

## Digital Transformation in the Classroom: Storytelling and Scriptwriting in Instructional Designing of MOOCs

Halvdan Haugsbakken

Department of Sociology and Political Science, Norwegian University of Science and Technology, Norway

### Abstract

Over the years, a body of studies on online learning has documented low completion rates in MOOCs among learners, an educational challenge that has created the phenomenon “funnel participation”. This educational challenge refers to that thousands of online learners register but only small groups complete MOOCs they signed up for. Normally, persons who complete online courses have a demographic background, ambitious males in their 30s with a master-degree working in IT or business and management. Such factors raise concern among researchers about the overall quality of MOOCs and how they are designed to foster engaging learning experiences. Recent research concludes that the instructional quality of MOOCs is low and that MOOC designers need to re-think how they create future online learning experiences. In light of this matter, this working paper forwards a conceptual approach on how online course designers can use storytelling and scriptwriting as pedagogical strategies to enhance the instructional quality of MOOCs. This subject matter is exemplified by outlining the course design of a MOOC aimed at preparing teachers to use digital technologies in a classroom setting. The learning material of the MOOC is research based and builds on a field study that explored how a teacher used digital technologies in foreign language training at a Norwegian high school.

**Keywords:** Storytelling, scriptwriting, course design, digital competence, MOOC.

### Introduction

Since the inception of MOOCs in 2008, a growing research stream pays attention to record the social dynamics of learning communities materializing in large online courses. For example, it is now widely established knowledge that MOOCs have large dropout-rates at almost 90 per cent, and the completers are often proficient learners, in many cases, males in their 30s holding a master's degree and working in IT or business and management. This educational weakness creates a challenge for the MOOC community, a matter researchers for some time has called “the funnel participation” (Clow, 2013). Therefore, low completion rates in MOOCs spawn a series of new studies attempting to discover and predict the behavior of online learners on the verge of dropping out and what strategies can be used to retain them (Dalipi, et.al 2018; Henderikx et.al., 2017; Hong, 2019 et.al; Hong, 2017 et.al.; Li, 2018; Onah, et.al. 2014). Meta-studies conclude that the instructional design of MOOCs is of low quality (Margaryan, et.al. 2015), meaning that online course designers need to put more focus on how MOOCs are designed and develop effective pedagogical strategies for online learning. Recent studies, however, start to experiment with new pedagogical designs and strategies to enhance the learning experience in MOOCs. For example, work-in-progress studies show that course designers embed warm-up exercises into discussion forums (von Schmieden, et.al. 2019) or design enigmas into online exercises (Bruillard, et.al. 2019).

The above pushes the MOOC community to put focus on instructional design processes of online courses. The challenge is to find approaches to keep learners interested in learning and motivate them to complete courses. This can be solved by using *gamification* (Abu Bakar et.al., 2017; Chang et.al., 2016; Karsenti et.al., 2016), but other pedagogical strategies should be considered. For example, an approach can be to use *storytelling* and *scriptwriting* in instructional designing of MOOCs. Here, course designers can use story techniques as *plots*, *characters* and *narrative point of view*, and embed such elements into the overall course design of online courses as a way to create engaging learning environments. In this way, course designers would use storytelling techniques as applied in documentary films to tell a particular theme. Such approaches can help to create authentic learning experiences that online learners can identify and engage with, and perhaps boost the instructional quality of online learning.

Nevertheless, producing a MOOC by use of storytelling techniques would demand considerable planning and designing from MOOC course creators. But it would perhaps constitute a more engaging learning experience than only using video lectures and group exercises to disseminate knowledge about a particular topic. Therefore, the main goal of this working paper is to establish a *conceptual perspective* on how a MOOC might look like, by using storytelling and scriptwriting as pedagogical strategies in instructional design processes of online courses. This objective is completed by providing a brief outline of the course design of a MOOC and account for how storytelling and scriptwriting are planned used in it. These aspects are exemplified in the course design of a MOOC aimed at preparing teachers to use digital technologies in a classroom setting. The conceptual perspective is developed over the paper's various parts. In the first part, I discuss how storytelling and scriptwriting can be applied as pedagogical strategies in instructional design of MOOCs. In the second part, I exemplify how storytelling and scriptwriting can be used in the design of a MOOC, while the third part briefly discuss the paper's conceptual analysis before the paper is concluded.

### **Part I: A need for storytelling and scriptwriting in instructional design of MOOCs**

In a highly provocative and normative study of the instructional quality of online courses, Margaryan, et.al. (2015) conclude that MOOCs score essentially low on instructional design principles. Based on sample of 76 randomly selected MOOCs, Margaryan, et.al. (2015) develop a quantitative approach for quality criteria for MOOCs, quality criteria based upon the First Principles of Instruction, a framework that builds on the work of Merrill (2002;2009; 2013) and Margaryan (2008) and Margaryan, et.al. (2005). For example, for a MOOC to be regarded as qualitatively decent, the learning activities should include ten principles essential to learning. First, online courses need to be *problem-centered*, in the sense that online learners work best when they learn about real world problems. Second, MOOCs should include elements of *activation*, meaning that learning takes place when online students activate a skill and knowledge to form a new skill. Third, learning activities in MOOCs must involve the ability for *demonstration*, meaning that learners can observe the skill they are going to learn. Fourth, online learners must have the possibility to apply what they have learned to solve a problem, entailing that *application* is quintessential for learning activities in MOOCs. Fifth, *integration* is the possibility where learners can discuss and defend a skill they have just learned. Sixth, MOOCs should contain the prospect for students to contribute to an online community's with *collective knowledge*. Seventh, online learners should have the possibility to work together with others by forms of *collaboration*. Eighth, a MOOC appears to be of quality when online learners possess the option to work across different settings with different learning resources, meaning access to *differentiation*. Ninth, online learners should have the possibility to have access to learning resources coming from a real-world setting, implying the principles of *authentic resources*. Tenth, for learning to take place in MOOCs, students need to have *feedback* from expert instructors and peers on the assignments they perform.

In the analysis to follow, we can read about how Margaryan, et.al. (2015) complete a rather systematic analysis and demonstrate that MOOCs score very low on the First Principles of Instruction, rendering an idea that MOOCs are seldom designed to facilitate learning in the best possible way, but is more aimed at branding and monetizing. Nonetheless, Margaryan et.al. (2015) can be right or erroneous, but their analysis raises a fundamental concern about how MOOC creators should design online courses and craft sustainable learning experiences that will motivate learners to complete MOOCs. And this work is very much completed in the designing of them. In this regard, Margaryan et.al. (2015) offer an important "checklist" on what type of elements should be included to safeguard for learning, but they give little clues to the how's and what's on how to apply the First Principles of Instruction in practice. For example, there seems difficult to find a template or standard explaining how a MOOC based on the First Principles of Instruction should look like. The challenge lies within finding a tangible structure and examples that MOOC creators can use. This would be helpful to many online educators. Nevertheless, there are many other challenges to overcome than just claiming that MOOCs miss the ten principles for learning. One challenge of many, however, lies in how to structure the principles for learning into a particular organizing for learning consisting of engaging learning activities and learning resources that would make up an online course. This is considerable harder work and demands a lot of teamwork and creativity. To achieve that goal, the MOOC community needs a comprehensive toolbox with suggestions to make MOOCs of high quality.

Therefore, an approach to solve instructional design flaws in MOOCs, one can begin with looking at how MOOC creators can use storytelling and scriptwriting as pedagogical strategies in instructional design processes of online courses. Here, one can for example connect storytelling and scriptwriting to the ten principles of learning and relate them to Bruner's (1991) theoretical framework of narratives. Although it is broad, Bruner (1991) argues that narratives can be a powerful mean not only to *represent* but to *constitute* reality. For example, narrating the story of a teacher who has tried out digital technologies

in the classroom – represented and told in a MOOC – can be a mean that will talk more directly to the reality of learners. If a novice teacher learns the practices, success and failures of a peer, it can be plausible to assume that this can create the basis for personal identification to engage with the story of the digital classroom teacher. Potentially, this can create engagement in online learning processes. Even more, when MOOC learners engage with such a powerful story, one touches upon two of the ten principles for learning, *problem-centered* and *authentic resources*. The challenge that remains to be solved is how to create learning activities related to the told story. For example, this can be achieved by using digital storytelling, which I see different from storytelling. Digital storytelling is praised as a pedagogical strategy that can empower learners to become creative and critical thinkers (Robin, 2008). Learners can select a random topic of interest and carry out research and present interesting stories by use of digital technologies. In this way, they are *content producers* and learn from co-creation and collaborative processes. With the advent of social media apps, this adds further affordance to this aspect. Now, learners can engage in network learning interactions on global platforms and be part of online learning communities and receive feedback from peers. Web 2.0 technologies facilitate for this, as they allow everyone to be content producers. In future MOOCs, for example, this means that course designers are challenged to conceive learning designs where learners work *continuously* with digital content throughout a learning process than working with learning material consisting of videos, texts, and tests. This gives another boost to summative and formative assessment.

Nonetheless, MOOC course designers cannot solemnly rely on storytelling but need to think through how they script instructional design processes of MOOCs. Therefore, I argue that scriptwriting needs to be devoted attention in instructional design processes of future online courses. By scriptwriting, I mean how motion pictures and documentary films use a variety of storytelling techniques to tell stories to engage an audience. For example, it is common with protagonists and antagonists, a good story, plot, themes, character development, plot points, a turning point, etc., characteristics that have transferable value to how MOOCs are designed. Elements from storytelling offers similar strategies used in scriptwriting (Robin, 2008). In the instructional design processes of MOOC, course designer can focus on: (1) *a point of view*, and ask what is the main point of the story; (2) *ask a dramatic question*, and explore a key question that keeps the learner's attention to the story; (3) *emotional content*, and direct attention to a serious topic as a mean to connect the story to the MOOC audience; (4) *use the gift of the voice*, which means to personalize stories in MOOC as a mean to better explain the learning objective; (5) *use the power of the soundtrack*, so that music or sound support the learning process; (6) *economy*, a measure to tell the relevant material to tell the story; and (7) *pacing*, a strategy that can be used to tell story either slowly and quickly to make a coherent and meaningful progression in a MOOC. Nonetheless, few studies attempt to explore storytelling and scriptwriting in MOOCs (Phan et al., 2016). In an interesting conceptual paper, for example, Roy (2017) explores the use of storytelling in a Canadian MOOC about business start-ups and entrepreneurship. Instead of providing an instruction based "recipe" to be implemented by learners, storytelling is used in context of creating authentic learning experience based on real-time examples. Here, the course designers invite persons who have started up their own businesses and they tell their stories on how they managed the various phases of becoming business entrepreneurs. By inviting them, one can play on authenticity and develop the educational strategy authentic learning techniques. This learning strategy is supported by focusing on real-world, complex problems, using role-play exercises, problem-based activities and participation in online communities.

## **Part II: An example of using storytelling and scriptwriting in instructional designing of a MOOC**

As the previous part established that storytelling and scriptwriting as pedagogical strategies for creating engagement in instructional design processes seem not to be well-developed, considering an example of practical use in a MOOC pertains. The planned MOOC we will consider is called, "The Digital Transformation in the Classroom", and is based on a sociological fieldwork conducted in a classroom at a Norwegian high school. The fieldwork lasted nine months, starting in August 2011 and ending in March 2012, a period covering the start of the school calendar and almost the entire educational loop. At the high school, the author of this working paper investigated how a female teacher used digital technologies in foreign language training. This allowed the author to obtain insights on what happens and the challenges transpiring from using digital technologies in the organizing of learning. The MOOC is based on a PhD-dissertation, conference proceedings and journal articles (Haugsbakken, 2016; 2014a; 2014b; Haugsbakken & Langseth 2014). The motivation for creating the MOOC, is related to a goal to explore an alternative way of disseminating research knowledge, which would be through scientific papers. It is more likely that practitioners will engage with an online course than reading scientific papers.

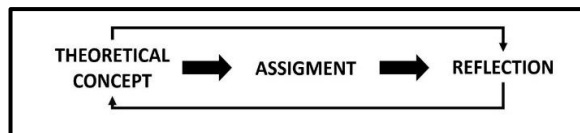
Therefore, the main objective with the MOOC is to pique the curiosity of teachers to become interested in using digital technologies in the organizing of learning in a classroom setting, and to equip them with an introductory understanding on

how such a classroom practice might look like. The planned MOOC wishes to defy the notion of a “traditional” classroom practice, which is assumed to be teacher-centered and use blackboard and textboard as main tools for organizing classroom practice. By taking the online course, one hopes that the participants might reconsider what happens to one’s classroom practice, if a teacher chooses to adopt digital technologies. Also, the MOOC intends to introduce learners to the meaning of digitalization and how this effects teaching practice in an educational setting, as a mean to enhance the digital competence of teachers. In that case, the MOOC’s theoretical inspiration does not build on established pedagogical perspectives on digital learning. Instead, it is motivated by organizational research and sociological perspectives on the relationships between technology and the organizing of work (Leonardi et.al, 2010), and the MOOC takes a social constructionist perspective on technology. In this research stream, a theoretical framework studies how ICTs are implemented in organizations and uses a practice perspective on technology (Orlikowski, 2000).

Then, in what ways are aspects from storytelling and scriptwriting used in the MOOC course design?

**Recursive core theory-action-reflection model:** The MOOC is planned to run on the international MOOC platform FutureLearn and uses FutureLearn’s template and approach to learning, which is rooted in a social constructionist approach to social learning. The online course lasts for three weeks. Each week has four to five subthemes which are called “activity” and each week consists of 15 to 20 “steps”. A step, according to the FutureLearn platform framework, means a web page containing an online learning activity, which can be a text, quiz, video or a question for discussion. In every step, FutureLearn has embedded a discussion feature, which is the main tool for facilitating social learning and building a community of practice. Overall, the MOOC contains about 50 learning activities. The main challenge in the instructional designing of the MOOC, nonetheless, is to convert research knowledge to a coherent online course consisting of many different unique building blocks that uses many different media modalities like text, video, pictures, sound, animation, etc. This work involves a *de-bundling* of academic texts to *re-bundling* an interactive and engaging learning setting. The greatest challenge is to “break-up” the linear written storyline and vernacular of an academic text and reassemble them in an empty MOOC framework designed for online social learning, where the latter part needs to be based on a set of principles for learning. The overall approach adopted to work with storytelling and scriptwriting used in the MOOC to create forms for online engagement, however, is to develop what I call a *recursive core theory-action-reflection model*. This is displayed Figure 1.

**Figure 1.** Recursive core theory-action-reflection model.



The basic idea behind the recursive core theory-action-reflection model, nonetheless, is that learners have an ongoing possibility to have quick access to perform a learning activity where they apply and reflect upon a theoretical concept they have just learned. The recursive core theory-action-reflection model follows a three-step logic. First, the learner completes a learning activity that involves being introduced for a *theoretical concept* related to the course material. Second, the learner *applies* the theoretical concept on a learning activity designed to be a *practical assignment*. Third, the learner performs a learning activity where he or she *reflect* and discuss the two learning activities they have just performed. This recursive core theory-action-reflection model is repeated and embedded into all three weeks making up the MOOC. The motive for designing the recursive core theory-action-reflection model, however, is related to that general engagement with digital technologies often involve an action of some sort. For example, technology users use social media apps to scroll, chat, touch, etc., meaning continuous engagement with the technology. Technology users seldom engage with digital technologies like *reading* a book, which is a different from of interaction with technology. It would not be ideal for an online course that learners have to read a lot of text before they complete an assignment. For such reasons, in instructional design processes, MOOC designers need to break down learning activities to smaller parts, which means to have learning activities consisting of short and accurate learning texts and videos lasting no longer than five to seven minutes. This core idea is scripted and integrated throughout each activity in the MOOC’s 3 weeks.

**A story about authentic use of digital technologies:** The way to use storytelling and scriptwriting in the MOOC is to connect them to a *story about a teacher who has used digital technologies in a classroom setting*. In the MOOC, the learners

get to know a female Norwegian high school teacher, Inger, who has tried out digital technologies in foreign language training, which the research is based upon. Inger teaches French, English and Spanish and has an interest for digital technologies. Inger has worked in the Norwegian high school system for three decades. Inger has no formal training in ICT but has for many years used digital technologies in her classroom. She is an “early adopter” of new technologies and has harvested her experiences by a trial-and-error approach of using digital technologies in her classes. Inger surfaces in the MOOC videos and is followed and explained by the course instructor, Halvdan, the researcher who was present in Inger’s classes. In this way, the learners are introduced to real-time challenges in using digital technologies in an educational setting. Then, the story asks; what is Inger’s experiences and how does she create learning activities in the classroom by use of digital technologies? What does Inger’s classroom practice look like and how does she organize her teaching practices? Learners are invited to learn and engage with the story of Inger’s digital classroom practice.

**Table 1.** Content for Week 1 in MOOC, understanding digitalization.

Week 1	Activity	Step	Name of step
Understanding digital transformation	The 4th industrial revolution	1.1.	Welcome
		1.2.	Who is Inger?
		1.3.	What to learn in week 1?
		1.4.	Behave with the mobile
		1.5.	From Steam to Data
		1.6.	The rise of the Platforms
		1.7.	What have you learned?
	Technologies and work	1.8.	Technology determinism
		1.9.	Production technologies
		1.10.	ICT in the office
	The social network	1.11.	What have you learned?
		1.12.	The network society
		1.13.	The fishing net article
		1.14.	Your social network discussion
	Adoption and implementation	1.15.	What have you learned?
		1.16.	Disrupting workflow
		1.17.	The implementation
		1.18.	Emergent practices article
		1.19.	Recursive use
		1.20.	Recap of week

**Relating digitalization to teaching practice:** The story about Inger’s digital classroom practice is divided into the three weeks which makes up the MOOC. In this sense, one can argue that the MOOC consists of three modules. In general, the story about Inger’s digital classroom practice has many overlapping challenges one finds in adopting and implementing new technologies in organizations. This means that the learners are mainly introduced to particular strategies they can use in planning and implementing digital technologies in classroom setting, which are modelled after Inger’s approach. As the MOOC is called “The Digital Transformation in the Classroom”, the course tries to deconstruct the ambiguous term “digitalization” and relate it to work practice. This aspect is reflected in the overall course structure. For example, the first week approaches the concept “digitalization”, while the story about Inger is devoted attention in week 2 and week 3.

Addressing the learning material in each week, the first week aims at *activating knowledge* and *raise awareness* of the digital era and relate this to the world of the learner by exploring sub-themes. The module gives the learner an analytical vocabulary on how to address the meaning of digital technologies. Learners are among other introduced to sociological perspectives on social networks, the network society, and organizational perspectives on implementing new technologies and the organizing of work. Week 2 introduces Inger to the learners and examines how she plans her classroom practice. Here, an important theme is *modelling*, and challenges teachers to think differently about how they plan and prepare for a digital classroom practice. The learners are introduced to four strategies to master the mentioned topic, which Inger used in her classroom practice. Week 3 sets emphasis on the challenges on implementing a digital classroom practice and introduces the learners to the theme of *enacting of technologies*. One wishes to raise awareness on that although Inger planned well ahead, when a plan is set into practice, the use of technologies can turn out differently than expected. Therefore, the module shows different strategies Inger used to tackle the mentioned challenge.

Table 2. Content for Week 1 in MOOC, planning for digital transformation.

Week 2	Activity	Step	Name of step
Planning for digital transformation	Designing a digital classroom practice	2.1.	What to learn in week 2
		2.2.	Modelling the classroom
		2.3.	Decouple and reconnect
		2.4.	What have you learned?
	Choosing the digtech kit	2.5.	Selecting and creating article
		2.6.	Inger's digtech kit video
	Mapping social networks	2.7.	Node-mapping
		2.8.	What learning goes on
		2.9.	Share your experience
	Forming knowledge	2.10.	Create knowledge
		2.11.	Themes over chapters
		2.12.	Working with themes
		2.13.	Acts for engagement
	Meaningful learning activities	2.14.	The news round
		2.15.	Share your experience
		2.16.	Blog and YouTube
		2.17.	Recap week 2

**The use of videos:** The MOOC has approximately 40 videos, 28 are self-made videos and the remaining are embedded YouTube videos. Each video has a learning objective and are related to the overall course. The videos are planned in the story's progression and fit into the overall course structure. The videos can be divided into three sub-genres, which gives better clue to what purpose they serve in the MOOC. First, the MOOC uses *talking head videos*. These are predominantly instruction-based and are used to explain theoretical concepts. The course leader start talking into the camera and explains a learning strategy Inger used, for example, and later the learner hears the course instructor talk by use of voice-over and see pictures, illustrations and edited video parts. For example, some videos explain the meaning of the strategy node-mapping while other focus on how to work with themes. These videos last between three to five minutes. Also, talking head videos are used to explain the learning objectives for each week and ask questions to the learners intended for the discussion forum. Second, the MOOC has several *interview videos*. The interview videos explore how Inger planned her digital classroom practice and the outcome of using them, focusing on benefits and challenges. The interview videos are edited according to a three-point approach, which means that they attempt to tell three essential experiences related to the learning activity in which the video is made to be a part of. For example, in an interview video Inger explains some of the learning activities she designed, like the newsround and how she uses reflection as a method to understand the consequences of using digital technologies. Third, the use of YouTube videos are embedded videos from the social media platform YouTube. Such videos can be recorded lectures, animation, and instructions videos.

Table 3. Content for Week 3 in MOOC, enacting digital transformation.

Week 3	Activity	Step	Name of step
Enacting digital transformation	Enacting the digital classroom practice	3.1.	Welcome to week 3
		3.2.	Enacting in the classroom
		3.3.	Growth in processes
	Trust management	3.4.	Establishing trust
		3.5.	Success and flop of blog
		3.6.	Share your experience
	Reflection-on-technology-in-practice	3.7.	Reflect on your actions
		3.8.	Situated changes
		3.9.	Reflect by debriefing
		3.10.	What did you learn?
	Emerging from enacting	3.11.	Emergent practices
		3.12.	Enacting the newsround
	Supervision and self-organization	3.13.	To be self-organized
		3.14.	Share your experience
		3.15.	Recap week 3

**The instructional design of learning activities:** Depending on use of definition, the MOOC has many learning activities, 53, that are essentially connected to the same number of steps. The instructional design of learning activities are intended

to engage and involve learners in the story about the teacher Inger and foster a learning community in how teacher can use digital technologies in their classroom. The learning activities break down the course's main story and introduces the learners to authenticity and real-complex-problems about using digital technologies in the organizing of learning. However, as the MOOC uses the FutureLearn platform, the course designer has limited possibilities in creating engaging learning activities. By simply using the features in the FutureLearn platform, for example, course designers have merely two options to create engaging learning activities, to ask questions and create quizzes or tests. The FutureLearn platform do not have peer-review features or means to submit work. To use such features, course instructors needs to use third-party solutions and embed them into the FutureLearn platform. In this sense, course instructors can only create online courses that favor social learning and use the discussion forum as a main venue for social interaction. In this regard, the instructional design of learning activities are interlinked and framed within in the activity section of the platform. In each activity section, two or more steps interlink learning activities intended to spark social learning. There are various ways the learning activities interlink. For example, in some activity sections, the learner first reads a text or watches a video, and then completes a quiz related to the learning activities she or he just performed. In this instructional design, the quizzes work as formative assessment, allowing the learner to validate theoretical concepts. This instructional designing of learning activities is used in week 1 of the MOOC. The instructional designing of learning in week 2 and 3, however, seldom uses quizzes but ask many different questions to learners. The questions serve the goal of involving and engaging the learner into the story about the teacher. Also here, the learner either start an activity section to read a text or watches talking head or interview videos and are then asked a question. The learner's answer is intended to be posted in the discussion forum and contribute to social learning and building a community of practice.

### Part III: Discussion

Although the field of instructional design is well-established, the craft of instructional designing of MOOCs seems to be in the making. The MOOC field needs to boost and put more focus on the instructional design of MOOCs as a mean to increase quality, as indicated by Margaryan et.al (2015). A place to start, can be to work with storytelling and scriptwriting, as suggested in this working paper. However, efforts need to be redirected elsewhere and across different fronts. One site can for example be on the pedagogical management of online courses. And there is a reason for stating this argument. Today, many MOOCs are based on self-directed learning, meaning that online learners sign up for MOOCs without any having real course leaders present while the course runs. If they are present, they are designed into the course, as a digital illusion. This aspect means limited expert feedback but also that MOOCs seldom have real educators to supervise and organize learning when the course takes place, implying failure to satisfy aspects of First Principles of Instruction. Also, the challenge with MOOCs is that they become what they are, massive, which causes other conundrums like *information-overload problems* in the managing and organizing of discussion forums. Such factors increase the odds that creating an effective online community based on social learning can fail drastically. In contrast, the MOOC field therefore needs to develop instructional design strategies not for only for how MOOCs are created but have the same for the organizing of pedagogical online processes, for both synchronous and asynchronous MOOCs. In other words, the MOOC community can put future focus on developing effective pedagogical strategies for effective online learning. This means foremost that educators should create a professional teacher identity of being *digitally present* and acquire concrete strategies for organizing social learning. In this regard, case studies have showed that when educators are authentically present while online courses run, completion rates are higher (Haugsbakken & Langseth, 2019; Engeness & Nohr, 2019). This means that the craft of instructional design of MOOCs should develop across to fronts. On the one hand, how they are designed, while the other, how they organized and managed with educators digitally present.

### Conclusion

The goal of this working paper is to mark the start of a research project by suggesting a conceptual framework on how a MOOC can look like by using storytelling and scriptwriting as pedagogical strategies to boost *the* quality in MOOCs in the instructional design of online courses. This can be one of several design strategies that MOOC creators can use to motivate learners to stay in the learning loop than dropping out.

## References

- [1] Abu Bakar, N. F., Yusof, A. F., Iahad, N. A., Ahmad, N., & Ieee. (2017). Framework for Embedding Gamification in Massive Open Online Course (MOOC). In 2017 5th International Conference on Research and Innovation in Information Systems.
- [2] Bruillard, E., & Baron, G.-L. (2019). Collective Resolution of Enigmas, a Meaningful and Productive Activity in Moocs, Cham.
- [3] Bruner, J. (1991). The Narrative Construction of Reality. *Critical Inquiry*, 18(1), 1-21.
- [4] Chang, J. W., & Wei, H. Y. (2016). Exploring Engaging Gamification Mechanics in Massive Online Open Courses. *Educational Technology & Society*, 19(2), 177-203.
- [5] Clow, D. (2013). MOOCs and the funnel of participation. Paper presented at the ACM International Conference Proceeding Series.
- [6] Dalipi, F., Imran, A. S., Kastrati, Z., & Ieee. (2018). MOOC Dropout Prediction Using Machine Learning Techniques: Review and Research Challenges. In *Proceedings of 2018 Ieee Global Engineering Education Conference* (pp. 1007-1014).
- [7] Engeness, I., & Nohr, M. (2019). Videos as teaching and learning resources for developing of pre- and in-service teachers' professional digital competence in the ICTMOOC Paper presented at the EMOOCs-WIP 2019: EMOOCs 2019 Work in Progress Papers of Research, Experience and Business Tracks, *Proceedings of Work in Progress Papers of the Research, Experience and Business Tracks at EMOOCs 2019*
- [8] co-located with the (European MOOCs Stakeholders Summit 2019) Conference., Naples, Italy.
- [9] Haugsbakken, H. (2014a). Connecting the dots by YouTubing Tutorials. *Proceedings of EdMedia: World Conference on Educational Media and Technology(1)*, 2009-2018.
- [10] Haugsbakken, H. (2014b). The Student Learning Ecology. *Proceedings at KEYCIT 2014 – Key Competencies in Informatics and ICT*, 87-98.
- [11] Haugsbakken, H. (2016). Using social media the inside out: A qualitative study about four stories on use and local models of organizing of social media in organizations. (PHD), NTNU, Trondheim.
- [12] Haugsbakken, H., & Langseth, I. (2014). YouTubing: Challenging Traditional Literacies and Encouraging Self-Organisation and Connecting in a Connectivist Approach to Learning in the K-12 System. *Digital Culture & Education*, 6 (2), 133-151.
- [13] Haugsbakken, H., & Langseth, I. (2019). Pedagogical Strategies for Creating an Online Community. Paper presented at the EMOOCs-WIP 2019: EMOOCs 2019 Work in Progress Papers of Research, Experience and Business Tracks, *Proceedings of Work in Progress Papers of the Research, Experience and Business Tracks at EMOOCs 2019*
- [14] co-located with the (European MOOCs Stakeholders Summit 2019) Conference., Naples, Italy.
- [15] Henderikx, M. A., Kreijns, K., & Kalz, M. (2017). Refining success and dropout in massive open online courses based on the intention-behavior gap. *Distance Education*, 38(3), 353-368.
- [16] Hong, B. W., Wei, Z. Q., & Yang, Y. Q. (2019). A two-layer cascading method for dropout prediction in MOOC. *Mechatronic Systems and Control*, 47(2), 91-97.
- [17] Hong, B. W., Wei, Z. Q., Yang, Y. Q., & Ieee. (2017). Discovering Learning Behavior Patterns to Predict Dropout in MOOC. In 2017 12th International Conference on Computer Science and Education (pp. 700-704).
- [18] Karsenti, T., & Bugmann, J. (2016). Supporting the motivation of the participants in the MOOC: What roles for gamification, mobility and social aspects? *International Journal of Technologies in Higher Education*, 13(2-3), 133-149.
- [19] Leonardi, P. M., & Barley, S. R. (2010). What's Under Construction Here? Social Action, Materiality, and Power in Constructivist Studies of Technology and Organizing. *The Academy of Management Annals*, 4(1), 1-51.
- [20] Li, Y. J. (2018). Feature Extraction and Learning Effect Analysis for MOOCs Users Based on Data Mining. *International Journal of Emerging Technologies in Learning*, 13(10), 108-120.
- [21] Margaryan, A. (2008). *Work-based learning: A blend of pedagogy and technology*. Saarbruecken: AV Akademikerverlag.
- [22] Margaryan, A., Bianco, M., & Littlejohn, A. (2015). Instructional quality of Massive Open Online Courses (MOOCs). *Computers & Education*, 80(C), 77–83.
- [23] Margaryan, A., & Collis, B. (2005). Design criteria for work-based learning: Merrill's First Principles of Instruction expanded. *British Journal of Educational Technology*, 36(5), 725-738.



- [24] Merrill, M. D. (2002). First principles of instruction. *Educational Technology Research and Development*, 50(3), 43-59.
- [25] Merrill, M. D. (2009). First principles of instruction. In C. M. Reigeluth & A. Carr (Eds.), *Instructional design theories and models: Building a common knowledge base* (Vol. 3, pp. 3-26). New York: Routledge/Taylor and Francis.
- [26] Merrill, M. D. (2013). *First principles of instruction: Identifying and designing effective, efficient and engaging instruction*. Hoboken, NJ Pfeiffer/John Wiley & Sons.
- [27] Onah, D. F. O., Sinclair, J., & Boyatt, R. (2014). Dropout rates of massive open online courses: Behavioural patterns. In L. G. Chova, A. L. Martinez, & I. C. Torres (Eds.), *Edulearn14: 6th International Conference on Education and New Learning Technologies* (pp. 5825-5834).
- [28] Orlikowski, W. J. (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization Science*, 11(4), 404-428.
- [29] Phan, T., McNeil, S. G., & Robin, B. R. (2016). Students' patterns of engagement and course performance in a Massive Open Online Course. *Computers and Education*, 95, 36-44.
- [30] Robin, B. R. (2008). Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory Into Practice*, 47(3), 220-228.
- [31] Roy, V. (2017). Digital storytelling for start-ups: A canadian MOOC design experience. Paper presented at the CEUR Workshop Proceedings.
- [32] von Schmieden, K., & Meinel, C. (2019). Utilizing Warm-Up Games in MOOC Discussion Forums. Paper presented at the EMOOCs-WIP 2019: EMOOCs 2019 Work in Progress Papers of Research, Experience and Business Tracks, Proceedings of Work in Progress Papers of the Research, Experience and Business Tracks at EMOOCs 2019 co-located with the (European MOOCs Stakeholders Submmit 2019) Conference., Naples, Italy.