IO1: Building a strategic partnership for digital education responding to the needs of universities during the Corona crisis and beyond

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Executive Summary

This compendium contains a selection of practices contributed by the consortium partners that are applicable to various forms of digital education. Although not all practives evolved as direct result of the Covid-19 pandemic, these examples illustrate practices that are applicable to digital education.

Many of the practices evolved around engaging students, maintaining and increasing interaction and collaboration. Several practices illustrate innovations in assessment and feedback.

It also became clear that not all teachers are of the same opinion what constitutes a good practice: what works for one teacher does not always work for another teacher. This not only depends on domain, but also on experiences and expectations.

Table of contents

Compendium of Good Educational Practices

The Covid-19 pandemic caused nearly all higher education institutions to make rapid changes to their education provision. The overnight move to online teaching and learning resulted in educators having to find last minute solutions and workarounds for the online modality. Some of the solutions resulted in novel ways of interacting with students.

Consortium partners contributed a variety of practices. In this document, we present some exemplar online teaching practices. Some practices evolved as consequence of the Covid-19 pandemic, others are examples of digital education that were already in place. We present the examples on an institution-by-institution basis so that they can be considered within the context of the particular learning strategy employed at that institution. Of course, practices evolve and new examples might be added or are already added to the websites of the partners.

The table and list below give a short overview and illustrate that many of the practices evolved around maintaining interaction, keeping students engaged by new approaches, supporting collaboration and development of competences. Several practices introduced innovation of assessment and feedback and innovative technology.

Interaction and communication	DCU, FIED, UOC, TU Delft, Open Universiteit
Collaboration	UOC
Assessment	DCU, UOC, Open Universiteit
Feedback	DCU, UOC, Open Universiteit
Blended learning	DCU, TU Delft
Hybrid synchronous learning	KU Leuven
Lifelong learning	KU Leuven
Innovative technology, new tools	UOC, TU Delft, Open Universiteit

DCU

- Counter lack of feedback by visualising participation
- Asynchronous online delivery, flipped classroom
- Blended learning
- Innovative assessment
- ABC framework to design courses

FIED

- Maintain interaction

UOC

- Feedback processes, evaluating course through survey and learning analytics
- Gamification and game to promote interaction and communication
- Promoting collaboration through collaborative learning and PBL

- Formative assessment

KU Leuven

- Overcome technical problems with prerecorded video lectures by using synchronous online learning, increase interactivity
- Lifelong learning and professionalisation opportunities through hybrid synchronous online learning for students who also have a job
- Hybrid synchronous learning outside office hours

Open Universiteit

- Online assessment and proctoring
- Supporting students by extending registration and assessment
- Supporting higher education institutes by webinars, courses, tips, websites
- Viewbrics, formative assessment innovation to practice and improve competences
- Peer feedback to practice and improve competences
- Synchronous online education, virtual class

TU Delft

- Collaboration and sharing knowledge in multidisciplinary research project
- Improve community feeling and interaction
- Blended learning to increase engagement and understanding in classes with large number of students, using various tools and activities (examples, discussion, quizzes, podcasts, video)

The examples and reports of the teachers illustrate clearly that what works for one teacher does not always work for another teacher. Practices not only depend on domain, type of course, level of education, class or cohort size, but also on previous experiences of teachers with forms of digital and online education, their didactic and pedagogical approaches and believes, and their preferences and experiences during the Covid-19 situation. However, most teachers confirm the importance of student wellbeing and motivation deserving extra attention, not only because of Covid-19, but also due to online delivery.

It is important to keep in mind that students, in particular first year and bachelor, will not always have the selfregulation skills that are required for various forms of online education. While in class-based lectures, labs, etc., it is easier to tell students what to do at that moment, for online education they need more structure as well and expectations need to be made clear in advance.

Taking these aspects in consideration, explore the practices and investigate if and how they could apply to your situation.

Dublin City University

Dublin City University (DCU) is a research-intensive institution founded in Ireland in 1981. It comprises over 18,000 students including over 2,600 postgraduate students of whom 700 are research students. The University provides 200 degree programs with an academic staff of 440 in its Faculties of Business, Engineering & Computing, Humanities and Social Sciences, Science & Health and Institute for Education.

DCU is recognized nationally and internationally as Ireland's "University of Transformation" as it creates knowledge and translates it into innovations for economic and social benefit.

The National Institute for Digital Learning (NIDL) located at DCU was established in 2014 and has considerable research expertise in the areas of learning design, new models of pedagogy, and blended learning and online delivery. DCU is known as a leader in the area of online delivery with the largest suite of fully online university programmes in the Republic of Ireland along with over 80% of their undergraduate programmes already in a blended learning format.

The Teaching Enhancement Unit (TEU), which is located in the National Institute for Digital Learning (NIDL), has responsibility for teaching and learning support and development in the University. The Unit is concerned with academic staff development with respect to new approaches to teaching and learning, educational research and the support of a wide variety of educational technologies including Loop. The TEU have highlighted case studies of good teaching practices and projects to inspire staff. Some of these case studies are mentioned below. The full list of case studies can be found at the TEU website.

Copyright

Covid-19 related practices

The following case studies represent online teaching practices, which evolved as a result of the move to online teaching and learning in the university due to Covid-19.

Computer-Assisted Language Learning

Subject:	Higher-intermediate French (French language & culture)
Discipline:	Computer-assisted language learning
Level:	Undergraduate
Class size:	60

Mode of Delivery: Online full time
Period: 1 March 16 April 2021

A lack of confidence, the high cognitive load associated with the fast-paced nature of sessions, and a lack of personal feedback can make online synchronous language learning activities challenging for students. Such issues were exuberated by the Covid-19 pandemic, as the students were unable to benefit from the year abroad in France. To address these challenges the educators developed an L2 learning system to allow students to concretely visualise and reflect upon their participation and learning on a weekly basis.

This case study shows how language students use the recordings of their virtual exchanges with native speakers of their target language using Zoom video conferencing for online language learning. The recordings are used to generate graphic visualisations that allow students to analyse their participation rates and conversation flow, as well as playback the videos to engage in self- and peer-review with the aim to reflect on their linguistic competencies, intercultural understanding, any challenges encountered and how they could be overcome.

Figure 1: Visualisation of participation rates and conversation flow

Final year undergraduate students from Humanities and Business learning French in DCU interacted with undergraduate students from University Paris Sciences et Lettres (PSL) in Paris via Zoom to practice their foreign language skills with native speakers of the target language. The addition of the L2 Learning system, to this tandem (French & English) language learning telecollaboration project, addresses some challenges of synchronous telecollaboration by developing on the affordances of videoconferencing. The L2 Learning system facilitates innovative learning activities, such as students reviewing recordings of their synchronous interactions for learning and reflection. The system not only helped DCU and PSL students in reviewing their linguistic knowledge and intercultural understanding, but it also helped in increasing students' confidence in speaking with native speakers, monitoring their own progress in terms of participation, and remaining motivated to do their work thus reducing student attrition.

Full details about the case study and examples of the solutions are available from the TEU website.

Engaging Students through Asynchronous Teaching

Discipline:	School of Human Development
Subjects:	ED2018 Religious Education and the Child
Level:	Undergraduate
Class Size:	400+
Mode of Delivery:	Online (Covid-19 remote teaching)
Period:	Semester 1, 2020/2021

This case study describes how a traditional face-to-face module has been adapted for asynchronous online delivery and what the impact was for the teacher and the students.

Traditionally, the module had plenary lectures with supplementary readings around each of the topics, and then small group seminars with practical pedagogical engagement with the Catholic religious education curriculum (CPPREC, 2015) and the *Grow In Love* programme. The assignment consisted of an essay.

Challenges were threefold:

- How to provide the lectures online?
- How to turn interactive face-to-face seminars into interactive asynchronous online spaces?
- How to enhance the assessment for the Covid-19 context?

Solutions

- Lectures were pre-recorded and made available via Loop.
- The lecturer took a number of steps to ensure the human dimension was not lost in the asynchronous modality:
    - Pre-recorded videos were combined with lecture videos and supplementary text on the loop page to contextualise the material
    - Announcements were recorded and made available as videos.
    - Additional practice quizzes were made available
- In order to make the seminars more interactive, members of the RE team recorded discussions representing their often differing opens on Zoom and made them available on Loop. H5P was used to create interactive assignments to be done by students after the discussions, and included a final assignment to be posted in discussion forums.
- A valuable addition were the Zoom interviews with guest speakers. These interviews gave students insights into contemporary Catholic RE practice as well as the provision and governance of Catholic education. This would not have been possible in the previous face-to-face settings, due to cost and time constraints.

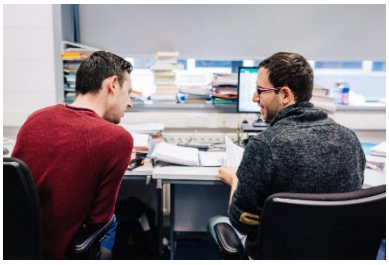
- Principles of universal design for teaching and learning were implemented to ensure inclusion of all students.
- The traditional essay assignment was changed to a three-part e-portfolio assessment using the Loop Reflect platform.

Full details about the case study and examples of the solutions are available from the TEU website as well as in the DCU Podcast: Transformation & Innovation in teaching with David Kennedy.

Non Covid-19 practices

The following case studies are not directly related to Covid-19. They are examples of pre-existing online or blended learning teaching practices or practices that have the potential to be adapted for an online or blended learning format.

Overcoming Plagiarism using Written Simulations for Assessment



Discipline:	Social Science, Law & Government
Subjects:	Comparative Politics
Level:	Undergraduate & Postgraduate
Class Size:	All Class Sizes
Mode of Delivery:	Face-to-face, Blended & Online Formats

This case study describes how the educator used written simulations to design authentic and current assessment that challenged and motivated students.

The traditional essays of social science are easy to plagiarise, given the wide amount of relevant online material for classic general questions. Simulations in the sense of role-play are often used for teaching, but not so often for individual written assessment. Written simulations present students with a concrete problem or set of circumstances, to which they have to apply the theory and skills they have learned in the course. This promotes student engagement, active learning, and, so far, has never been plagiarised.

Students did the class simulation in a group, with one member briefly presenting their conclusions and a general discussion ensuing. The assessment then consisted of an individual written assignment in the exact same format, but with very different content.

This is usually done with relatively small classes (10-40). However, this year students in a class of 170 received two written simulations and it worked very well.

Full details about the case study and examples of the solutions are available from the TEU website.

Elite Sport Performance

Discipline: School of Health & Human Performance
Subjects: Elite Sport Performance
Level: Postgraduate
Class Size: 15
Mode of Delivery: Online, part-time
Covid-19 impact: on campus sessions replaced by student-led webinars

This case study highlights the blended learning strategy on the Professional Doctorate in Elite Performance (Sport). The Professional Doctorate in Elite Performance (Sport) is aimed at the next generation of practice leaders in sport and attracts students from diverse disciplines (e.g., coaching, sport science, leadership, management, athletic therapy, physiotherapy, and teaching).

The Professional Doctorate in Elite Performance programme is a four year, part-time 240-credit programme, comprising of a 60-credit taught element and a 180-credit research thesis. The qualification is designed to enhance and acknowledge the quality of innovation, critical review and systematic application of appropriate theories and research to sport performance.

Four 15-credit modules were delivered using a blended learning strategy to facilitate the needs of the part-time students working in diverse and challenging environments.

- A flipped classroom approach was adopted which involved independent reading and the completion of directed learning tasks scaffolded by synchronous webinars.
- Combination of problem based and enquiry based learning typified delivery. Problem and enquiry questions were specific to the domain that each individual worked in. A blend of independent study, online activity (where students engage with online material via Loop including but not limited to webinars, online tasks, quizzes, and tutorials) and directed learning (where stimulus presentations and discussion will be used to tease out possible contributing topics and test the student's current levels of knowledge and experience with them) characterise the modules' workload.
- It was also important to exploit the knowledge, skills and experience that the students brought to the programme. Of course, **Covid-19** impacted our ability to organise planned 'on-campus' learning blocks. However, student-led webinars were a feature of all modules and offered opportunities for assessment, sharing of practice, and networking amongst the student cohort.

Full details about the case study are available from the TEU website.

Professional development examples

Other interesting case studies not detailed here are the two case studies using the ABC framework to assist teachers and course designers in designing and developing courses. Details can be found here:

-  Using ABC to Design an Online Teaching Course for Open Online Educators
  An online professional development workshop. Discusses how a course was developed with the aim of addressing a gap in the provision of professional development for the OEU team of part-time online educators.
-  Using ABC to design a new Clinical Exercise Science MSc at Dublin City University (DCU)
  A new master programme that will be offered in blended mode has been developed in several face-to-face workshops using the ABC framework.

Fédération interuniversitaire de l'enseignement à distance

Fédération interuniversitaire de l'enseignement à distance (FIED, located in France) is a network of more than 30 universities, representing more than 55,000 distance-learning students and more than 500 educational programs. Every year FIED organizes a conference bringing together French and foreign institutions on themes related to distance education.

The FIED regularly collaborates with several national and international bodies to promote innovative forms of online education.

The FIED also contributes to the development of services for its members and other higher education institutions and reports intellectual results on its website www.fied.fr.

Copyright

Covid-related practices

Travail collaboratif pour des étudiants en management (Collaborative work for management students)

Outline of the problem

Description of problem, context and Covid-19 phase

It was necessary to provide remotely a course, which was only designed for face-to-face, with strong interactivity.

Master 2 Management level. The theme of the course was “interpersonal communication” for an audience of young apprentices in master management.

Remotely, partially confined, the theme was difficult to tackle. Therefore, I mobilised visual collaboration tools (Miro and Mural).

During the first containment and refined over time.

Goal

The main goal was to maintain interaction with the students. It made sense with the theme of the course and with their exasperation with distance learning.

Summary

By mobilising visual collaboration tools, I was able to maintain interactivity throughout the course. These were used in the context of case studies or reflective exercises.

Conception

Evidence-based

Yes, this type of tool has already been used for many years by consulting companies and several publications have already described the benefit of using its methods in a managerial context.

The keywords: visual / graphic facilitation, visual collaboration or agile management methods

Theoretical basis

Activate Prior Knowledge; Clear instruction; Examples; combine words and images; active processing of content; check for understanding; scaffolding; support for difficult tasks; spaced practice; variety in tasks; formative assessment; meaningful feedback; self-regulated learning; authentic assignments; project based learning

Variety of tasks, formative assessment, self-regulated learning, project-based learning

Learners / instructors / other stakeholders

Target group Learners

Group size 20-49

Year of study 2nd year master

Stakeholders

The experience of mobilising a professor and twenty students. Helped by an outside observer, a colleague.

Skills and competences required

Professor: it was necessary to mobilise graphic, video, and animation skills. The success of this type of method depends in large part on the quality of the animation.

Students: they had to appropriate the tool and apply interpersonal skills to deal with the case studies in the situation.

Training needs

The tool is easy to use, minimal training may not even be required. On the other hand, transforming a course to make it accessible through this type of tool requires mobilising design skills. The institution I belong to purchased licences for professors (www.miro.com). We have freed up budgets to allow the transfer of certain courses on this type of tool by supporting professors. The implementation will come in the next few months.

Design

Design details

This is a comprehensive course posted online on a platform. The content combines theory, writing and videos, as well as case studies and exercises.

Tools

The tools used by professor within our institution are very diverse. Moodle is automatically accessible. However, the solutions found by professors are numerous. In particular, Miro and Mural.

Media used

Videos, images, podcasts, interactive practice materials, Games / simulations

Phase of course: During the course.

Implementation

Means One professor, "business" licence, computer or mobile phone.

Step by step guide

Before: Have a sufficient licence to access all tools on the platform. Make sure that the students have a minimal knowledge of this type of tools.

During: Diversify the methods of soliciting students to maintain interaction.

After: Course materials and student productions remain constantly available in one place. It is a resource for them.

Examples of implementation: In what context did you implement this practice?

Interpersonal communication course in Management Master

Results

A better involvement of the students in this course in comparison with others. A boost in motivation in a confinement context.

For the professor: a renewal of teaching practices.

Student Feedback

Their opinion was gathered through recorded interviews. It was very positive.

Characteristics that makes this a good practice

The interactive dimension that revives the motivation of distance students.

Benefits

For the motivation of the students and another approach to pedagogy: the professor animates his intervention rather than remaining in a role of passive transmission.

Challenges

The main challenge on the professors' side and probably a change in perspective. The technical challenge is not very important.

On the student side, it may be difficult to adopt a more active attitude when the habits of passivity have been learned from a distance.

Success factors

The quality of the professor's practice.

Failure factors / Barriers

A bad group limit on the student side or an apprehension about the tool.

Relevance

This practice might be institutionalised. But the promotion work is ongoing, and it's hard to be sure at this point in time.

Time/effort required

It all depends on the size of the course and the possibility of accompanying the professors. I am not able to estimate it even if, in my experience, it would represent about ten hours for a course of 20h. It all depends on the size of the course and the possibility of accompanying the professors. I am not able to estimate it even if, concerning my experience, it represents about ten hours of work upstream for a 20-hour face-to-face course.

Improve interactivity

Outline of the problem

Description of problem, context and Covid-19 phase

Reinvent the methods of knowledge control while remaining within the legal framework.

Bachelor to Master 2 level

During COVID.

Goal

Improve interactivity between learners.

Conception

Theoretical basis

Clear instructions, check understanding, support for difficult tasks, formative assessment, project-based learning

Learners / instructors / other stakeholders

Target group Remote employees present all over the planet

Group size 250+

Year of study 3rd year licence, 1st year Master, 2nd year Master

Design

Design details A resource and a tool

Tools Canvas

Media used Videos, books, games / simulations

Phase During the course, after the course

Results

Student satisfaction

Challenges Difficulty in implementation

Success factors Number of connections and duration

Fundacio per a la Universitat Oberta de Catalunya

Since its creation in 1994 as a state-of-the art technological university with a highly innovative learning model, the Universitat Oberta de Catalunya (UOC, Spain) is one of the world's premier online Higher Education universities. UOC's core goal is to be the university of the knowledge society, promoting innovative education, personalized learning, technological leadership, R&D work on the information society and eLearning. The UOC's research, innovation and transfer activity is organised into the Doctoral School and 48 R&I groups conducted within the University's faculties and at the Internet Interdisciplinary Institute (IN3), the UOC research institute specializing in research on the network society. The UOC has two other centres for R&I collaborations: the eLearn Center (eLC) and the eHealth Center (eHC). With internationalization at the core of its mission, UOC continuously works to bolster its international profile through initiatives that increase its research partnerships around the world and the number of its international mobilities and students.

The UOC has developed a unique educational model that is currently training more than 77,000 people and has graduated 80,000 more. As an exclusive online university that is committed to professional education, its portfolio ranges from vocational training to doctorate through an offer that combines long-term training (degrees, master's degrees and vocational training) to short online courses and also in-company training. To deliver exclusively online this wide range of courses to a diverse target of students, the UOC has been testing the application of new technologies to new products and services. Edul@ab is a research group with large experience in research and projects linked to E-learning; education and ICT; educational organization; online university teaching; teaching methods; educational policy; strategic ICT planning in education.

Copyright

Non Covid-19 related practices

UOC being a fully online distance teaching university, the Covid pandemic had less of an impact. These examples illustrates practices that could be applied to any kind of online education.

Feedback processes in an online teaching and learning environment

Outline of the problem

Context University teaching practice in online environments

Goal

> The objective of collecting feedback is to promote the regulation of learning. Researchers identified three kinds of feedback: interactive regulation (response to questions about course content); retroactive regulation (following an assignment); and proactive regulation (after final assignment)

Conception

Evidence-based

> Espasa, A., & Meneses, J. (2010). Analysing feedback processes in an online teaching and learning environment: an exploratory study. *Higher Education 59*(3), 277–292. https://doi.org/10.1007/s10734-009-9247-4

Learners / Instructors / Other stakeholders

Target group University students enrolled in online universities

Group size 186 students are involved in the sample

Year of study Bachelor students

Stakeholders

Students involved were from the following nine UOC programs: Technical engineering, Representation and processing of knowledge, Introduction to macroeconomics, Interculturality and education, Professional orientation, Logic, Applied statistics, Fundamentals of search and recovery of information, Data analysis II

Design

Design details

An electronic ad-hoc questionnaire developed and administered in the last week of the course. The students were asked to assess the kind of feedback they were receiving in the course, bearing in mind the three kinds of regulation of learning early discussed. Whenever the feedback was identified, the participants were asked to rate its nature through four independent Likert-type agreement items

Phase Assessment

Implementation

Examples of implementation

Online Education, especially in an asynchronous interaction environment

Results

The presence of feedback is associated with improved levels of performance and higher levels of satisfaction with the general running of the course.

Benefits

According to the sample, students that had received feedback after assignments achieved better academic result; the percentage of the students who gained good, very good and excellent grades (78.9%) was significantly higher.

Challenges

The results obtained only make sense within the frame of the subjects analysed. Other dimensions, which define feedback processes, should be analysed, for example, the structural dimension (i.e. the characteristics of feedback within a specific context) or the motivational function of feedback. The training of university teachers in asynchronous and written contexts should undoubtedly take into account developing strategies for providing teachers with knowledge on the types and characteristics of feedback.

Learning analytics and data mining techniques

Outline of the problem

Context Business students at bachelor and master levels

Goal

The purpose of this study is to relate social interactivity and gamification as two elements that contribute to learn through communication and engagement. This study aimed to explore the online discussion forums of students participating in an online learning activity, more specifically a business simulation game. The game provided a participatory platform for students to contribute, share, and provide feedback by using online discussion forums that store this information for potential educational use.

Conception

Evidence-based

Hernández-Lara, A. B., Perera-Lluna, A., & Serradell-López, E. (2019). Applying learning analytics to students' interaction in business simulation games. The usefulness of learning analytics to know what students really learn. *Computers in Human Behavior, 92*, 600-612. https://doi.org/10.1016/j.chb.2018.03.001

Learners / Instructors / Other stakeholders

Target group Students who participated in business simulation games between 2011 and 2016.

Group size 362 students

Year of study Bachelor and master

Stakeholders

Data was collected from students of the Open University of Catalonia. The students played the game organised in teams

Skills and competences

Students were previously enrolled in the Open University of Catalonia which is an online university, students enrolled in educational programmes at this university are normally older than in traditional face-to-face educational institutions, and have high experience in the use of educational digital technologies.

Design

Tools Natural Language Processing

Media used Games/simulations

Implementation

Means Technology, simulation games, resources, people

Results

Two questions were asked: What are the most frequent contents that appeared in students' interaction, which determined the communication pattern in their online discussion forums?

Students' interactions were concerned with specific features and parameters of the game, more than simple, conversation or small talk. Students' interactions involved more of these specific characteristics of the game than terms related to the learning process itself, which implied, for example, clarification, interpretation, discussion, conflict, assertion, and support, among others.

What are the content that better explained and predicted the students' learning results? General actions involved in the students' conversation did not really have a positive relationship with learning results but that, on the contrary, stems highlighting ideas around communication, uncertainty, decision, collaboration and time frequently emerged in the conversation of students who outperformed in the business simulation game.

Benefits

Providing a learning analytics tool to explore deeply students' interactions through content analysis.

Failure factors / Barriers

Inability to capture all the communications developed by students while playing because, despite the teachers' advice, some of them neglected to participate in the online discussion forums.

Collaborative learning and Project-based learning (PBL) to promote collaboration among students

Outline of the problem

Description of problem and context

How to combine collaborative learning and PBL in a Higher Education Course

Goal

This work presents a case study based on a specific course designed for the acquisition of the digital competence that combines collaborative online learning with PBL and the results obtained from its implementation are explained.

Conception

Evidence-based

Guitert, M., Romeu, T., & Romero, M. (2020). Elementos clave para un modelo de aprendizaje basado en proyectos colaborativos online (ABPCL) en la Educación Superior. *American Journal of Distance Education, 34*(3), 241-253, https://doi.org/10.1080/08923647.2020.1805225

Learners / Instructors / Other stakeholders

Target group High Education Students Open University of Catalonia

Group size 3025 students

Year of study Bachelor

Stakeholders

Students from Open University of Catalonia who took part to a basic course on digital skills. Twenty-two programmes share the course, and 3500 students per year take this course.

Design

It is practice carried out in a full course

Media used Video; interactive practice materials; journal articles and research material

Results

The design of the online course presented is student-centred and it encourages the active role of students in each of the phases, promoting their motivation in an online context.

Benefits

The practice can be replicated in other contexts that need to foster online collaboration among students, the methodology can be considered OCPBL model.

E-assessment process

Outline of the problem

Context Continuous e-assessment in a subject at the UOC

Goal

Students are assessed using a project based learning methodology, from two dimensions provided by continuous assessment: on the one hand, the assessment of the process followed during the development of the activities based on the outcomes of each phase of the projects and process monitoring and, on the other hand, the assessment of the final outcome. In order to analyse the students' perception about the e-assessment methodology and their role during this process, a quantitative and online questionnaire was designed and administered at the final stage of the course

Conception

Evidence-based

Romeu, T., Romero, M., & Guitert, M. (2016). E-assessment process: giving a voice to online learners. *International Journal of Educational Technology in Higher Education, 13*(1), 20. http://doi.org/10.1186/s41239-016-0019-9

Learners / Instructors / Other Stakeholders

Target group Students from the course "ICT competencies" carried out at UOC

Group size 913 students

Year of study Bachelor- first semester

Stakeholders 15 teachers are also involved within a focus group in order to collect some testimonial

Design

Design details It is a practice used in a full course

Media used interactive practice materials

Phase Assessment

Implementation

Examples of implementation: Online education course at UOC

Results

Students stated a high satisfaction to the fact of being actively involved in the assessment process and, in consequence, with their benefits for their own learning process.

Benefits

The students see peer-assessment as an instrument that lets them assess their peers using objective criteria.

Success factors

In a fully online educational context and, considering that the students enrolled in the ICTC subject during their first semester in the university, the feedback given by the teacher is a key element to avoid student dropout.

Failure factors / Barriers

Most students are not at first comfortable with assessing their peers, but they finally understand the benefits of this activity

Katholieke Universiteit Leuven

Situated in Belgium, in the heart of Western Europe, KU Leuven has been a centre of learning for nearly six centuries. Today, it is Belgium's largest university and, founded in 1425, one of the oldest and most renowned universities in Europe. As a leading European research university and co-founder of the League of European Research Universities (LERU), KU Leuven offers a wide variety of international Master's programmes; all supported by high-quality, innovative, interdisciplinary research at 14 campuses in 11 Belgian cities.

Itec is a multidisciplinary research group of KU Leuven and imec. Itec brings together some 45 researchers from three different faculties (Psychology & Educational Sciences, Arts and Medicine) and five disciplines (educational psychology, statistics, applied linguistics, data science and computer science) to work together on research themes in educational technology, such as instructional design and the effectiveness of online learning environments (e.g. e-learning, serious games), multi-level modelling, algorithms for adaptive learning and natural language processing.

KU Leuven Learning Lab unites educational expertise in faculties and units, learning from practices and each to deliver high-quality education. Their support portal provides didactical formats, tools and examples of practices in their Inspirationbord (the latter in Dutch only).

In addition to the practices described below, Raes (2022) gives two examples of designing hybrid lecture and a hybrid collaborative session based on the ACAD framework (Goodyear et al., 2021).

Goodyear, P., Carvalho, L., & Yeoman, P. (2021). Activity-Centred Analysis and Design (ACAD): Core purposes, distinctive qualities and current developments. *Educational Technology Research and Development*, (0123456789). https://doi.org/10.1007/s11423-020-09926-7

Raes, A. (2022). Exploring Student and Teacher Experiences in Hybrid Learning Environments: Does Presence Matter? Postdigital Science and Education, 4 (1), 138-159. https://doi.org/10.1007/s42438-021-00274-0

Copyright

Covid-19 related practices

This is an example that arose due to Covid pandemic.

Interactive lesson recording: watch with the teacher and interact

Outline of the problem

Description of problem and context

> During the first Covid lock down (March 2020) the switch to online lessons was urgent. All teachers and students started streaming. In all the households, everybody used the Wi-Fi connection. This sometimes led to technical problems and interrupted streaming. To handle this problem this teacher chose to record his lessons in advance. Then he was not sure who was watching and how attentive they were watching.
>
> This practice was applied for first bachelor university students in economics.

This was designed during Covid (April 2020).

Goal

The main goal was to tackle technical problems, help students with their planning by making the lessons synchronous and to increase interactivity.

Summary

In this application of hybrid synchronous education, the teacher records the lesson in advance. In that way, the teacher has no stress about the network, there is time to test microphone and camera. Shortly, there is more time to take care of technical concerns. The recording is available for the students at the time when the lesson is scheduled in the timetable. All students are invited to watch at the same time. During this moment, the teacher is available in the chat. After watching the recording, the teacher gives an example of an exam question. Everyone tries to solve it and in-group with the teacher they come to the correct solution.

Conception

Evidence-based

Engagement is considered as "the holy grail of learning" as student engagement is regarded as one of the top factors affecting student performance (Furlong and Christenson 2008; Fredricks, Blumenfeld, and Paris 2004). Especially during synchronous hybrid learning, interaction is key to keep the students engaged (Raes et al., 2020).

The teacher chose to work synchronously. During Covid times, it was clear that many students postpone their tasks. These procrastinators experience problems at the end of the semester. There are still a lot of lessons to look at and they do not find it feasible to look at them all at that time.

By providing interaction, the teacher tries to motivate the students to watch the recording at the scheduled moment. Creating interaction has found as one of the determining factors for being engaged during synchronous hybrid education (Raes, 2021).

Learners / Instructors / Other Stakeholders

Target group

This described practice concerns students of the first degree in a bachelor in economics. This educational approach can be applied to all years of higher education and lifelong learning.

Group size 25-50

Year of study 1st year bachelor

Stakeholders

The instructor developed most of the practice. After a few lessons, he consulted educational support services to get some information about polling applications.

Design

Solution

During the first Covid lockdown, everyone quickly switched to emergency teaching. Every teacher had to find a solution in online education. At the same time, in many households all family members were working or taking classes at home. This caused the network in many homes to become overloaded.

Teachers who were not used to online teaching at that time were also often stressed. It requires many technical skills that can lead to some overload for someone who is not used to it. Is my microphone on? Is the camera aimed correctly? Is the screen shared with the right content?

It is not easy to do all this with the time pressure of a lesson. For these reasons, this teacher chose to record the lesson in advance. He has the time to prepare calmly. He is not dependent on a network during the recording and if necessary, the teacher can re-record a lesson or part of a lesson.

In addition, this way a qualitative recording is available for students who cannot follow synchronously because of illness or technical problems.

Nevertheless, we see that synchronous online education has many advantages. Interaction is possible, which benefits engagement, an important condition for learning. We also see that asynchronous teaching, especially with younger students who are not yet used to planning, often leads to procrastination.

To convince students to watch the recording when the lesson is planned, the teacher makes the recording available only then. The students watch the recording synchronously and questions can be asked via a chat. At regular intervals, the teacher adds a poll to the chat. This way, students are more inclined to pay attention and process the learning material. At the end of the lesson, the teacher presents an example exam question or a problem for which the students formulate a solution together. This is then discussed with the teacher.

Tools

Recordings: Kaltura

Polling: polleverywhere

Chat: Blackboard Collaborate

Media used Video, chat

Phase Lecture

Implementation

Means

This approach is quite easy, lesson recordings can be done with the webcam and microphone of the laptop. In order to obtain a more qualitative recording, a separate camera and a tie-fixed microphone can be used.

Step-by-step guide

1. Make a recording of the lesson. Do not make it too long; better make some shorter recordings than one long one.
2. Inform your students about the approach.
    a. Let them know that the recording will only be available for a limited, scheduled time.
    b. Let them know that there is a possibility to ask questions and that you expect presence and cooperation.
3. Start a chat at the moment of the lesson and follow strictly. Launch a poll about every 10 minutes.
4. Give a problem-solving task at the end of the lesson and discuss the outcome with the students.
5. If there were students who could not follow at the scheduled moment due to illness or other problems, you can share the recording with them.
6. It is possible to share the recording with all the students e.g. at second term.

Results

The results of this approach were positive. Although the approach has not yet been widely used and has not been researched enough to make statistically sound statements, we can share our first impressions. We saw more students participating in the first exam session than in other courses. The teacher received fewer questions from the students afterwards

The students themselves explicitly stated that the interaction helped them to stay attentive behind their screens. The fact that it was synchronous also achieved the intended goal. There was less postponement. Even though in this case the recording was made available afterwards, most students indicated that they followed it synchronously.

The problem-solving task at the end was seen by the students as a moment not to be missed. They considered it as a reward to follow the lesson synchronously.

The promise of a sample question ensures that students view the recording at the suggested time. Students themselves notice that the polls and the chat make them active learners and that this leads to a better understanding of the learning content.

Although the added value of synchronous working is quickly apparent to everyone, it is difficult for many students to resist procrastinating. It is therefore very important to convince the students to watch the lesson at the proposed time, through the interactivity offered but also through the limited availability of the recording.

This way of working was developed as emergency teaching. This way of working can continue after the covid crisis. However, it is not possible to offer this form of teaching to a mixed audience. This approach can only be used if everyone is remote.

Further information

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School Engagement: Potential of the Concept, State of the Evidence. *Review of Educational Research*, *74*(1), 59–109. https://doi.org/10.3102/00346543074001059

Furlong, M. J., & Christenson, S. L. (2008). Engaging students at school and with learning: A relevant construct for all students. *Psychology in the Schools*, *45*(5), 365–368. https://doi.org/10.1002/pits.20302

Raes, A., Vanneste, P., Pieters, M., Windey, I., Van Den Noortgate, W., & Depaepe, F. (2020). Learning and instruction in the hybrid virtual classroom: An investigation of students' engagement and the effect of quizzes. *Computers and Education, 143*. https://doi.org/10.1016/j.compedu.2019.103682

Raes, A. (2021). Exploring Student and Teacher Experiences in Hybrid Learning Environments: Does Presence Matter? *Postdigital Science and Education*, *4* (1), 138-159. https://doi.org/ 10.1007/s42438-021-00274-0

Non Covid-19 related practices

These examples did not strictly arise during or due to the Covid pandemic, but illustrate valid practices for various forms of online teaching.

Lifelong learning at the Law faculty (KU Leuven-Kortrijk)

Outline of the problem

More and more people want to get an extra degree at a later age when they are already professionally active. It is not so easy to combine a good work-life balance with an extra study load.

The Faculty of Law of KU Leuven Kortrijk organises various training opportunities for working students. If they already have a higher education diploma, an abridged program is an option. There is also a work-study program for the transition program to a law master's degree.

For those working students, the faculty provides Hybrid Synchronous lessons just after regular working hours. That way, it is not too late for regular students to follow the lessons.

The course is hybrid in different ways: students are on campus and remote, students are young and inexperienced; teachers are professors and people with practical experience (e.g. lawyers)

Working students, who can count on an efficient organisation, modern educational technology and strong study (career) guidance. This makes the combination of working and studying more realistic.

Learners / instructors / other stakeholders

Target group Lifelong learning program for law students

Group size 20-49 (both campus and remote)

Year of study 1st year bachelor; 2nd year bachelor; 3rd year bachelor

Skills and competences

All lessons are in the hybrid virtual class of our campus (KULAK). **In** that setting, a teacher does not need specific technical skills. In lessons with guest teachers, there is a room operator who takes care of that.

Training Needs

If a teacher is there for more than two lessons, we ask him to take a training to manage the system by his/herself. The training takes about 30 min. In any case, there is a room operator in the first lesson.

Implementation

Means

In this concept, we always worked 'hybrid' it means that participants can choose to come to the campus or follow the course from another location. The room setup must make this possible; minimal requirements are a camera, microphone and a platform (e.g., teams weConnect, skype)

If communication in both directions is possible, it is definitely a plus.

We use Blackboard Collaborate as learning management system for the whole institution. So also in these programs we use it to communicate, collaborate, provide learning materials, learning activities, etc.

For the hybrid synchronous lessons, we use weConnect from Barco
https://www.barco.com/en/page/products/weconnect

Examples of implementation

This practice is implemented in the full program of bachelor in law**.** Lessons with interaction are planned on Tuesdays and Thursdays 18:00h - 20:00h. Other lessons in which interaction is less important are sometimes only provided in recordings.

Results

This approach and offering synchronous hybrid classes in a way that makes it possible also for people to combine a job and a study, ensures that more people start the course. Even if the dropout rate is high, it is no higher than for regular students. The success rates are comparable to those of regular students, although we see that more people spread their studies over several years.

Student Feedback

The experiences of students are positive; here is a testimonial from one of the students.

> *"Thanks to the coordinators in Kortrijk, you hardly lose any time with practical matters and with the large virtualisation of the learning environment, you can study very efficiently. But also the group feeling among - usually busy - work students leads to results. One step at a time, they are progressing towards a bachelor's degree in law, and for many of them a master's degree is also in the offing. The group of working students scores well in the exams, although it has to be said that the initial group has thinned out somewhat. The flexibility of today's university education allows for a lot of à la carte, and that makes it palatable to working students. From the political debates behind the lectern to the classroom and being a student again among the students (who are half as young)... not a sacrifice but an honour".*

Efficient learning instead of traffic jams

Outline of the problem

Traffic jams in Flanders are growing, more and more people try to avoid losing time in traffic and adapt working hours to the traffic jams. So, when people start later in the morning, they work later in the evening. Therefore, following a course in the evening is no longer possible. By planning a hybrid synchronous course in the morning, we can tackle this problem.

This concept is part of the postgraduate educational program of KU Leuven. All courses are standalone lessons on legal topics for people working in real estate.

We started the courses in 2017, before covid. During covid, we could continue the program, although only virtual instead of hybrid.

These courses are a way to keep people up to date with the rapidly changing legislation in this sector. In addition, the influence of changing laws on people's buying behaviour is also discussed.

Learners / instructors / other stakeholders

Target group Students. People working in or interested in the real estate sector, lawyers.

Group size 20-49 (both campus and remote)

Course delivery

Each lesson has another teacher depending on the topic. In most cases, someone with a lot of practical experience or someone working in research on the topic.

Skills and competences

All lessons are in the hybrid virtual class of our campus (KULAK). In that setting a teacher does not need specific technical skills. In lessons with guest teachers, there is a room operator who takes care of that.

Training needs

If a teacher is there for more than two lessons, we ask him to take a training to manage the system by his/herself. The training takes about 30 min. In any case, there is a room operator in the first lesson.

Means

In this concept, we always worked ‘hybrid’. It means that participants can choose to come to the campus or follow the course from another location. The room setup must make this possible; minimal requirements are a camera, microphone and a platform (e.g., teams weConnect, skype)

If a communication in both directions is possible, it is definitely a plus.

Timing

In this concept, the timing is the most important thing. The course is always exact one hour, between 8 and 9 am. In Flanders, traffic jams are at the longest at that hour. By organizing the

course at that time, participants can choose to drive before 8 to the course room if that location is suitable for their further plans of the day. They can follow the course from home and drive after 9 when traffic jams are less.

Results

This concept is a good replenishment to the existing courses. Time makes a difference and we reach new and other participants then we do with the evening courses.

Participants like the compactness of the cours: one hour, dense new material. Although the hour is an advantage, many participants ask to start later (8:30 am).

Covid made this course completely virtual while it started as a hybrid course. We still doubt about the future approach.

Open Universiteit

As a publicly funded university, the Open Universiteit (OUNL) has been assigned a unique role within the higher education system of the Netherlands. Openness is ingrained within its DNA; it stands for the continuous study, improvement and development of new teaching methods and techniques, along with sharing knowledge and experience. In its teaching and research, the OUNL makes intensive use of the possibilities afforded by the internet. Personalised, interactive and active online education lies at the core of its educational model.

The Faculty of Educational Sciences integrates research and expertise in the educational sciences and technology-enhanced learning. The mission of this faculty is to improve learning and knowledge building at work, at school, at home and on the move by combining state-of-the-art knowledge in educational sciences with the innovative powers of new Information and Communication Technologies.

The Expertise Center for Education (ECO, Expertisecentrum onderwijs) provide support for educational development and testing, training, quality assurance, multimedia productions, educational technology platforms and educational innovation. Furthermore, ECO designs and provides teachers professionalization for OUNL teachers.

Copyright

Covid-19 related practices

Online assessment and proctoring

OUNL provides distance education, providing open and flexible education allowing flexibility in time, location and pace. All courses are delivered through our online learning environment, based on active learning models, putting the learner centre-stage, with teachers prominently visible in the course, stimulating interaction with online and f2f meetings. Therefore, Covid-19 did not impose too great a problem for our course delivery, although some f2f meetings had to be converted to online meetings. Impact of Covid-19 lies predominantly in the examination. Assessment of approximately 60% of our courses is done via exams that require students to travel to one of our studycentres. Exams can be paper-based or computer-based. Due to Covid-19 restrictions, these exams had to be changed to fully online exams, requiring online proctoring. This required a large effort of the support staff in rescheduling exams and implementing a proctoring system.

Extension of course registration

During the start of the Covid-19 pandemic all students enrolled in a course were granted automatically additional time to complete their courses and take the exam.

Lenience in admission

Admission rules for master programmes temporarily allowed students to enrol in the master programme, giving students an additional 20 days to finalise he exam results of their last bachelor or premaster course.

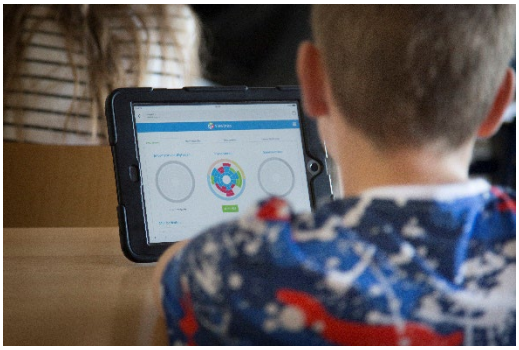
Supporting higher education

Open Universiteit responded immediately at the start of the Covid-19 pandemic by providing a lot of information, knowledge, tips, know-how on moving to online education to teachers in (higher) education through websites, webinars, modules, short courses, etc.

One example are our webinars and additional formal modules on Digital didactics (DDGuide, Digitale didactiek). Because this was aimed at Dutch teachers, this website is provided in Dutch only.

Non Covid-19 related practices

Viewbrics: using video-rubrics in a digital formative assessment method to train complex skills



Student using Viewbrics, gaining inside by comparing his current performance against his previous performance.

Outline of the problem

Complex skills such as collaboration, presenting, information literacy are skills and competences that are becoming increasingly important and that are being taught at various education levels, ranging from secondary education to higher education. For students, these skills are difficult to learn and need a lot of (repetitive) practice; for teachers these skills are difficult to teach and assess in a structural manner and are time-intensive to provide feedback for. Furthermore, although teachers are aware of the importance of acquiring complex generic skills and they do in fact pay attention to them in their educational practice; it is not done very explicitly, structurally and on a regular basis. What is needed to structurally support the learning process towards pupils' complex skills mastery?

An instrument that can support assessing complex skills and competences is an analytic rubric: a textual description of the different mastery levels of a skill by means of (a set of) performance indicators. Performance indicators specify aspects of variation in the complexity of a skill, constituent sub-skills and related performance levels. Rubrics defines the features of work that are considered quality. It is a mechanism for judging the quality of a students' performance on a task. It also is an instrument that can be used to foster and support feedback and reflection when practicing skills. However, from its use in practice we learned that rubrics don't make the desired mastery level of a skill sufficient clear and concrete for pupils in secondary schools, leading to incomplete and inconsistent mental models of what is expected of them to master a skill. Pupils often asked questions like "What should I exactly do?" and "To what kind of things should I pay attention to?" Therefore, we developed a method where video-enhanced rubrics are embedded in formative assessment cycle, thus clarifying expectations about the strived-for

mastery level(s) of a skill clear in advance to students. This helps students both at the start and during their learning activities to envisage the targeted mastery level of the skill. By the video-enhanced assessment rubrics actors (e.g. students (amongst each other), teachers, experts) can communicate about the requirements, expectations of skill's mastery levels and in this way monitor skills' development progress and adjust the teaching-learning process. This enables students, while practicing a skill, to pay extra attention to the aspects of a skill that they did not master yet very well.

Context

In modern society, 21st century skills are essential. These 21st skills encompass complex competences that are being taught at various educational levels. Complex skills are not only difficult to teach and assess, they take practice and relevant feedback to learn. The Viewbrics formative assessment methodology aims to guide both teachers and learners. Instead of textual rubrics, examples recorded as video are applied to both demonstrate and assess required skills. Initially aimed at secondary school pupils, the Viewbrics methodology is generic and can be applied to any complex skill at any educational level.

The Viewbrics methodology was developed several years before Covid. It is an illustration of an effective 'blended' digital formative assessment methodology that can be applied in any educational setting, be it at school or campus. Currently, a fully online elaboration of the methodology is developed and evaluated in the context of higher education, called Pe(e)rfect Vaardig = Pe(e)rfectly skilled.

Goal

Viewbrics aims to assist teaching, assessing and training complex skills by combining digital formative assessment with video-enhanced rubrics (analytic rubrics integrated with video modelling examples) and guidelines and digital tools for providing feedback and reflection.

Conception

Evidence-based

The Viewbrics method was formulated based on theoretical evidence of formative assessment, rubrics, instructional design and multimedia theory.

The methodology was developed and tested in several projects and educational situations and was the topic of a PhD candidate.

Ackermans, K. (2019). *Designing Video-Enhanced Rubrics to Master Complex Skills.* [Doctoral dissertation, Open Universiteit]. Open Universiteit research portal. https://research.ou.nl/en/publications/designing-video-enhanced-rubrics-to-master-complex-skills

Ackermans, K., Rusman, E., Nadolski, R. J., Brand - Gruwel, S., & Specht, M. M. (2021). Feedback is a gift: Do Video-enhanced rubrics result in providing better peer feedback than textual rubrics? *Practical Assessment, Research & Evaluation, 26*(1), Article 17. https://doi.org/10.7275/hk9e-8d82

Ackermans, K., Rusman, E., Nadolski, R. J., Specht, M. M., & Brand - Gruwel, S. (2021). Video-enhanced or textual rubrics: Does the Viewbrics' formative assessment methodology support the mastery of complex (21st century) skills? *Journal of Computer Assisted Learning, 37*(3), 810-824. https://doi.org/10.1111/jcal.12525

Theoretical basis

Instructional design, Worked examples in 4C-ID model, Formative Assessment, (peer)feedback, self-regulation and reflection, multimedia theory

Learners / instructors / other stakeholders

Target group Learners and instructors

Group size

This method can be used in both smaller as well as large groups. Depending on its implementation (blended or fully online), overall group size can vary. If it is blended, it is typically use in a classroom of around 30 student. If it is implemented fully online, like in Pe(e)rfect Vaardig, it can be implemented for groups over 250 learners. Here, learners are divided in subgroups of 4 learners.

Year of study

Used from lower level (1st and 2nd year) of secondary education up to higher (distance) education (with regular as well as adult students)

Skills and competences

As part of the methodology, rubrics and video examples need to be made. Lecturers might need the assistance of an assessment expert to develop the rubrics. Instructional design expertise might be needed to design the instructions for teaching complex skills. A graphical designer, interaction designer, multimedia expert might be needed to design and record the video examples.

Training Needs

The methodology is described and easy to follow. Some training is needed for lecturers. Training of students in using the rubric is part of the methodology.

Design

Viewbrics is a methodology to assist in teaching, training and assessing complex skills and providing and receiving feedback. It can be applied to any lesson or course that teaches complex skills.

An online feedback and reflection tool is included. Video-enhanced rubrics and video-modelling examples need to be developed, depending on the skill.

Tools

The Viewbrics methodology and online feedback and reflection tool can be combined with any existing learning environment. The "skills-reflection wheel" visualizes feedback and assists students in reflecting on their current performance of the skill.

Media used Video

Phase

The methodology can be applied at any phase of the course. It supports collaboration and group work, supports assessment and feedback. The tool being online gives students the opportunity to practices outside class/lecture hours.

Implementation

Means

To design the rubric an assessment expert might be needed.

To record the video examples, an instructional designer, multimedia expert might be needed, as well as a good quality video recording tool or software.

Step by step guide

Before

- Decide on complex skills to be taught, choose and select appropriate instructional design and learning materials
- Design and develop textual rubric specific for the complex skills, or adjust and adapt existing rubrics
- Design and record video-modelled examples of the appropriate complex skill.

During

The Viewbrics methodology consists of the following steps:

- Look at the rubric.
- Practice the complex skill.
- Assess own performance of the skill.
- Provide feedback on other students and request feedback from teacher.
- Consider and analysed received feedback (from teacher and peers) on this performance.
- Determine what the learning goals are for the next practice session.

Examples of implementation

The Viewbrics methodology has been applied in several educational context and for a variety of complex skills. In a secondary school to practice three complex transversal skills: presenting, information literacy, and collaborating.

Results

The Viewbrics methodology and feedback/reflection tool allows students to reflect in a systematic and structured manner on their performance and train their skills. The skills-reflection wheel mirrors their performance and visualises feedback, allowing students to set goals for a next practice session.

- Students reach a higher mastery level of complex skills when using the method.

- The rubrics clearly illustrated what the skill entails and assist both teachers and students in acquiring and assessing the skill.
- The video-modelled examples increased mastery level for most complex skills, except when mastery level is already higher when they start.

Student Feedback

Students especially appreciate the video-modelling examples and the visualization of their performance in the skills reflection wheel. Furthermore, they like the 'tips' and 'tops' provided at skills' cluster level, which point to specific aspects of their skills performance and help them to determine what they should keep and what they can still improve in their performance.

Challenges

To implement this in a blended mode, tablet devices are advised. Not all schools may have them yet. To achieve significant impact, students need to work with the method at a regular basis. Therefore, teachers need to think how they can implement these methods in a series of lessons, or preferably implement it at school level, so that students can develop these skills during their complete school trajectory. Furthermore, students need to learn how they can provide high quality feedback. They need to be trained in both the characteristics of high quality feedback as well as in formulating them.

Time/effort required

Developing the rubrics and video-modelling examples do require quite some time. At least 120 hours of full-time development (spread over time) is needed, divided across various roles. However, this can be done at a more 'central' level, allowing sharing and re-use at national and school level.

It is not something that can be done in one lesson, at least a series of two lessons is needed in order to process feedback in the next practice session

If acquisition of skills is already part of the programme, it does not require additional time

Additional information

Presentation and flyers (EMPOWER webinar EADTU):
https://www.slideshare.net/EADTU/empower-eassessment-week-viewbrics
https://empower.eadtu.eu/images/events/Viewbrics_flyer_final.pdf

EAPRIL video:
https://www.youtube.com/watch?v=nnQb7zSPkmg

Additional info (Dutch):
https://didactiefonline.nl/artikel/viewbrics-spiegelt-vaardigheden
https://www.leraar24.nl/2611391/viewbrics-geeft-inzicht-in-beheersing-van-21e-eeuwse-vaardigheden/ (video)
https://www.nro.nl/prijs/winnaars-vorige-edities/ellen-rusman

Project CRAFT- co: Creating Regular Authoring with Feedback Teams as a Community Online

Outline of the problem

Description of problem, context and Covid-19 phase

Students usually face problems in writing texts of sufficient academic quality.

The project aimed at bachelor students in Law at the Open Universiteit.

The project started before Covid, but the approach and methodology can be used in any form of education to improve academic competences, applying peer feedback approaches.

Goal

The project aims were to improve the academic writing competences of law students, increase their confidence and quality of their text.

The Online Writers Work Space allows students:

- to develop and increase their reflection and selfregulation skills
- to better conform to academic writing criteria
- to deliver better and more creative academic legal texts of higher quality.

Summary

The CRAFT-co project aims to boost the academic writing processes of students in law. In addition to more traditional tutor-designed and tutor-controlled settings, CRAFT-co taps more clearly into the constructive power of students to deploy and incite their mutual authoring ability and capabilities. Students are coached through the use of an advanced feedback model (Mark 2).

Students learn to give and receive feedback on written assignments, learn to exchange with others and learn how to reflect on their own work.

Short video clips are provided to explain to students the assessment criteria for their written assignments. Students practice their writing skills through automated feedback and by actively participating in the Online Writers Work Space.

Conception

Theoretical basis

Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: the challenge of design. *Assessment & Evaluation in Higher Education, 38*(6), 698-712. https://doi.org/10.1080/02602938.2012.691462

Learners / instructors / other stakeholders

Target group Bachelor students

Group size 50-100

Year of study 1st year bachelor

Design

Solution

As part of the CRAFT-co project, a concept for an Online Writers Work Space (OWWS) was devised to improve students' writing skills.

Tools

OWWS has been implemented in a learning environment, making use of existing features such as activity descriptions, resources, discussion forum and self-assessments.

Media used Video

Implementation

Step by step guide

This OWWS is divided into three sections:

First, an online platform for peer feedback on formative assignments in a given course, where students can reflect and interact on their writings through dialogical feedback. For every course, a separate OWWS is installed for students to train their writing skills.

Second, the OWWS has an instruction module on how to give effective and efficient peer feedback and peer feed forward.

Third, the OWWS encompasses a comprehensive overview of the assessment categories for writing assignments within the Faculty of Law of the Open Universiteit.

Examples of implementation

OWWS has been implemented in the Bachelor course Introduction into European Law.

Results

Relevance

Generally, the requirements for academic writing remain the same throughout the entire study programme. This makes it easier for students to train and further develop their academic writing skills. All requirements are listed in the OWWS, with additional instruction, videos, examples and practice material.

Almost all Dutch universities already use one or two tools for peer feedback. As part of the CRAFT-co project, currently used peer feedback tools were benchmarked. The aim of this benchmark was to decide to what extent the concept of the OWWS can be implemented by currently available peer feedback tools. The content of the benchmark is fully determined by the requirements arising from the CRAFT-co user stories, which in turn are based on literature on peer feedback (in particular the feedback model Mark-2, Boud and Molloy, 2013).

BISON: Begeleiden In Synchroon Online oNderwijs (Tutoring in synchronous online education)

Outline of the problem

Description of problem, context and Covid-19 phase

A virtual classroom offers varies opportunities for synchronous online education. However, most of the time the virtual classrooms is not used to its full potential. Most common use is restricted to direct instruction while the virtual classroom offers many possibilities for collaboration and interaction.

Higher education, in particular online education, at all levels.

The project started before Covid, but the approach is applicable to all forms of hybrid, blended and online education.

Goal

The aim was to promote and stimulate collaborative learning through the virtual class. A digital handbook providing guidelines, instructions and examples together with workshops support teachers in the use of the virtual class for collaborative learning. The approach takes into account the educational contexts and elaborates three active online learning scenarios: case-based, problem-based and project-based learning.

Summary

For each of the three scenarios guidelines and didactical approaches have been elaborated, such as jigsaw, multistep PBL, fishbowl and monitor. Each of the approaches are described in detail and consider group size.

Conception

Evidence-based

The guidelines and instructions are based on learning theories such as collaborative learning as well as proven educational models and didactical approaches for the three scenarios.

Learners / instructors / other stakeholders

Target group The e-book and workshops are intended for teachers and tutors.

Group size

The approach depends on group size. The problem-based and project-based scenarios are suitable for small groups (4-6), while the case-based scenario can support large groups (> 100).

Design

The e-book is freely available for self-study, while workshops are offered at regular intervals.

Tools

Any software that can be used to schedule meetings can be used. Preferably a tool that supports breakout rooms.

Implementation

Examples of implementation

The approach has been implemented and evaluated in bachelor and master courses of several faculties (Law, Arts, Educational sciences) of the Open Universiteit, an online distance teaching university.

Additional information

The e-handbook is available in Dutch only.

Technische Universiteit Delft

The Technische Universiteit Delft (TU Delft) was founded in 1842 as the Royal Academy by King Willem II and has been known as the Delft University of Technology (TU Delft) since 1986. TU Delft is located in the Netherlands and the university teaches 26.000 students.

TU Delft Extension School (25FTE) focused on developing open and online courses and programmes for working professionals and campus students. This includes 120 MOOC (> 3million enrolments), 50 professional education courses and 15 online academic courses.

The Department of Teaching & Learning Services (TLS) (35FTE) is responsible for supporting teachers develop new courses and programmes, responsible for supporting teachers in using learning technology, responsible for professional development of teachers (including University Teaching Qualification programme) and education innovation projects. TLS is one of the departments of Education & Student Affairs.

TLS is part of the Teaching Academy: the community of lecturers and educational support staff of TU Delft. The Teaching Academy aims to strengthen a culture, in which it is natural for lecturers and educational support staff to improve education collaboratively, build on lessons-learned and share ideas. The goal of the Teaching Academy is to unite, encourage, stimulate, facilitate and give exposure to lecturers and educational developments.

The Teaching Academy "Get inspired" page illustrate examples of knowledge, experience, interesting research and lessons learned. The "Stories of Education" page highlights good examples of lecturers, while the "Blended Experiences" describes several approaches developed in 2019 by instructors from every faculty on improving their courses through blended approaches. While we highlight here some of their examples, we refer to the Get inspired webpages of the Teaching Academy for full details on their examples

Copyright

Copyright of the "Stories of Education", "Blended experiences" and other practices belongs to TU Delft.

Covid-19 related Stories of Education

The "Stories of Education" page highlights good examples of lecturers. We mention a few. Consult the website for full details on the examples.

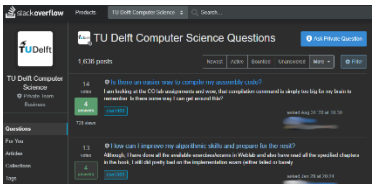
This is the kind of education students have been asking for

Discipline:	joint Nanobiology programme of TU Delft labs and Erasmus Medical centre
Subjects:	research project Nanobiology
Level:	final semester-long Bachelor project
Class Size:	60
Mode of Delivery:	Online (Covid-19 remote teaching)
Period:	February, March 2020 all lab research was closed down

This example "This is the kind of education students have been asking for" illustrates how the department designed and implemented a "Corona Research Super Project" to provide an alternative solution for bachelor students to conduct their final project. The super project combines disciplines such as nanobiology, maths and physics, mathematical modelling, biophysics, and molecular biology and students from other programmes joined the project.

Non Covid-19 related Stories of Education

Gamified knowledge platform challenges students to help each other



Discipline:	Faculty of Electrical Engineering, Mathematics & Computer Science (EEMCS)
Subjects:	computer science
Level:	Bachelor's and Master's degree programs in Computer Science
Class Size:	2000+
Mode of Delivery:	Online
Period:	not directly related to Covid-19, but first pilot in September 2020

The Story of Education "Gamified knowledge platform challenges students to help each other" is not directly related to Covid-19, although it started in 2020 and had its first pilot in September 2020.

This programme is popular and attracts a large number of students. Due to the large number, students no longer feel they can form a community and help each other. Instead, many subgroups arise. The lecturer designed a game-based knowledge platform, based on Stack Overflow a well-known question and answer site for IT and computer science. The platform stimulates competition through a scoring system and was very effective: students provide speedy and timely answers, reducing workload of lecturers and teaching assistants.

Non Covid-19 related Blended Experiences

Increasing engagement and understanding among 480 Aerospace students

Faculty:	Faculty of Aerospace Engineering
Field of study:	Bachelor Aerospace Engineering
Subject:	Statics (AE1130-I)
Period:	1st year Bachelor
Credits:	4 ECTS
Class size:	480
Academic year:	2019-2020

The Blended Experience "Increasing engagement and understanding among 480 Aerospace students" is not directly related to Covid-19 but illustrates how some easy to use tools can engage large number of students.

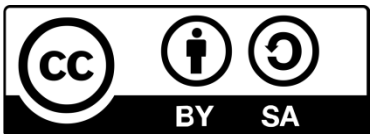
The challenge was how to engage all 480 students more and at the same time increase their level of understanding of the different concepts of statistics. A combination of real-life examples, discussion of complicated examples and quizzes taken during lectures engaged students and increased performance.

Active learning in design Theory and Methodology using Podcasts

Faculty:	Faculty of Industrial Design Engineering
Field of study:	Master Integrated design
Subject:	Design Theory and Methodology (ID4010)
Credits:	3 ECTS
Class size:	370 students
Academic year:	2019-2020

The Blended Experience "Active learning in design Theory and Methodology using Podcasts" is not directly related to Covid-19 but illustrates how some easy to use tools can engage large number of students.

This is an example on how podcasts are very effective to teach a theoretical subject like Design Theory and Methodology (DTM) to a very diverse cohort consisting of several master programme and a large number of students. In addition, collaboration between students was stimulated by the use of video-making assignments and interaction with the coaches was enhanced by smaller-group coaching sessions.



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