time cost for educators, and that LMOOCs, like other MOOCs, have big drop-out rates. One of their key recommendations is that course designers should try to "keep high students' degree of motivation and self-direction" (Perifanou & Economides, 2014a).

In this chapter, we want to consider some of the aspects highlighted above in the context of a specific language MOOC, *Travailler en français*, which took place in the winter 2014. In our research, we wanted to gain an understanding of the profile of the participants in the MOOC, but also, importantly, of their motivations and of whether the MOOC fulfilled their initial objectives. In that sense, our research relates closely to the agenda set out by Colpaert (2010) in his work on educational engineering as a research method. Colpaert has highlighted the importance of the identification and formulation of personal goals. These can be conceptualised as "design concepts derived from an abstraction of hidden factors that stimulate or hinder a group or subgroups, personas in the learning process. They are not necessarily psychological realities, which would be hard to prove. They are assumptions about some aspects of the user which have appeared to be of decisive importance for the design process." (Colpaert, 2010, p. 296). This author points to self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000) autonomy, and relatedness. We discuss the SDT concept of needs as it relates to previous need theories, emphasizing that needs specify the necessary conditions for psychological growth, integrity, and well-being. This concept of needs leads to the hypotheses that different regulatory processes underlying goal pursuits are differentially associated with effective functioning and well-being and also that different goal contents have different relations to the quality of behavior and mental health, specifically because different regulatory processes and different goal contents are associated with differing degrees of need satisfaction. Social contexts and individual differences that support satisfaction of the basic needs facilitate natural growth processes including intrinsically motivated behavior and integration of extrinsic motivations, whereas those that forestall autonomy, competence, or

relatedness are associated with poorer motivation, performance, and well-being. We also discuss the relation of the psychological needs to cultural values, evolutionary processes, and other contemporary motivation theories. Self-determination theory (SDT) which "attempts to explain human choices on the basis of the innate psychological needs for competence, relatedness and autonomy" is one of the theories that is instrumental in situating this approach (Colpaert, 2010, p. 271).

As we were setting up the *Travailler en français* MOOC, there were a number of issues we knew we wanted to be able to understand. These included the profile of our MOOC participants, the use they made of the learning resources and tools we provided – both through the MOOC platform and through the social media tools (Facebook and Twitter), their intrinsic motivation at the start of the MOOC, and their engagement with and feedback on the activities on a week by week basis. Additionally, our use of social media tools was designed to augment the MOOC. Data from the social media analytics was observed in order to understand how information from MOOC activities disseminates through users of those platforms. We note that users of social media platforms are not all necessarily participants of the MOOC.

Like some of the early projects highlighted by Colpaert (2010), we believe some of the early MOOC research, including ours, "suffers from an unfocused approach, which was not yet methodical enough to yield formal and explicit knowledge" (p. 262). This is inevitable in a new and developing area, and is due in part to the experimental nature of many LMOOC initiatives so far, and in part to the tension that often exists between teaching and research interests of staff involved in the design and running of MOOCs. More importantly, it is to do with the transdisciplinary nature of the enquiry (Colpaert, 2004; Nicolescu, 2002). We will return to these issues at the end of the chapter.

4.2 Context: the MOOC *Travailler en Français*

The MOOC *Travailler en français* was a French language MOOC that ran for 5 weeks in the winter 2014 (with an additional week at the start for participants to get ready, and one at the end for the final evaluation) and was organised by the Instituts Français of Madrid, Milan, London and Bremen, and by the Department of Languages at the UK Open University[4]. It was aimed at learners of French at a level B1 of the CEFR (Council

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4 The Project was coordinated by Alix Creuzé (IF Madrid) and Jérôme Rambert (IF Milan), and the team was made up of colleagues from IF Madrid (Patrick Carle, Sarah Dosch, Pierre Fichet, Audrey Marcouiller, Noemi Mourer), IF Bremen (Béatrice Praetorius, Emmanuelle Serveau), IF London (Sandrine Chein, Tatiana Codreanu, Thierry Gauthier, Gaëlle Robin, Jessica Untereiner) , the Open University (Bill Alder, Tita Beaven, Hélène Pulker, Elodie Vialleton), and Marion Charreau, an independent consultant.

of Europe, 2001), and focussed on employability skills and, more specifically, on skills related to looking for a job in a French-speaking context. Approximately 1200 participants enrolled in the *Travailler en français* MOOC, which has been referred to as the first French as a foreign language MOOC (Vaufrey, 2013).

The team selected simple tools that were free to the participants, and that enabled them to work on a synchronous and asynchronous basis. The MOOC platform was a Google site and the course made extensive use of Google docs and surveys; the forum was hosted on Weebly, and we used Blackboard Collaborate for synchronous video-conferences. The activities and tasks were based around freely available resources and tools.

Different types of MOOCs are driven by different ideologies and pedagogic approaches (Siemens, 2012). Whilst cMOOCs tend to emphasise "creation, creativity, autonomy, and social networked learning" (Siemens, 2012, para. 3), xMOOCs tend to have a more traditional, transmissive, teacher centered approach, where content is often delivered through short video lectures and tested through quizzes. The *Travailler en français* MOOC was influenced by the principles of both cMOOCs and task-based MOOCs (Lane, 2012). From a connectivist point of view, the MOOC supported "participatory, distributed, and [...] life-long networked learning" (Cormier, 2010b). Although the MOOC platform formed the central spine of the course, both the social networking aspects and the use of distributed resources across the web meant that learning did not "take place in a single environment; instead, knowledge [was] distributed across the Web, and people's engagement with it constitutes learning" (Kop, 2011). At the same time, the MOOC was also designed around fairly authentic tasks, where participants had to, for instance, take part in a job interview simulation, or undertake an online careers advice test and discuss the outcomes with others in the forum.

The "rights" of participants were based on those developed by the organisers of the ITYPA *(Internet, Tout Y est Pour Apprendre)* MOOC (http://www.actionsfle. com/?p=822), an innovative French MOOC about tools, methods and strategies to better use the web for learning. The participants' rights were clearly stated and included the right to not take part, to lurk, skip weeks and not finish the course.

The MOOC was structured around five topics: how and where to look for work, the CV, the application letter, getting ready for a job interview, and working in a multicultural team. Each week included a series of specific tasks, although students also made further suggestions about resources or activities, which contributed to making a more dynamic environment. Each week also included two videoconferences, one with a language focus, hosted by a language teacher, and the other centered around the topic of the week, and including the intervention of an expert.

Kop et al. (2011) reflect that "different learning objectives and different life contexts of learners in an open course lead to different levels of participation in learning activities and subsequently to different learning outcomes", and point to "a maturing of eLearning users; the more experience in networked learning and through MOOCs,

the higher the level of participation". They distinguish between those that were "confident with the technology and with the topic under discussion" and thus "produced artifacts and created learning networks", and the "new MOOCers", where "there was a higher level of consumption of resources created by others." (Kop et al., 2011, p. 88). In the case of the *Travailler en français* MOOC, participants were mostly new to MOOCs and had to deal with a triple challenge: working in a foreign language, using or acquiring technical competences, and learning in a new online environment.

4.3 Research Methods

For this study, we adopted a mixed methods approach, which has also been used in other MOOC research (Bárcena et al., 2014). We gathered user data from the MOOC platform through Google Analytics, as well as data generated by analytics reports of use generated by Facebook and Twitter. We also included self-evaluation questionnaires at the end of every week to further understand the appraisal participants were making of the MOOC and of their own learning. For this chapter, we have analysed the results of the first self-evaluation questionnaire they completed at the end of week 1, and the last one at the end of week 5, as well as the mid-point one at the end of week 3. The questionnaires included eight statements which students had to agree with on a five-point Likert scale. Four questions were common to all self-evaluation questionnaires and were designed to find out the following: whether participants had experienced any technical difficulties; whether they thought the activities were appropriate for the level of French expected of participants (B1 of the CEFR); whether they had met other participants that shared their interests and with whom they'd been able to interact and collaborate; and whether the week's activities were useful in terms of helping them fulfil their initial objectives. The other four questions related to the specific knowledge or skills learnt or practiced during each week. In addition, students were asked how long they had spent on the MOOC activities that week. There was also the opportunity to give feedback through an open comment section.

When designing the self-evaluation questionnaires, we were concerned that, whilst they would provide some useful feedback on the weeks' activities, they were not based on a robust theoretical approach. We decided to focus on researching the intrinsic motivation of the MOOC participants in order to answer the following question: *What are the intrinsic motivational characteristics that learners demonstrate prior to starting the MOOC and how can course designers adapt their approach to meet these intrinsic motivational characteristics?*

Studies on motivation have focused mainly on two kinds of approaches: socio-psychological (Gardner & Lambert, 1972) and cognitive (Atkinson, 1957; Bandura, 1997; Deci & Ryan, 1985; Eccles, 1983; Pintrich & Schunk, 1996; Wigfield & Eccles, 2000). The first approach takes into account the instrumental motivation (Gardner & Lambert, 1972). The second approach considers motivation as a dynamic process that

is dependent on multiple factors. Several existing studies on foreign language learning have explored motivation (Dörnyei, 2003; Ohki, Hori, & Nishiyama, 2009). For our study, we decided to conduct an initial survey based on Deci and Ryan's Intrinsic Motivation Inventory (IMI) (Deci & Ryan, 1985; Ryan, 1982), which has been used in a number of experiments relating to intrinsic motivation and self-regulation. Intrinsic motivation (Wigfield & Eccles, 2000), is directly linked to one's enjoyment of accomplishing a task, and the IMI is designed to assess the participant's interest/enjoyment, perceived competence, effort, value/usefulness, felt pressure and tension, perceived choice (while performing a specific activity), and relatedness to others. The survey we designed for this study is based on the 45-item "Post-Experimental Intrinsic Motivation Inventory"[5], which we adapted to the context of our MOOC.

As with other MOOC evaluation and research, we found that there are issues about the open nature of the MOOC that mean there is a decreasing number of participants, and therefore of respondents, as the MOOC progresses. Also, participants had the "right" not to take part in activities they did not want to so, whilst 507 of the approximately 1200 registered participants responded to the IMI (a response of over 40%), only 56 responded to the self-evaluation questionnaire at the end of week 1, 25 to the one at the end of week 3, and 25 to the one in week 5. Moreover, we do not really know whether the participants who responded to the three self-evaluation surveys were the same for all surveys. In spite of these uncertainties and limitations, which we believe are intrinsic to researching open environments such as MOOCs, in the next sections we shall attempt to provide an analysis the data and a discussion of our findings.

4.4 Profile of the *Travailler En Français* MOOC Participant

From the analytics data we know that the main countries of origin of the MOOC participants were Spain (36%), France (23%), Italy (9%) and the UK (5%,) but the MOOC attracted participants from more than 36 countries (including Morocco, Germany, USA, Algeria, Mexico and Greece). In that sense, the MOOC provided participants with an environment in which they could experience first-hand some of the issues about intercultural communication that were discussed in the course; at the same time, we would argue that they needed to already have some degree of intercultural awareness in order to succeed in the MOOC. Indeed, McAuley et al. (2010) remind us that "social competencies and capacity or experience in extending beyond one's own cultural context" are invaluable in a MOOC that attracts participants from a variety of different countries (McAuley et al., 2010, p. 50).

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5 http://www.selfdeterminationtheory.org/questionnaires/10-questionnaires/50

In terms of the background of the participants, we added a number of additional questions to the IMI initial survey to find out more about their profile. Valid answers to those questions (n.507) revealed that nearly half of the participants were employed (35.5%) or self-employed (10.8), and a third (29.5%) were students.

Of those that described their area of activity in the same questionnaire (n.349), over a third (36%) were in education and 24% worked in the area of science and technology. The others worked in a range of fields, including health and social areas, tourism, public administration, finance and insurance, leisure and the arts, and legal professions, describing a fairly wide range of professional domains.

In terms of their language skills in French, of the 427 respondents to that questions, 200 (46%) rated themselves as having the level the MOOC was aimed at (B1 of the CEFR), and most of the others (41%) had a level above that required, whilst only 11% had a level below B1.

In conclusion, the profile of the *Travailler en français* MOOC participants is quite similar to that of the participants of other LMOOCs: they had a good level of education and were in education or employment at the time of taking part in the MOOC. In addition, they were a fairly international mix, and their linguistic ability in French was at or above that expected by the MOOC designers.

4.5 Analytics: Platform Use and Social Media Metrics

The MOOC was supported by social media activity. Content linked to MOOC activities was posted on Facebook and Twitter. Twitter data analysis shows that the content that generated the most user engagement were pictures and content sent during the videoconferences[6] (Figure 4.1).
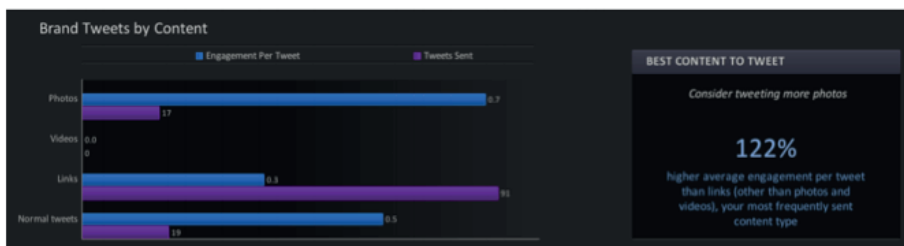

Figure 4.1: Tweets by content

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6 Data gathered through Simply Measured (www.simplymeasured.com)

Additionally, it was observed that a high percentage of the MOOC content was retweeted through mobile platforms. We set up an API to track how information was disseminated through and between different users[7] (Figure 4.2).

Figure 4.2: Data visualisation of the Twitter account

Through this approach, we identified 79 users actively interacting (through tweets, mentions and retweets) with the MOOC account. Nodes (indicated by circles in Figure 4.2) represent users who reply to and mention MOOC's activities. Dotted lines represent mentions of the MOOC and solid lines represent the social conversation between Twitter users about the MOOC. It is possible that users on Twitter and Facebook might have had a positive impact on participants' further engagement on MOOC's activities; however, this hypothesis needs to be further explored and goes beyond the purpose of this paper.

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7 Data gathered through TAGSExplorer (Martin Hawksey) which uses Google Visulisation API and Twitter Web Intents API to represent relationship between raw data (http://hawksey.info/tagsexplorer/)

Google Analytics data indicated that users accessed at least 12 different pages of the MOOC for an average time of over 4,17 minutes per page during the first weeks of the MOOC, and 3,39 minutes per page during the last week of the MOOC. To what extent this is typical of LMOOCs remains to be evaluated, and the whole area of user experience in LMOOCs is a possible avenue for future research. Further investigation would be needed through user interviews to assess the usefulness of the materials and reasons for demonstrating such usage behaviour and should also focus on usability, accessibility, understandability of information, navigational issues, among other aspects, to identify whether they have an impact on their utilization of the MOOC website.

The MOOC generated a large amount of data which provides more opportunities to study user behaviour. As highlighted by Siemens and Long, Big Data and analytics are "the most dramatic factor shaping the future of higher education" (Siemens & Long, 2011, p. 31), indicating their usefulness for the benefit of future MOOCs. This data needs to be analysed through a more scientific approach beyond traditional academic settings, blending rich information gathered through analytics in order to benefit stakeholders (including MOOC designers), giving them insights on how to realize personalized MOOC learning experience.

Additional large-scale research could highlight how teachers on a MOOC can make sense of real-data (velocity, volume, variety) surrounding the MOOC and how they can control it to find and share information to build a connected community that benefits their teaching. As we will discuss below, the issue of how to better engage LMOOC participants in social learning and increase the interaction between them is a challenge for LMOOC designers, as reported by Perifanou and Economides (2014b), and a careful use of social media to support networks of learners is an issue for further research and development.

4.6 Regular Student Self-Evaluation

As mentioned above, at the end of every week we included a short self-evaluation questionnaire. A summary of the data analysis is included in the three tables below (Tables 4.1-4.3), but we shall focus our discussion on some of the issues that we found most interesting.

Table 4.1: Self-evaluation questionnaire, week 1

Week 1 (n 56)	Mean	SD
1. I had no technical difficulties this week.	3.803	1.016
2. I found the activities for this week corresponded to the level the MOOC was advertised at, i.e. B1 of the CEFR (intermediate).	3.910	1.116
3. I met people on the MOOC that shared my areas of interest and I was able to interact and collaborate with them this week.	2.375	1.287
4. During the week I found out about the different stages of a plan of action for seeking employment.	3.785	0.846
5. I did an online audit of my skills using the Kledou tool, and it was a useful experience.	3.875	1.176
6. I learnt to use the Eures website to find a job using different criteria	3.535	1.249
7. Thanks to the activities undertaken, I think I know better where and how to look for work in francophone countries.	4.035	0.761
8. I found the suggested activities were useful in helping me fulfil my initial objectives.	3.982	0.884

Table 4.2: Self-evaluation questionnaire, week 3

Week 3 (n 25)	Mean	SD
1. I had no technical difficulties this week.	3.92	0.862
2. I found the activities for this week corresponded to the level the MOOC was advertised at, i.e. B1 of the CEFR (intermediate).	4.12	0.781
3. I met people on the MOOC that shared my areas of interest and I was able to interact and collaborate with them this week.	2.56	2.56
4. I was able to identify the characteristics of a formal letter.	4.68	0.476
5. I have understood how to write a formal letter in French.	4.48	0.918
6. I have written an letter of application to suit my needs.	3.68	1.375
7. Thanks to the activities undertaken, I think I know better how to adapt to the situation of looking for work in a francophone context.	4.2	0.763
8. I found the suggested activities were useful in helping me fulfil my initial objectives.	4.48	0.714

Table 4.3: Self-evaluation questionnaire, week 5

Week 5 (n 25)	Mean	SD
1. I had no technical difficulties this week.	4.16	1.106
2. I found the activities for this week corresponded to the level the MOOC was advertised at, i.e. B1 of the CEFR (intermediate).	4.52	0.822
3. I met people on the MOOC that shared my areas of interest and I was able to interact and collaborate with them this week.	2.8	1.607
4. During the week I have analysed and understood certain situations of culture shock.	4.16	1.143
5. I have identified certain stereotypes relating to work and nationality.	4.68	0.556
6. I have learnt to use appropriate forms of address in a professional context, including the use of tu/vous, and to adapt to different situations depending on the context.	4.2	1.040
7. Thanks to the activities undertaken, I think I know better how to adapt to a work situation in a multicultural context, and to resolve intercultural problems (openness, respecting others, understanding on one's own culture, flexibility, adaptability, empathy).	4.32	0.945
8. I found the suggested activities were useful in helping me fulfil my initial objectives.	4.64	0.7

In terms of technical problems, as the MOOC progressed, participants' responses indicated that they had fewer of these. Similarly, as the MOOC went on, participants seemed to be more in agreement with the statement that the activities corresponded to the stated level of the module (B1). Without being able to track the respondents, we can only speculate, but the most likely interpretation is that participants who were experiencing either technical or linguistic difficulties probably dropped out of the MOOC.

The third statement, relating to meeting, interacting and collaborating with other participants, is the one that received the lowest level of agreement, although it becomes marginally higher as the MOOC progresses: overall, it seems, however, that participants did not think they had met peers that shared their interests and with whom they could interact and collaborate.

Statements 4-7 were specific to the content of each week, but sought to understand how far participants had engaged with the specific activities and content of that week. If grouped together, statements 4-7 achieve the following mean in each week: week 1:3.755, week 3: 4.147 and week 5:4.187. It appears that in weeks 3 and 5 students have engaged more with the activities and content that in week one. It might be that in week one they were still finding their way, or "orienting" (Cormier, 2010a), or again that those that were not engaging with the activities and content of the MOOC simply

dropped out as the course progressed. In weeks 3 and 5, the activity that gets the lowest agreement, "I have written a letter of application to suit my needs" is also the only one that involved a written production activity typical of the traditional language classroom – one might conclude that this task simply required too much effort for the perceived gain.

Finally, as the MOOC progressed, students agreed more with the statement "I found the suggested activities were useful in helping me fulfil my initial objectives". The issue of cause and effect is one that is not clear from the data and would require further research. As the course progressed, students were finding that the MOOC was better fulfilling their original objectives; whether this was to do with the MOOC design, the students' intrinsic motivation and self-determination, or simply with the fact that those that did not feel the MOOC was fulfilling their objectives dropped out, is difficult to ascertain without further research.

4.7 Intrinsic Motivation

The results for the IMI (Deci & Ryan 2000) obtained through the survey participants did at the start of the MOOC have been summarized in Table 4.4. As we outlined in the methods section, the IMI is designed to assess the participant's interest/enjoyment (or intrinsic value), perceived competence, effort, value/usefulness (i.e. utility value), felt pressure and tension, perceived choice (while performing a specific activity), and relatedness to others. We decided not to test for perceived choice, as we assumed all participants in the MOOC were there by choice, but included items for all the other variables. We separated perceived competence into perceived competence in ICT and perceived competence in French, as we thought a perceived lack of competence in either of these might be a source of demotivation for participants. In terms of pressure/tension, we similarly included two sub-sections, one on pressure/tension caused by ICT and one caused by French language proficiency, and a further one, on pressure/tension caused by lack of time. An additional question asked participants how long they thought they would spend on the MOOC every week.

The scores demonstrate the degree of self-determination and autonomous motivation among students. The resulting values of intrinsic motivation and utility were the highest, with a fairly low standard deviation, showing that respondents were broadly in agreement with each other. Students thought the MOOC would be interesting and enjoyable, and that it would be useful in general as well as in terms of improving or maintaining their level of French and of ICT, and in finding a job in a French-speaking country.

Table 4.4: Summary of results of the initial IMI questionnaire

	Mean	SD
Intrinsic Value	4.311	0.805
Perceived competence ICT	3.592	1.108
Perceived competence FR	3.562	1.132
Effort	3.867	0.899
Pressure/Tension	2.505	1.105
Pressure/tension FR	2.714	1.313
Pressure/tension ICT	2.393	1.216
Pressure/tension Time	3.312	1.200
Utility value	4.154	0.987
Relatedness	3.162	0.950

Key: **Bold** indicates standard subscales

Perceived effort also scores fairly highly, and links to the time that participants think they will spend on the MOOC every week, which broadly adds up to between one and four hours. When compared with the estimations of how long participants reported to have spent on the MOOC in the different weeks, it seems that the initial assumptions were broadly correct, although it is noticeable that more people spent less than one hour on the MOOC in weeks 1 and 3 than anticipated (and did they perhaps drop out, as nobody spent less than one hour in week 5?), and more people spent five hours or more, especially in weeks 3 and 5, possibly indicating that, as the MOOC progressed, participants spent longer on it. Another possible explanation is that it is the participants that spent longer on the MOOC that are the ones who finished it, perhaps because they were more committed to the course.

The IMI identified three areas of possible pressure/tension: pressure/tension caused by ICT, by French language proficiency, and by lack of time. Although the values are not particularly high, indicating that participants did not feel any particular pressure or tension because of these factors, the value for the perceived pressure/tension relating to the time they expected to spend on the MOOC scored higher than the other two values (French and ICT skills), so time was the issue that concerned them the most. This is consistent with the IMI results for the perceived effort variable, which scored high, meaning that participants thought the MOOC would require some effort from them. Similarly, it is consistent with the time spent in the MOOC, both as anticipated and as self-reported, and with the fact that the percentage of participants spending five hours or longer on the MOOC increased as the MOOC progressed.

Table 4.5: Time spent on the MOOC (anticipated and self-reported)

How long on average do you intend to spend on the MOOC per week?	IMI (n 428)	W1	W3	W5
Less than an hour	3% (14)	9%	8%	0%
One to two hours	40% (191)	41%	20%	40%
Two to four hours	45% (215)	33%	40%	40%
Five hours or more	13% (62)	16%	20%	20%

Finally, respondents' expectations on relatedness to the other participants was observed to be moderately high. Relatedness was identified in the IMI with level of trust and feelings of closeness in regards to other MOOC participants. Interestingly, the anticipated relatedness did not seem to materialise in the MOOC, and the lowest scores in the weekly surveys are for agreeing with the statement that participants had met others in the MOOC that shared their interest and with whom they could interact and collaborate. One possible reason for this is to do with the design of the MOOC; with hindsight, we think the forum for interaction between participants was not as well integrated as it is on other MOOC platforms: in the FutureLearn platform (future-learn.com), for instance, discussion spaces are built seamlessly into the activities, and we speculate that the more seamless and intuitive the spaces for interaction, the more likely it is that interaction will take place.

4.8 Conclusion

As teachers running a language MOOC, we were keen to find out about the profile of the MOOC participants, to understand their achievements and satisfaction with the proposed activities, their interaction with the MOOC platform, and with each other, both in the MOOC forum and the videoconferences, and through the social media related to the course. We also wanted to understand how long they actually spent on the MOOC. At the same time, as researchers, we also wanted to set up a firmer research agenda for the *Travailler en français* MOOC, and wanted to use a solid theoretical framework to find out about the intrinsic motivational characteristics of learners prior to starting the MOOC, as we thought these would give us some pointers in terms of MOOC design. Our recommendations for LMOOC designers, based on the evaluation of the *Travailler en français* MOOC are as follows.

First of all, in the near future, there is no reason to doubt that participants will probably continue to conform to the profile that has started to emerge both in MOOCs in general and in LMOOCs in particular. LMOOC designers can probably assume that participants will be fairly well educated, young, in education or employment,

and mostly from developed countries. Although we might subscribe to the potential MOOCs have to democratise education, and to the social justice mission they might fulfil, widening participation in MOOCs is still a challenge, as participation in a MOOC makes demands and assumptions of the participants in terms of technical ability and of a degree of familiarity with the subject (in our case a degree of language expertise). Furthermore, as Downes (2012) explains, MOOCs expect that participants "will have learned how to learn [...] it isn't about teaching these skills in a MOOC. Suggesting that this is or ought to be the function of a MOOC is to misunderstand it."

Secondly, because participation in a MOOC is voluntary, LMOOC designers can probably expect their participants to be well-motivated. Ours certainly were, and the results of the IMI questionnaire demonstrated a degree of self-determination and intrinsic motivation. Moreover, as well as believing that the MOOC would be interesting and enjoyable, participants also thought the MOOC would be useful. The self-evaluation questionnaires revealed that those that persevered had, in fact, found it useful. As Downes (2012) explains, this is an intrinsic characteristic of MOOCs: "one big difference between a MOOC and a traditional course is that a MOOC is completely voluntary. You decide that you want to participate, you decide how to participate, then you participate. If you're not motivated, then you're not in the MOOC." As MOOC designers, we are therefore in a rather privileged position of actually producing and running courses for very well motivated learners.

However, it is important that we do not underestimate the pressures about which MOOC participants might be concerned. In our MOOC, participants did not feel particular pressure or tension because of the linguistic or technical demands the course might put on them. They were, however, slightly more concerned about time pressure. Whilst their assumptions about how long they might have to spend on the MOOC were broadly correct, it seems that, as the MOOC progressed, fewer participants spent less time on the MOOC, and more participants spent longer. It might be that those that only had a very limited time to spend on the MOOC dropped out, and that the ones that were left were the ones that were more committed to the MOOC, and therefore they spent more time on it. As MOOC designers, we must take into account that participants will be well motivated, but also consider carefully what factors might cause pressure or tension in the MOOC participants, and try, where possible, to mitigate them.

We would like to finish this chapter by returning to something we raised in the introduction. As an advocate of Educational Engineering as a research method, Colpaert (2010) explains that both "education in general, and language teaching in particular, will always be amenable to improvement and therefore should always be a process of constant re-engineering, developing new working hypotheses on the basis of practical experience and theory" (Colpaert, 2010, p. 271). In attempting to understand and explain the processes and products of educational endeavours, he points out three of their main features: "transdisciplinarity, slowness and being undervalued". Colpaert (2004), drawing on Nicolescu (2002), explains that "the design

method as problem-solving technique should draw from the various disciplines involved, such as pedagogy, SLA, linguistics, software engineering, and psychology". We have certainly found that to be the case in this project, and are convinced that we need transdisciplinary teams to actually tackle some of the complexities involved in both designing MOOCs, and in researching them. Colpaert also explains that as language teachers working with technology, our research is extremely slow: because we research and evaluate real instances of teaching, our real-world lifecycle loops (analysis, design, development, implementation, evaluation) often take one or more years. This, he explains "often conflicts with the increasing pressure to publish, which brings us to the third feature: being undervalued." (Colpaert, 2010, p. 272). He goes on to advocate that Educational Engineering be recognized as a research method in education. One final recommendation for MOOC designers, therefore, is that they adopt an educational engineering approach to the development and evaluation of their work and embrace the transdisciplinarity and the timeframes needed to make sense of the new phenomenon of LMOOCs.

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