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Developing eLearning in Higher Education: A Critical Review

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Abstract

Educators are facing challenges as they strive to keep up with the technological developments related to their profession while cutting costs and attempting to meet the needs of diverse student groups. At Arcada, we believe the continued development of products and services made possible through our collaboration with network partners across sectors helps to ensure the eLearning materials we employ are suited to meet the unique needs of learners and faculty at our institution. Embedding research and development activities into our courses is one way educators are able to stay in the loop as digitalization and technology continues to transform teaching and learning. This report highlights insights uncovered during three development initiatives during the academic year 2017-2018. The insights gathered through these pilots highlight the ad-hoc approach used by educators as they attempt to meet the national and organizational goals relating to digitalization. The feedback from students and teachers who participated, emphasize the need for support with digital scaffolding and the need for a structured approach to digitalization and eLearning at Arcada University of Applied Sciences that reaches the grassroots level, where teaching and learning happens. These in-sights lend credence to the idea that the current practice of engaging multiple eLearning providers without a developmental aspect may lead to unintended consequences such as, the purchase of services and digital tools that do not meet the needs of our diverse student cohorts and faculty. Additionally, engaging in short-term contracts where users have restricted and limited access may not support reflection, which serves as a fundamental pillar in the learning process along with critical thinking and decision-making. This review conducted at Arcada University of Applied Sciences is an extension of the national RD&I initiative eAMK sponsored by the government of Finland. During the academic year 2018-2019, eLearning at Arcada will be developed, using the insights gathered through this initiative.

Keywords: digital pedagogy, eLearning, higher education, net-based learning

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1 INTRODUCTION

This report highlights some of the digital pedagogical development activities Arcada has spearheaded together with partners from the business sector and higher education institutions domestically and internationally during the academic year 2017-2018. There are three development initiatives in this report where learning science, content and technology provided a foundation for our collaboration. The first pilot was launched on the last day of August 2017 and presents a collaboration involving Pearson, a company focusing on publications and developing immersive learning experiences and Expert Collage, a company that specializes in eLearning and blended learning. The pilot included first year students (n=250) enrolled in an Anatomy and Physiology course at Arcada University of Applied Sciences and our partner university DIAC. The second development pilot took place in February 2018 when Arcada was selected to be one of five academic institutions in Finland to participate in a partner-driven pilot together with Tampere University of Applied Sciences and the business sector (JJ-Net Group Oy). This second activity involved testing net-based documentation software that is connected with a new web service for nursing practice in Finland. Student (n=90) participants were in their second year studying in one of 5 bachelor degree programs within healthcare, offered at Arcada University of Applied Sciences. The third pilot was launched April 2018 and involved second year students (n=28) studying within the International Business Management Master's Degree Program. Participants in this pilot had the opportunity to experience an interactive learning environment in connection with a course in strategic management. Partners for this collaboration included Pearson via their brand Revel™. After presenting these development initiatives a discussion is offered followed by conclusions and recommendations for future development of digital solutions relating to teaching and learning at Arcada University of Applied Sciences. [1, 2, 4, 5, 8]

2 NET-BASED LEARNING FOR NURSING STUDENTS

2.1 Pilot Description and Implementation

The first collaboration included partners from Expert College based in the Netherlands and Pearson based in England. The main purpose for this partnership was to pilot a set of newly developed, integrated net-based learning modules in connection with an Anatomy & Physiology courses at Arcada along with our partner university DIAC. The pilot commenced September 2017 and ended in May 2018. The target group for this pilot included first-year undergraduate students studying in the Swedish and English languages within 10 different degree programs. These included; Sports and Health Promotion & Physical Therapy (n=70), Occupational therapy (n=14), Emergency Care (n=28), Nursing in English at Arcada (n=43) Nursing in Finnish at DIAC (n=50), and Health Care, Midwifery and Nursing in Swedish at Arcada (n=75) equaling 280 potential participants. The purpose of this pilot was to understand the perceptions of

students as they experienced the *new* net-based Anatomy & Physiology modules. The materials used for the collection of data were electronic surveys with 20 Likert and dichotomous type questions. Additionally, students were encouraged to participate during net-based classroom open discussions and the discussion board located on the learning portal, itslearning. [1, 4] Faculty participating included Ilse Tillman who was the responsible person and primary lecturer for the course(s) in Anatomy & Physiology. She also translated much of the content needed for logging-in and using the Expert College portal. She also assisted in translating the survey tool for the Swedish, Finnish and English speaking students. Filip Levälähti who is responsible for the digital pedagogical development at Arcada assisted with technical support relating to the learning platform at Arcada. Denise Villikka was responsible for the RD&I element of the collaboration and served as the contact person and facilitator between internal and external partners. Camilla Wikström-Grotell, as the head of the Healthcare and Welfare Department at Arcada, contributed as a resource for decision-making and problem solving as well as facilitated the execution of the necessary contracts and permissions prior to launch. [1, 4]

2.2 Insights from the Pilot

There were four main themes uncovered through this cooperation. They were *consistency in language and content, limited access and lack of time, student motivation and digital scaffolding*. [1, 4, 8]

2.2.1 Consistency in Language and Content

Students expressed difficulties at the onset of the course, logging-in and accessing the external portal. The reasons given stemmed from the fact that either much of the interface was in a language that they did not understand (Dutch) or students thought the terminology, though in Swedish, was somehow unfamiliar. To meet these challenges, Ilse Tillman, the primary lecturer for this course, created a systematic process for students to use during login for both Swedish and English languages, along with pictures so that students could create their profile, activate the different modules and begin learning. These instructions were posted on the learning platform, itslearning. Additionally, Ilse assisted with adjusting the content on the initial login page of Expert College, so that the language was more familiar to students who were studying in Swedish and English. Expert College and Pearson were actively involved in the discourse and made the necessary changes in real-time. Together, facilitators were able to shorten the launch delay to 9 days after which, all of the students had their profiles and were able to access the content.

When it comes to *consistency in content*, students were frustrated that the Expert College modules offered in Swedish did not have the same content as the modules offered in English. This affected the learning journey of students who enjoy learning in Swedish, English and Finnish while at university. Teachers also found this challenging because it increased their workload exponentially. Teachers gave feedback that it was as though they were running three courses instead of one course. Additionally, having

different content made it challenging to imbed the net-based material into the existing curriculum and creating discussions around the content was also limited. Therefore, Arcada recommends that future courses could have matching content to better support the learning journey of multilingual cohorts. Having the same content in different languages nurtures consistency and curiosity and allows educators to integrate the material more efficiently. From an economical perspective, it could cost Expert College and Pearson less during development, as they would be using the same content instead of creating separate content in Swedish, English and Finnish. In addition, reflective exercises and discussions could also be facilitated allowing a digital collective learning environment through which learners could explore together less familiar terminology and concepts needed in working life. [1, 4, 8]

2.2.2 Limited Access and Lack of Time

The second core factor uncovered through this pilot was *limited access and lack of time*. Students wished they had more time in each of the modules to interact with the content and learn. In the past students, have commented on the large workload in connection with this course. Faculty foresaw this challenge and during negotiations with Expert College and Pearson it was agreed that students would have to access the content until the end of May 2018 instead of when the course ended. Educators hoped this would give students the time needed (4-6 months) to immerse themselves in the content by having lengthened access. [1, 8]

2.2.3 Student Motivation

The third factor was *student motivation*. We found this surprising from a teaching perspective because, in the past, we have witnessed an increase in motivation typically when new interactive online material is provided for students. Key reasons for the decrease in motivation seemed to stem from the challenges faced during the launch. The initial timeline showed the introduction to the course commencing the last day in August. Information and instructions were given using a traditional campus based classroom and online classroom for those who could not join. The initial plan was that by September 4th, students would be able to access the learning portal and begin studies. This did not take place due to the challenges with language, access codes and other problems such as the portal prompting students to pay for access, navigating the different learning modules and accessing the survey. The length of delay for some students was extended to nine days, which represents a significant delay for students who have eight weeks to complete the course. Although faculty on campus and our partners from Expert College and Pearson met these challenges expeditiously, struggled to be able to gain back, 'good feelings' witnessed earlier with these types of interactive online learning tools. [1, 4, 8]

It was interesting to note that students continued to struggle throughout the process of logging in and accessing the different modules and approximately twenty per cent of the students needed individual support at some point during the course. Students also seemed confused as to which modules they were to focus on although a list and timeline

was provided on the learning platform prior to launch. In the future, we will restructure the course in such a way that students can access the materials ahead of time. By working with the IT department and representatives from our learning platform, we hope to avoid individual login scenarios and instead arrange for direct access (IP address) for students and faculty at Arcada. It is hoped these changes can lessen the time between the launch of the course while nurturing student involvement. Additionally, we should not undervalue the assistance from our partners from Export College and Pearson by inviting a representative to be a part of the introduction lecture and by engaging their support services. [1, 4]

2.2.4 Digital Pedagogy

The final theme uncovered by this pilot was *digital pedagogy and scaffolding*. Though this pilot we see evidence that learning experiences of students can be influenced by the way educators build and arrange net-based content on learning platforms. Bringing in additional content from external sources may compound or alleviate these challenges. During the pilot students voiced feelings of frustration and confusion concerning the presentation of content and how the layout of the content provided by Expert College and Pearson was integrated. Students voiced frustration while engaging in the learning modules and wished for clarification as to which content would be included in the exam. Students described the source of their anxiety being the differences in content leading them to the impression that they have double the work. These anxieties of students persisted despite the fact that the responsible lecturer shared with participants that the pilot was voluntary and there would be no additional work, assignments nor would the content be included in the exam. Additionally, students would have wanted more in class lectures even though they had the opportunity to participate in virtual class opportunities throughout the course and though the teacher had published drop-in times for those needing individual assistance. [1, 4, 8]

The feedback from students led educators involved in this course to consider the possibility of employing new ways of presentation whereby the scaffolding would serve as a type of bridge between different learning sources. For example, by adjusting the headings on the learning platform, itslearning from a topic or systems based approach (i.e. respiratory system, circulatory system) to, headings that match the course schedule such as, learning activities during week 38 or learning activities during weeks 36-38, students anxieties concerning the timeline could be influenced. [1]

2.3 Recommendations

Through our collaboration with Pearson and Expert College, a critical review has been offered to assist in facilitating the continued development of net-based courses for the benefit of learners and faculty at Arcada. Through this pilot, we have been able to identify four main areas that could benefit from development alongside suggestions for possible changes. It would be interesting to engage in an additional study tracking the perceptions and experiences of learners and faculty after these changes have been made to see if they have an impact on user journeys and if so, in what ways. [1, 4, 8]

3 DOCCA: A NEW WEB-SERVICE FOR NURSES IN FINLAND

3.1 Pilot Description and Implementation

Tampere University of Applied Sciences has partnered with the business sector (JJNet Group Oy) to produce a new web service for nursing practice. In February 2018, Arcada was one of five academic institutions in Finland chosen to participate in a partner driven pilot. The primary vision of this development initiative was to produce affordable structured documentation software to supplement the patient information systems currently used (i.e. Pegasos or Effica). This solution directly targets the current structured recording for nursing care plan software used in Finland, (hoitotyön rakenteinen kirjaaminen) by offering a *low-cost* alternative. For Arcada, participating in this network, allows exposure to new tools and services developed in nursing practice that aid educators as they attempt to keep abreast of the advancements in technology. In addition, collaboration during the beginning phase facilitates the development of documentation technology in directions that can meet the needs of Arcada's practicing and aspiring nurses. From a patient safety perspective, this pilot represents one avenue where students can safely practice accessing and updating content onto client databases. For Arcada students, this program is especially useful as they can practice the professional language used in working life. For those of our students who are not native Finnish speakers, this could also improve their ability to manage during practical internship and boost their confidence when documenting (supervised) on the ward. [1, 5, 9]

Five groups of students participated in this pilot totaling 150 students. The target was second and third year students who were studying primarily in the Swedish language including Emergency Care, Nursing, Health Care, Midwifery and first year nursing students primarily studying in the English language. The pilot was offered in connection with two clinical courses, intensive care and medical and surgical nursing that took place between March-April 2018. [1]

Four members of faculty at Arcada participated in this development pilot. Firstly, there was Camilla Wikström-Grotell, who assisted in contract negotiations and administration. Secondly, Dan Granqvist assisted in IT administration and support with the different email domains as Haka authentication was not yet an option. Thirdly, was Jessica Silfver took the lead in assisting students with the software throughout the process from offering direction in the beginning with creating a profile, assessing the students care plans and offering feedback. Fourthly, was Emilia Kielo who assisted during simulation and skill development during contact days in the patient safety and learning center at Arcada. Finally, Denise Villikka was the pilot facilitator and was responsible for the pilot in general, and facilitated collaboration as well as participated during contact days as a support for teachers and students. [1]

3.2 Insights from the Pilot

Through the pilot, there were some insights discovered that could influence the future development of DOCCA and affect teaching practice. As mentioned, there were initially four teachers interested in participating in this pilot; however, shortly after the students gained access to the platform, additional lecturers, program directors and researchers expressed interest in the pilot (n=15). Therefore, they were added to the pilot as observers and were able to access the platform with teacher access. The feedback from observing teachers was overall positive and they were pleased to see that even first year students were able to create care plans for clients. [1, 5]

3.2.1 Digital Competency Development in Working Life

One main category arose through the feedback from respondents. The category was *digital competency development in working life*. The first group of respondents were first year students studying within the nursing program (English) who worked with the program in connection with the clinical course, medical and surgical nursing. Students participated in groups and individually during contact days in the simulation center. Feedback from students in this group focused on the benefits of learning the specific terminology used by nurses in Finland and wished they had more time to explore all of the content. The nursing students commented on the value of having this software available throughout their studies so that they could practice using the program in order to become familiar with the terminology and practice creating care plans. [1]

The next group of respondents were third year students studying within Emergency Care, Health Care, Midwifery and Nursing. These students study in Swedish and have varying levels of Finnish language competencies. The feedback from student was similar to that of the first year students in that they wished to have access to this type of software throughout their studies however, they seemed to view their education using a broader context, which was reflected in the way they began to analyze current teaching and learning practices as a whole at Arcada. The feedback from students highlighted the need more of these types of software programs in order to prepare them for working life. Respondents expressed frustration that they were using *old-fashioned* paper versioned forms for documentation during simulation and competence development, which has not been a reality in working life for over a decade except in special circumstances. [1]

The feedback from observing teachers was positive. They gave feedback that the platform was easy to use and the layout matched that found in working life. The three teachers who participated in the pilot expressed that having this available for student throughout their entire time at university by integrating this activity with clinical competence and simulation would help prepare students for the type of electronic structured documentation that is required in working-life. Additionally, teachers noticed the students from abroad who did not yet speak Finnish or who had basic Finnish language skills, as represented also in the Swedish speaking students from abroad, experienced a kind of wake-up call as to the level of Finnish required prior to becoming a nurse in Finland. The main emphasis from both participating and observing teachers

echoed the concern of students. They pointed out that in higher education, there is pressure to prepare for present and future working life in a digital age but resource cuts have made it impossible to receive the funds necessary to implement the type of digital learning tools specific to their profession. This leads to frustration and anxiety among teachers and students as they continue to work with paper version documentation forms and *'do the best with what they have'*. [1]

3.3 Recommendations

Reflecting on the feedback from both educators and students studying within healthcare at Arcada, there seems to be a convergence of perceptions found in the expectations of students and educators relating to current practices for teaching and learning. Presently, these gaps are a source of anxiety among teachers and students as they try to cope. If left unchecked, this gap could affect students' ability to perform during their practical internships. A further investigation including students who have access to DOCCA throughout their studies and students who do not have access to digital documentation platforms could lead to increased understanding as to the necessity of including digital competencies and documentation software specific to nursing in Finland. Further investigations could examine if master aspects of the unique language used in healthcare while planning, implementing and evaluating care plans for diverse sets of clients through resources like DOCCA impacts teaching and learning during competency development and simulation on campus and the performance of students during internships in the field and if so in what ways. [1, 5]

4 EXPLORING STRATEGIC MANAGEMENT WITH REVEL

4.1 Pilot Description and Implementation

In April 2018, Arcada was invited to take part in a cooperation with Pearson through their brand, Revel™ by piloting a new interactive learning environment using the eBook, *Exploring Strategy* (11th Edition) by Johnson. Respondents for this pilot were second year students who study within the International Business Management Master's Degree Program at Arcada. This cooperation was connected with the Strategic Management course, which is part of professional studies and intended for students at the end of the second cycle. There was 100 per cent (n=28) student participation in this study. [1, 8]

The faculty involved included Carl-Johan Rosenbröijer Dr.Sc.(Econ.), who is the program director and principle lecturer of the course. He contributed by providing the necessary permissions and facilitated the planning and implementation of the pilot in connection with the course. He was also actively involved in problem solving and a source of support for the other members of the team. Denise Villikka assisted in

initiating and facilitating communication between Arcada and Pearson during the pilot and was responsible for the research and development end of the cooperation. Lastly, Filip Levälähti was available for assistance with the learning platform, itslearning and served as a resource for problem solving. [1, 8]

The first step in the implementation of this pilot was a planning meeting held on April 6, 2018 whereby an action plan was conceptualized and communicated with the team. On April 14, 2018, Carl-Johan Rosenbröijer, sent out an email that gave an overview of the pilot and explained how to access Revel. The introduction to the course lecture was held on 19 April. A representative from Pearson was present to introduce the net-based learning software and to answer questions. Additionally, students were encouraged to contact Pearson directly for questions or problems. During the final contact day, Saturday, 5 May, the representative from Pearson was present to conduct a semi-structured focused group discussion where participants could give feedback on their experiences using Revel. This marked the end of the pilot. [1, 8]

4.2 Pilot Insights

Though it seems the majority of students were satisfied, there were insights uncovered that could assist in the future development and implementation of this interactive software. There were three main categories that emerged, which were *technical challenges and limited access, assessment and motivation/engagement*. [1]

4.2.1 Technical Challenges and Limited Access

Though the representatives from Revel demonstrated the platform during the introduction day, respondents reported that they struggled initially using the learning portal and wished they had access to a type of user guide that could lead them through the basic steps in using the program. In addition, the lack of versatility seemed to be a major concern. For example, students were not able to access the *save function* and were not able to move back and forth through the content freely as the interface allowed forward navigation only. Additionally, students found it impossible to highlight and take notes as they worked through the content unless they opened a separate word document on their computer and flipped back and forth. Students also verbalized frustration that prior to moving forward in the text, they had to answer the questions. One student gave feedback that though the answer was given, it seemed the program did not recognize the symbols used and therefore would not allow the student to move forward in the text. [1]

4.2.2 Assessment Practices

Although students gave feedback on content and structure their comments also focused on the assessment component of the course. Specifically, respondents stressed the importance of clearly defining what content from Revel would be included in the end of course assessment. For this cooperation, students verified that they were aware that participation was voluntary and that the content in Revel would not be a part of the

course assessment. However, students continued to stress the importance of communicating clearly to learners at the onset of the course what content would be included on the assessment and what part of the content was ‘extra’ if the assessment component of Revel was to be used in the future. [1]

4.2.3 Motivation and engagement

The third category uncovered through the feedback from students was *motivation and engagement*. It was interesting to note that although students had challenges while experiencing Revel, their desire to learn using these types of interactive learning platforms remained constant. During the focus group discussion there was a consensus that they had a positive learning experience using Revel and felt that these types of interactive platforms could replace the teacher someday. There were students who commented on how they missed holding an ‘old fashioned’ book in their hands and wished there would be improvements made that could bring back the experience of holding a book and turning pages. Through the feedback of students, it seems as though this group experienced challenges, it did not seem to dampen their desire to learn using these types of interactive learning tools in the future nor influence engagement in the pilot as experienced in the first anatomy and physiology pilot conducted in August 2017. [1]

4.3 Recommendations

Based on the feedback from students, in addition to the demonstration by the representative from Pearson, a simple user-guide could be posted on the learning platform to support first time users. Additionally, the digital scaffolding of the eBook that was meant to guide learning resulted in creating roadblocks and bottlenecks in the learning process. Therefore, Arcada recommends that Revel evaluate the limits brought out in this

report and create frameworks with more flexibility that would match the experience and freedom enjoyed with that of traditional learning materials such as hardcopy books. It was interesting to note that although there were suggestions for improvement; respondents unanimously agreed that they enjoyed learning with Revel and would like to continue using this type of learning tool in the future. [1, 8]

5 DISCUSSION

Through these investigations, it was found that the changing student demographic might influence the ways through which students wish to experience learning. In these pilots, learners expressed a wish to experience content in different languages instead of being limited to one. At Arcada, students gave feedback that they prefer to learn in Swedish, Finnish and English. Therefore, it is essential the content provided by outside sources is consistent in each language as variations may cause confusion that could influence the

motivation and engagement of students, as was the case in these investigations. From a teacher perspective, having the same content in different languages facilitates the structuring and implementation of courses, while supporting net-based classroom discussions and reflective processes. [1]

Additionally, through these pilots, it was found that first year students seem to struggle more as a whole with digital learning platforms and structuring their study schedule so that they are prepared for the end of course assessment. Adjusting course scaffolding to reflect a timeline instead of themes covered in the course may support students in gauging whether or not they are on-track. In addition, providing access to study materials before the introduction to the course gives learners exposure to the new online learning environment. This being the case, it was shown through these initiatives that first year students wishing to have individual assistance did not exploit the individual tutoring times nor contact the software facilitator but instead seemed to rely on the physical presence of a teacher and face-to-face communication. This behavior may change as students gain experience learning digitally. Lastly, though individual login by students provides opportunities for teachers to track the learning journey of students, one IP address for the institution may guard against delays as each student struggles to create a user profile and it gives greater versatility in study plans. [1]

Another insight is the potential conflict between the business and higher education sectors in how education materials are used and the length of time learners have access to the materials. It seemed, through these pilots that the design of various net-based learning products imposed restrictions on users that focused on protecting the product/service rather than supporting learning. Examples include, forward navigation only, no highlighting no notetaking and restrictions on progressing through the content. Therefore, building interfaces that allow more flexibility for the users, that matches that of traditional educational material and by allowing students access to the material during their entire journey at university instead of only for a few weeks, could help facilitate the fluctuating needs of students [1]

In addition, the current structure of net-based learning software seem to be designed in types of silos leading to gaps in the ability of students to retrace their steps and reflect on content, which is a corner stone of learning. Together, these restrictions pose added stress for students. For example, during the thesis process students are encouraged to use concepts they have learned earlier during their university experience; however, if they have learned with content from outside providers, the content is no longer available to them. Therefore, both the length of time students have access to the content and the user restrictions should be carefully considered, prior to purchase. [1]

As mentioned earlier in this report, focusing on the software or applications when purchasing education materials from an outside source does not guarantee a quality learning experiences for students. Higher-education institutions should also consider the type and extent of support services offered in conjunction with the product. This represents a core insight discovered during the pilots. However, it is important to note that universities that invest financially believing these types of support services will free teachers are misguided. Evidence from these pilots show that the workload of teachers engaged in these development initiatives increased. In some cases, teachers gave feedback that being involved in these pilots was like having three courses instead of one.

Indeed, none of the members of Arcada faculty involved in any of the pilots related in this report received additional resources to participate but still chose to volunteer time and energy in order to participate in these development opportunities, which points to the level of motivation and commitment of faculty. [1]

The final insight covered in this report is student's need for profession specific digital competence development during their university experience. During one pilot, students studying within healthcare expressed anxiety over the lack of exposure to electronic databases and documentation that would help prepare them for working life. It was found that exposure to these digital learning tools prior to internship placement was especially valued by students who did not have the Finnish language as their mother tongue as is the case for some foreign-born students and Swedish-speaking Finnish students. Students continued to give feedback that electronic documentation is not found on the fringes of their profession but at the core and therefore documentation databases that reflect accurately what is found in working life should be provided while at university. [1]

6 CONCLUSIONS

As technology continues to transform industries, higher education institutions should be vigilant in assessing the needs of teachers and learners in order to provide support that matches the competencies needed within their profession today and into the future. Evidence collected in this report shows that collaborative initiatives involving partners in the business sector, higher education and end users (students) during product/service development is one way to keep abreast of advancements in technology. Currently, educators are attempting to employ digital tools to help them cope with the decrease in resources and increases in-group size resulting in a menagerie of net-based classroom experiences. This ad hoc approach could result in fatigue as teachers attempt to navigate the vastness of net-based learning software programs available and embed them in their courses repeatedly due to changing short-term contracts. From a student perspective, challenges arise from the way educators arranged content in courses lending credence to the value of educator's ability to utilize digital pedagogy and scaffolding that extends beyond digital literacy. Therefore, a strategic approach to digitalization at Arcada, using a systematic approach that includes a somewhat standardized digital scaffolding could support both faculty and learning. This review conducted at Arcada University of Applied Sciences is an extension of the national RD&I initiative (eAMK) sponsored by the government of Finland. During the academic year 2018-2019, eLearning at Arcada will continue to be developed, using the insights gathered through this initiative. [1, 3, 6, 7]

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