SOONER – Fundamental and Applied Research on Open Online Education in the Netherlands

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Scientia

SOONER – FUNDAMENTAL AND APPLIED RESEARCH ON OPEN ONLINE EDUCATION IN THE NETHERLANDS

The number of individuals engaging with open online learning is rapidly growing because this form of learning is a flexible means of education that can be adapted to a wide range of different circumstances. Through the SOONER (www.sooner.nu) project, Prof. Dr. Marco Kalz, affiliated to the Heidelberg University of Education and holder of the UNESCO chair of Open Education at the Open University of the Netherlands is working with colleagues at the Open University of the Netherlands, Utrecht University and Maastricht University to gain a better insight into how open online education can be developed in the future. SOONER or the 'Structuration of Open Online Education in the Netherlands' is a five-year project financed by the Netherlands Initiative for Educational Research (NRO), the Netherlands Organisation for Scientific Research (NWO) and the Dutch Ministry of Education that is supported by SURF – the collaborative ICT organisation for Dutch education and research.

Towards Enhanced Open Online Education

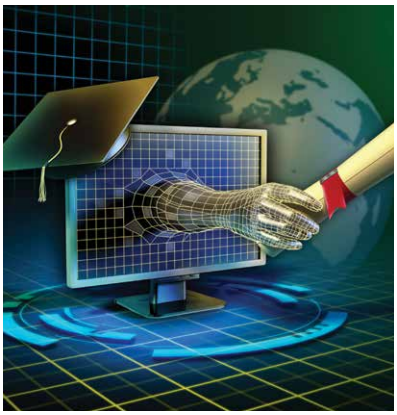
Open online education is growing in popularity. In many cases, this is due to the format's ease-of-access, flexibility and affordability. Considering the time constraints and financial burdens placed upon many citizens in modern society, it is quite easy to see why so many are turning to this flexible mode of education delivery. The growth of open online education has not gone unnoticed by the larger, established universities and they are responding to this trend. They too are utilising online learning to deliver their academic programs to a wider audience. Distance education institutions, such as the Open University of the Netherlands, focus not only on the rollout of open online education but also on improving its quality.

The purpose of the SOONER project is to gather empirical and robust evidence to support the validity and effectiveness of open online education, particularly in relation to higher education in the Netherlands. With a firm theoretical basis and development of teaching and learning practices, the quality of this form of learning can continue to improve, and challenges to negative perceptions about its use can be addressed.

The SOONER project consists of four PhD projects that focus on three levels that include the learner, the course and the organisational level. At the learner level, the project is investigating two key areas. One is the role of self-regulating behaviour in open online education. Reneé Jansen is a PhD candidate at Utrecht University and she is investigating self-regulated learning behaviour in open online education and ways to facilitate it.

The second key area, at the learner level, is the nature of intention and behaviour in relation to the measurement of success in open online learning. Maartje Henderikx is a PhD candidate and teacher at the Welten Institute at the Open University of the Netherlands. She is investigating the intention and behaviour of Open Online Course-learners and the barriers they encounter while learning what can hinder or impede learning success.

At the course level, SOONER is investigating how to scale student support and feedback provision, whilst maintaining the quality of learning. Julia Kasch is working on a PhD project at the Welten Institute at the Open University of the Netherlands. She is investigating solutions for scalability within



Open Online Education for support and assessment.

Finally, on an organisational level, the SOONER project aims to understand the major challenges and opportunities associated with the implementation of open online education within higher education institutions in the Netherlands. Martine Schophuizen is a PhD candidate at the Welten Institute of the Open University of the Netherlands. She is working to determine the organisational conditions that lead to success, the effect of Open Online Education on the organisation and the contribution it has towards the quality of education and educational innovation.

‘SOONER is delivering knowledge about the conditions and the impact of open online education on the individual, course and organisational level.’

Developing the Much-needed Skills of Self-Regulation

The term ‘self-regulated learning’ refers to a student’s ability to actively plan out their work and study schedule, set goals, and monitor their own study habits. Self-regulation is a pre-requisite for success in open online programs. As Renée Jansen and colleagues explain in one of their research papers, ‘due to the autonomy of students in this type of education, students in Massive Open Online Courses (MOOCs) are required to regulate their learning to a greater extent than students in traditional, face-to-face education.’

Because self-regulation is vital for success in these programs, it is important to explore self-regulation in open online education and to look for ways to support students’ in their self-regulated learning. It is hypothesised that there is a relationship between self-regulation skills and drop-out. Student drop-out in online education is due to many factors in addition to problems with self-regulation. Supporting student’s self-regulation will, therefore, help them to optimise their potential to make the best possible use of open online education.

To gain further insights into the issue, the team at Utrecht University developed a thorough and all-encompassing self-regulated learning questionnaire, specifically designed for the online learning environment. The questionnaire addresses different aspects of self-regulated learning, namely, metacognitive skills, time management, environmental structuring, help-seeking and persistence. A later refinement split the assessment of metacognitive skills into activities students engage in before, during, and after learning. Therefore, the questionnaire can be used to measure these activities separately, increasing the usefulness of the information obtained.

The questionnaire is a starting point for further research. The team clustered MOOC students based on their responses to the questionnaire into four groups with different self-regulated learning behaviours. The self-reported self-regulated learning of the students was found to be related to students’ behaviour in the online course environment, groups for instance, differed in their forum activity and the order in which they worked their way through the course materials. The results brought the team to believe that to support students in their self-regulated learning, support must be integrated within the course online learning environment: The students that are most in need of self-regulated learning support, are the least likely to go looking for it themselves.

The team also looked at existing research testing the effectiveness of self-regulated learning interventions in higher education to determine what makes an intervention effective and what characteristics are important. They aim to combine this information to test a self-regulated learning intervention in the fall of 2018 in several MOOCs. The goal is to improve students’ self-regulated learning and their learning experience – as failing to finish your work on time is a stressful experience – and their behaviour in the online learning environment.

Redefining Success in Open Online Education

While many enrol in open online education courses (MOOCs), providers report failure rates to be as high as 98 per cent. However, these providers consider getting a certificate and completion as defining success, and when they do so, failure rates are indeed incredibly high. In contrast, Maartje

Henderikx and her colleagues state that measuring success in a completion-centric manner is flawed. Such a metric does not take into consideration the perspectives, intentions and circumstances of the learner. Taking the view that measuring success in a completion-metric manner is flawed and has its consequences. In a recent research paper, the team highlighted that, 'framing success from a certificate- and completion-centric view will nurture a false understanding of success and dropout in MOOCs, which may subsequently lead to unnecessary interventions and unjustified negative reviews.'

In reality, a learner may not intend to follow the program to completion in the first place, especially if their desire is simply to acquire a certain skill and not a certificate. Therefore, once that skill has been acquired, then they may choose to withdraw from the course. That can hardly be deemed a failure. Furthermore, some learners may simply be satisfied with the knowledge gained sometime before the actual endpoint of the program. This illustrates how open online education providers need to redefine success. The perspectives of students need to be considered when evaluating dropout rates and also the perceived efficacy of the training. In line with this, this approach to measuring success focuses on the student's initial intentions as the reference point for assessment. Indeed, learners enrol in open online programs for various reasons. For example, some may simply wish to browse, or only passively participate. Therefore, determining the learner's intentions is vital in measuring success.

Dr Kalz and his colleagues from the Open University of the Netherlands have developed two MOOCs (Massive Open Online Courses) on marine litter and the adolescent brain. Within the MOOCs, success was measured in different ways. The first was traditional in its approach, measuring success by acquisition of a certificate upon completion, without consideration of the learner's initial intentions. The second, considered the learner's intentions and related that to their actual study behaviour.

If one considers those who do as they intended or do more than they intended as successful, then this paints a completely different picture. In the study, the success rates of MOOC-takers in the traditional measure was between 5.6 and 6.5 per cent. Where the intention-behaviour parameter was used as a measure of success, success rates increased to between 59 and 70 per cent. As Maartje Henderikx and her colleagues stated, 'this small change in the way we look at assessing MOOC success and dropout may have a large impact on future research on MOOCs.' While a more traditional, institutional approach does have its merits, changing the way we view success in open online education-based programs and factoring in the viewpoint of the learner will, at the very least, complement current practice.

Scaling Up Student Support and Feedback in Open Online Education

Due to the sheer number of enrolments in most open online courses, providing students with elaborate feedback challenges the teachers. As in regular, face-to-face education teacher time is limited and the provision of elaborate feedback on students' performance is limited or non-existent in courses with large student enrolment. According to Julia Kasch, Dr Van Rosmalen and Dr Kalz, the challenge is how to enable educational scalability. This means how to provide high-quality education, to large student numbers with low teacher costs. To reach scalability, MOOC designers and teachers should focus on the educational design of their course.

To support them Julia Kasch and colleagues developed and published an educational scalability scan, which helps to identify examples of best practice in MOOC designs. They used the scan to analyse the educational design and the potential scalability of different MOOCs. Their study revealed that, in particular, the use of scalable feedback and student support is scarce or inefficiently used. For example, poorly designed student-teacher and student-student discussion fora, ill-structured use of peer feedback, or automated feedback that was too simplistic led to unstructured interactions of limited use.

As the research highlighted, 'simply providing discussion fora, which in theory supports large-scale interactions, does not lead to high-quality interactions that students can benefit from, unless the educational design provides information and feedback criteria.' In relation to the goal of delivering large-scale yet high quality open online education, this is an important consideration. Interesting examples of scalable student support were a weekly sum-up video and a live hangout session. Teachers would discuss frequently asked questions, provide examples and include exercises. That way, the teacher could provide large numbers of students with valuable feedback in an efficient way. Following up on the scan and its findings the team is now studying what factors enable a successful design and take-up of peer feedback in an open online setting. Students' perceptions towards peer feedback and their role as a student will be asked within the context of a MOOC. Accompanying interventions will be used to study how best to prepare and instruct a heterogeneous population of students to give and use peer feedback.

Open Online Learning in Dutch Higher Education

In the Netherlands, the government is actively advocating open online learning, especially in higher education institutions. In a recent research paper, Martine Schophuizen and her colleagues stress that the ultimate mission is to, 'create more expedient, accessible and personalised learning experiences that contribute to an improvement of the quality of education and study success.' However, many higher education institutions are struggling to fully implement open online education.

It appears that attitudes and beliefs about online teaching are hindering such implementation of open online education. Furthermore, many educators lack the skills to design an online learning space and teach within that structure. Some educators also mention a lack of institutional support as the reason for fears and doubts about open online education implementation. For example, it was found that not having the needed ICT support was a concern for many educators. They also highlighted that defined organisational goals, visions, and support mechanisms are required for success. Despite these inherent challenges, educators also detailed the many opportunities associated with open online education. For example, many see the potential of open online education to offer time- and place independent learning and flexible and personalised learning paths. They also recognise that higher education institutions could use the format to appeal to and recruit new student groups.

In conclusion, the SOONER research project aims to inform the community about the inherent opportunities and benefits associated with open online education. It also seeks to improve the quality of online teaching and learning and tackle the negative perceptions about the format. Ultimately, it's about ensuring that more people in the Netherlands, and the world, have access to high quality and affordable education. This is, after all, a basic human right.

Meet the Team

Prof. Dr. Marco Kalz received his PhD from the Open University of the Netherlands in Education Technology. He is currently Professor for Technology-Enhanced Learning at the Heidelberg University of Education and is affiliated to the UNESCO Chair of Open Education at the Open University of the Netherlands. He also serves as president of the European Association of Technology-Enhanced Learning (EATEL). His research examines the use of open education, pervasive technologies and formative assessment to support self-directed lifelong learning.

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Prof. Dr. Liesbeth Kester is Professor of Educational Sciences and chair of the Division of Education at Utrecht University. She is also Educational Director of the Dutch Inter-university Centre for Educational Research (ICO). Her expertise includes multimedia learning, hypermedia learning, personalised learning, cognitive aspects of learning and designing and developing flexible learning environments.

Dr. Peter van Rosmalen is Associate Professor and chair of the Taskforce on Instructional Design and E-learning at the Department of Educational Development and Research of the Faculty of Health, Medicine and Life Science at Maastricht University. He has also been a consultant within international corporate environments and a (co-) initiator of a variety of national and international research projects around the use of educational technology in education and knowledge management.

Dr. Jeroen Janssen is Associate Professor of Education at Utrecht University. His current research focuses on collaborative learning and the use of ICT in education. In 2008, he successfully obtained his PhD and is currently co-coordinator of the ICO theme group Education and ICT. He is also involved in the undergraduate and graduate Educational Sciences programmes offered by Utrecht University.

Dr. Ir. Karel Kreijns is Associate Professor at the Welten Institute of the Open University of the Netherlands. His research interests are the social aspects of computer-supported collaborative learning and networked learning. He is also interested in the application of Self-Determination Theory and the Reasoned Action Approach framework on teachers' use of technology/Open Educational resources, enrolling in MOOCs and teachers' professional development activities.

Dr. Anouschka van Leeuwen completed her PhD at the department of Education at Utrecht University in 2015 and continued her employment in Utrecht as Assistant Professor. Her PhD project concerned teacher regulation of collaborative learning. The topics of her current research projects include collaborative learning, blended learning and open online education.

Renée Jansen (MSc) recently obtained her Master's degree in Human Technology Interaction at Eindhoven University of Technology where she gravitated towards the learning sciences by focusing on the use of technology to take notes. She is currently a PhD-candidate within the SOONER project at the Education department at Utrecht University. In her project she focuses on self-regulated learning behaviour in open online education.

Julia Kasch (MSc) completed her Master's studies at Twente University and then worked at Bartiméus, as a researcher on a project focused on supporting text comprehension, recall and information searching in blind and visually impaired high-school students. She is now working as a PhD candidate for the SOONER project at the Welten Institute at the Open University in Heerlen. Her research is focused on scalability solutions within Open Online Education regarding several aspects such as support and assessment.

Maartje Henderikx (MSc) obtained her Master's degree in Management of Learning at Maastricht University. During this study she developed a fascination for Online Learning Environments. She is currently a PhD candidate and teacher at the Welten Institute at the Open University in Heerlen. Her research is centred around the intention and behaviour of MOOC-learners and the barriers they encounter while learning in MOOCs that hinder or impede learning success.

Martine Schophuizen (MSc) holds a Bachelor's degree in Cognitive Psychology, and a Master's degree in Management of Learning (Maastricht University). She is now a PhD candidate at the Welten Institute at the Open University in Heerlen. Her research will mainly focus on the organisational (pre)conditions that lead to success, the effect of Open Online Education on the organisation, and the contribution it has towards the quality of education and educational innovation.

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