INNOVATING PEDAGOGY 2022

Exploring new forms of teaching, learning and assessment, to guide educators and policy makers

Agnes Kukulska-Hulme, Carina Bossu, Koula Charitonos, Tim Coughlan, Rebecca Ferguson, Elizabeth FitzGerald, Mark Gaved, Montse Guitert, Christothea Herodotou, Marcelo Maina, Josep Prieto-Blázquez, Bart Rienties, Albert Sangrà, Julia Sargent, Eileen Scanlon, Denise Whitelock

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Executive summary

This series of reports explores new forms of teaching, learning and assessment for an interactive world, to guide teachers and policy makers in productive innovation. This tenth report proposes another set of innovations that are already in currency but have not yet had a profound influence on education. To produce the report, a group of academics at the Institute of Educational Technology in The Open University, UK, collaborated with researchers from the Open University of Catalonia, Spain. A long list of pedagogical innovations was proposed and then pared down to ten that have the potential to provoke major shifts in educational practice. Finally, ten sketches of innovative pedagogies were compiled, based on a review of published studies and other sources, and they are summarised below.

1 Hybrid models

The hybrid approach focuses on creating a cohesive learning experience which combines face-to-face sessions with online learning materials and activities. During the pandemic, commercial video conferencing platforms made it possible for educators to move towards remote teaching, for example by providing lectures and seminars streamed online. Arguably this has increased access for students, but educators have needed support in improving the instructional design of their courses. New types of hybrid models are being explored, where students are given the option to alternate between attending classroom sessions or participating synchronously and/or asynchronously online. While the 'open hybrid' learning model focuses on the individual forging their own lifelong learning path towards a personal journey in career development, the 'flexible hybrid' models multiply students' possibilities to participate and engage in more bounded and institutional educational offerings. Teaching and interacting in flexible hybrid models demands a certain installed infrastructure composed of a set of devices to ensure that students attending in person and those attending online, are all able to follow the lecture or interact with the teacher and other students. Technology is crucial to these models, but special attention should also be paid to pedagogical decisions made concerning how to engage students through active learning and participation.

2 Dual learning scenarios

Dual learning sees the value of close synchronisation between classroom training and professional practices in industry: to bring professional reality to the classroom, and theoretical understanding underpinning practice to the workplace. The world of work has changed because of networked technologies, accelerated by the Covid-19 pandemic, and the student's home has also become a 'third place' for learning and working. Industry partners in dual learning collaborations have sometimes criticised classroom teaching as not offering close enough alignment with professional practices expected in industry. To overcome this, educators must update their knowledge about production processes, work procedures and technologies used in industry, while industry partners should allocate time and resources to propose real practical activities for the classroom, and invest in creating structures to support universities and other educational centres. More integrated approaches to developing a curriculum owned by both academic and industry collaborators enable dual learning scenarios to offer students insights into the challenges they will experience in future employment and provide industry with better prepared graduates.

There are challenges in observing and assessing students' progress while they are working at a distance, but advances in networked technologies, particularly when embedded in working practices, offer new solutions.

3 Pedagogies of microcredentials

Social, technological, economic and other shifts in society mean there is a continuing demand for courses that train workers in new skills. Microcredentials have emerged in the last decade in response to this demand. They are a new type of qualification with their own characteristics. In their most basic form microcredentials are small amounts of learning for which individuals can receive formal acknowledgment – a badge, a certificate, academic and/or professional credit. Their main focus is on employment: training people for work, enabling the transition from 'learner to earner', and developing professional skills. Microcredential learners may be studying while employed and may also have caring responsibilities that take priority over study. Since microcredentials vary greatly in length, level, scale and scope, there is no one-size-fits-all pedagogy that is suitable for all these courses, but the range of options includes ePortfolios for skills articulation; competency-based learning; case-based learning; and conversational learning. Most microcredential opportunities are offered online and so their design must take into account learners who may have not studied in this way before and need to develop a new set of study skills alongside their studies, for example 'learning how to learn' and developing strategies for self-regulation.

4 Pedagogy of autonomy

The move to remote teaching during the Covid-19 pandemic has increased interest in the related area of autonomous learning. This involves the development of educational systems and resources that encourage the growth of learner autonomy. The pedagogy of autonomy is associated with two ideas, namely that learning is a profession and that learners are professionals. Individuals need to understand that they are not simply passive recipients of teaching: they are actively engaged in the learning process. They can develop the skills to establish their own paths to learning, acting as professionals who take account of mandatory requirements but also make their own decisions about their learning goals and how to achieve them. In order to develop these professional skills, learners need teachers who facilitate and implement the pedagogy of autonomy. The teachers can support them to develop the efficient study habits and techniques that will enable them to direct and regulate their own learning. There are a number of self-regulated learning strategies that students can adopt and practise, to help them understand and manage their behaviour and their reactions to what is happening around them. Additionally, digital tools can help learners to be more autonomous and take more control of their own learning.

5 Watch parties

Watch parties are a way for learners to engage collectively online with a specific video or broadcast. Learners may come from all over the world but they are not necessarily co-located. They can engage from their own homes, from a coffee shop or a variety of other potential venues. There may be learning activities to engage with before, during and/or after watching a video, such as a group discussion, message-based chats or links to learning tasks. Researchers have found that there can be more social engagement in watch parties than in face-to-face teaching. Watch parties are used in many online learning settings, including formal schooling, university tuition, training and professional development. They can be organised informally, or they

can be scheduled and made part of the formal curriculum. Watch parties may take place on many different social platforms, and increasingly online service and media providers are offering platform features that support watch parties. Careful planning will support effective use of video for educational purposes, and there are guidelines available to help plan and run a watch party. One challenge for watch parties is internet connectivity, specifically the speed of the connection, but strategies such as downloading or preloading a video can sometimes be used to overcome this limitation.

6 Influencer-led education

'Social media influencers' are online personalities who have built up a very large fan base of followers on social media platforms. The influencers present information and share their views on products, services, and social trends in a multi-sensory way through images, animations, infographics and videos. They appeal to large groups of followers through their audience-orientated presentation styles. Until recently influencers were largely associated with the marketing sector, but some are establishing themselves in education. 'Edu-influencers' (education influencers) provide freely available video and other content to their followers beyond formal and accredited education programmes, and mostly work outside educational institutions. They are increasingly shaping learners' decisions about what to learn, from whom and where, and their online presence tends to blur the boundaries between entertainment and learning. One concern is that influencers may accidently or even purposefully exploit, mislead or misinform their followers. Social media platforms may also have their own motivations for what they promote rather than necessarily seeking the best interests or educational priorities of the influencers' audiences. Nonetheless, educators are considering whether it

would be possible to use the popularity of influencers or draw on their practices to improve formal and quality-assured modes of online education and to reduce barriers to access and participation.

7 Pedagogies of the home

The Covid-19 pandemic has drawn attention to the 'home' as a learning environment and the home's broader educational and cultural relevance. The concept of 'pedagogies of the home' differs from 'home schooling', as it seeks to investigate the types of informal teaching and learning practices that occur in a home environment, as well as culturally specific ways of learning, such as through the local community. Its uses in formal teaching are very sparse. Nonetheless, educators' understandings of household knowledge can be an effective tool for selecting culturally relevant books for students. Similarly, culturally relevant books can be used with children to foster strategies for critical reading, discussing social and political aspects such as race or injustice. It has been argued that it is also useful as a tool to challenge educational norms, dominant perceptions that can be held around certain groups of students dropping out of school, or the impact of historic segregation or cultural deprivation on student attainment. By using different sources of learning gained both at home and in their wider communities, students may be better equipped to deal with challenges, wherever they may originate. An understanding of home pedagogies may also allow educational policies and practices to be developed that value and build upon household knowledge.

8 Pedagogy of discomfort

The 'pedagogy of discomfort' is a process of self-examination that requires students to critically engage with their ideological traditions and ways of thinking about issues such as racism, oppression and social injustice. This process of reflection by the students can bring about a range of emotions, including emotions that cause discomfort (hence the name). The emotions this process elicits can challenge traditional ways of understanding a topic and assumptions made about it, and the process can be a catalyst for change. Emotions are a powerful tool to question and disrupt existing preconceived ideas, while the collective debate and reflection on these emotions amongst students and teachers can create new understandings, shaping new behaviours. An example of how this pedagogy has been adopted is in the teaching of First Peoples' health to majority non-indigenous students at an Australian university. Advocates of this pedagogy believe that if assumptions are not challenged, education could reinforce the status quo of societal issues leaving social justice, inequality and other issues still hidden, unexplored and not discussed. For emotions to be fully explored, social, cultural and political contexts must be understood. In addition, teaching about sensitive topics should be done in a controlled environment where teachers are prepared, and students are aware of what is going to be taught.

9 Wellbeing education

Wellbeing education supports and promotes good mental health for learners. It can positively impact on not only academic performance but also self-efficacy and self-esteem. This is important, since mental health issues are currently an alarming concern amongst students worldwide, and there are many reports of anxiety, depression, self-harm and eating disorders. Most students do not reveal they are facing a mental health problem due to fears of stigma and discrimination, a lack of knowledge and negative attitudes about mental health. These issues have been exacerbated during the recent pandemic. It is recommended that wellbeing education should be a whole school/university approach where all aspects of an educational institution are conducive to wellbeing and promote good mental health. It helps students to develop mental health 'literacy' by teaching them how to manage their own mental health, recognise possible disorders, and learn how, where and when to seek help. A key dimension of wellbeing education is the active engagement of students and staff in the production of a whole school/university approach. Peer-to-peer training has also been found to be effective. Students who are happy and satisfied with their lives are more likely to attend to and achieve high educational outcomes.

10 Walk-and-talk

As education is increasingly conducted online and there are concerns around the harmful effects of too much sedentary and isolated learning from home, there is interest in reviving, adapting or devising pedagogies that involve both conversations and the act of walking. During a pandemic, outdoor activities such as a walk or a hike may be available when meeting indoors is not possible, providing an alternative way to connect with others and relief from sitting in front of a computer or TV. Walking offers multiple benefits, for example it can stimulate curiosity about one's surroundings, improve one's mood, clear the mind and spark new ideas. When walking with another person or in a group, there are opportunities for side-by-side conversations that may differ from those when people are looking at each other face-to-face. Combining walking and talking is a powerful way to enable some types of interaction, reflection and consolidation,

to alter states of mind and to encourage new ideas. Walk-and-talk has been used in several contexts in education, namely to support psychological and physical wellbeing; in research as a teaching method; and in informal learning. The approach dovetails with the contemporary rise of mobile learning, especially when the educational activities involve longer walks combined with side-by-side conversations when walking with someone else, phone conversations or messaging through texts.

Introduction

Celebrating our tenth anniversary

Ten years ago, our esteemed colleague Professor Mike Sharples had the brilliant idea of instigating an annual Open University report on innovations in pedagogy, for the benefit of a worldwide audience of educators and policymakers looking to revitalise or improve their teaching, learning and assessment. Hundreds of thousands of people have downloaded these reports and we are very proud to present our tenth this year. Authors involved in writing the reports have described close to 100 pedagogical innovations and have shared this knowledge widely through many additional channels – including blog posts, videos, webinars, workshops, and teacher professional development events. That is a wonderful collective achievement to celebrate.

To produce the reports, each year a slightly different team of authors, led from within The Open University's Institute of Educational Technology, has come together to consider emerging trends and innovations and to assess the most promising ideas by checking whether they have been evaluated in research and practice. We sometimes discard suggested innovations because similar ideas have already been covered in our earlier reports. Yet some innovations are worth revisiting because they are particularly relevant to present-day challenges or because new technologies enable them to be tried out in different ways.

In many places across the globe, the ways in which we offer and engage with education are radically changing. The Innovating Pedagogy reports highlight the fast pace of change, while striving to balance this with sound advice based on evidence, common sense, and clarity. We have noticed great interest both in small scale innovations which individual teachers or trainers can try out in their classes, and in sweeping trends that may shape education futures around the world. It hardly needs saying that in the past couple of years we have been living through extremely challenging times, but it is worth noting that these difficult experiences have intensified the search for pedagogical innovations that can help address educational problems such as student anxiety and lack of engagement, as well as recognising the mental health and wellbeing issues that may underlie such problems.

Report authors across the years have sometimes drawn on innovations from their research projects and on inspiring work going on in their universities or institutes, which are beacons of innovation in their own right. Since 2015, we have worked collaboratively with a different partner each year, from the United States (2015) to Singapore (2016), Israel (2017), Norway (2019), Ireland (2020) and China (2021). For the 2022 report we have partnered with colleagues at the Open University of Catalonia. Open universities like ours have led the way in online education, which until quite recently was still a novelty in many places. Successful online education partly depends on suitable technology. It is pleasing to see that much current thinking on pedagogical innovations takes account of issues around technology (including access, suitability, and affordability), and new pedagogical models recognise that students may wish to, or need to, participate in education through a mixture of in-person and remote learning.

Looking back at where we started

The first report in 2012 already signalled certain trends which are evident in the world today, including: provision of massive online courses that are open to all learners who wish to join in; publishers producing short online courses; development of new ways of accrediting learning; and data-driven analyses of learning activities and environments. The report drew attention to pedagogies based on collaboration among students, the formation of learning communities, and making

connections across settings; all of these ideas are still highly relevant today. Estimates of the likely impact of each pedagogical innovation were included in that first report, and subsequently. Impact was estimated to be high, medium or low, but the impact prediction for 'rhizomatic learning' in that 2012 report was, curiously, 'unsure, could be high'. Numerous publications on rhizomatic learning in the past few years suggest that the approach resonates with those who wish to understand the perceived influence of emergent and adaptable networks of learners, resources, and the knowledge they generate, across multiple platforms in the digital world.

Ten years on from our first report, there is even greater interest in the impact of innovations, but we are still lacking methods to help predict their impact in a reliable way. Besides, any impact will surely not be the same in different parts of the world since local circumstances and educational cultures are vastly different. In the present report there are no specific predictions as to the impact of the pedagogical innovations we describe. However, readers are encouraged to consider what impacts the innovations may have on aspects of teaching, learning and assessment in their contexts, as well as any implications for teachers' professional development.

The 2012 report also suggested that 'schools, colleges and universities are attempting to teach knowledge and skills for jobs that no longer exist' and it claimed that 'teachers are not fully involved in educational innovation and curriculum development' (p.7). These statements doubtless still hold true in many educational settings, but these practices have evolved. There is greater emphasis being placed on identifying skills for work and on developing strong connections between the worlds of education and work, which can also be seen in our current report. While this is positive, we sometimes see governments and employers equating education with training, which unfortunately moves the emphasis away from other important reasons for learning; for example, personal growth, health, or scholarly community membership.

Themes from the past 10 years

There are many possible ways to analyse the innovations presented in our reports in the past decade and much could be learnt and understood from such analyses. As a starting point, we offer here one thematic classification, based on innovations from all the reports including the current one. Each theme contains relevant pedagogical innovations, together with the short subheadings that have accompanied each one. Naturally there is some overlap between themes, and it would be easy to place several pedagogies within more than one theme. We invite readers to create other representations of the contents of our ten reports. And we look forward to a bright future of pedagogical innovation in the years to come!

1. Connecting with others

- Crowd learning – Harnessing the local knowledge of many people.
- Learning from the crowd – Using the public as a source of knowledge and opinion.
- Humanistic knowledge-building communities – Helping learners to develop knowledge.
- Rhizomatic learning – Knowledge constructed by self-aware communities adapting to environmental conditions.
- Digital scholarship – Scholarly practice through networked technologies.
- Telecollaboration for language learning – Using communication tools for collaborative language learning.
- Watch parties – Watching videos together, whatever the time or place.

2. Emotions

- Analytics of emotions – Responding to the emotional states of students.
- Embodied learning – Making mind and body work together to support learning.
- Learning through wonder – Sparking curiosity, investigation and discovery.
- Playful learning – Motivating and engaging learners.
- Roots of empathy – Social and emotional learning.
- Best learning moments – Positive mental states for enjoyable and effective learning.
- Gratitude as a pedagogy – Reflecting on attitude to improve wellbeing and learning.

3. Justice

- Decolonising learning – Changing perspectives and opening up opportunities.
- Engaging with data ethics – Ethical use of data in digital life and learning.
- Intergroup empathy – Understanding the perspectives of others.
- Learning with internal values – Using students' interests to inspire learning.
- Hip-hop based education – Culturally relevant learning through hip-hop.
- Social justice pedagogy – Addressing injustices in lives and society.
- Posthumanist perspectives – Confronting the relationship between humans and technology.
- Stealth assessment – Unobtrusive assessment of learning processes.
- Equity-oriented pedagogy – Finding fairer ways to improve learning for all.
- Pedagogy of discomfort – Emotions as powerful tools for learning and for promoting social justice.

4. Resourcing learning

- Big-data inquiry: thinking with data – Understanding the world by working with large sets of data.
- Blockchain for learning – Storing, validating and trading educational reputation.
- Bring your own devices – Learners use their personal tools to enhance learning in the classroom.
- MOOCs – Massive open online courses.
- Drone-based learning – Enabling and enriching exploration of physical spaces.
- Learning analytics – Data-driven analysis of learning activities and environments.
- Learning design informed by analytics – A productive cycle linking design and analysis of effective learning.
- Artificial intelligence in education – Preparing for life and learning in the age of AI.
- Learning with robots – Helping teachers free their time for teaching.
- Using chatbots in learning – Using educational dialogues to improve learning efficiency.
- Publisher-led short courses – Publishers producing commercial short courses for leisure and professional development.

5. New settings for learning

- Citizen inquiry – Fusing inquiry-based learning and citizen activism.
- Context-based learning – How context shapes and is shaped by the process of learning.
- Geo-learning – Learning in and about locations.
- Offline networked learning – Networked learning beyond the Internet.
- Online laboratories – Laboratory access for all.
- Flipped classroom – Blending learning inside and outside the classroom.
- Virtual studios – Hubs of activity where learners develop creative processes together.
- Learning by doing science with remote labs – Guided experiments on authentic scientific equipment.
- Place-based learning – Location as a trigger for learning.
- Seamless learning – Connecting learning across settings, technologies and activities.
- Hybrid models – Maximising learning flexibility and opportunities.
- Dual learning scenarios – Connecting learning in classrooms and industry workplaces.

6. Frameworks to support thinking and learning

- Learning to learn – Learning how to become an effective learner.
- Computational thinking – Solving problems using techniques from computing.
- Design thinking – Applying design methods in order to solve problems.
- Learning through argumentation – Developing skills of scientific argumentation.
- Making thinking visible – Opening windows into student learning.
- Personal inquiry learning – Learning through collaborative inquiry and active investigation.
- Bricolage – Creative tinkering with resources.
- Threshold concepts – Troublesome concepts and tricky topics for learning.
- Productive failure – Drawing on experience to gain deeper understanding.

- Spaced learning – Building long-term memories in minutes.
- Learners making science – Volunteering to make science and act as a scientist.
- Evidence-based teaching – Using evidence from research to inform teaching.
- Wellbeing education – Promoting wellbeing across all aspects of teaching and learning.

7. Learning in an open world

- Learning through open data – Using real-world data for personally relevant learning.
- Corpus-based pedagogy – Using authentic language data to support language teaching and learning.
- Badges to accredit learning – Open framework for gaining recognition of skills and achievements.
- Pedagogies of microcredentials – Accredited short courses to develop workplace skills.
- Open textbooks – Adapting openly licensed textbooks.
- Massive open social learning – Free online courses based on social learning.
- Rebirth of academic publishing – New forms of open scholarly publishing.

8. Learning in daily life

- Action learning – Finding solutions to apply in daily life.
- Crossover learning – Connecting formal and informal learning.
- Esports – Learning and teaching through competitive virtual gaming.
- Learning for the future – Preparing students for work and life in an unpredictable future.
- Incidental learning – Harnessing unplanned or unintentional learning.
- Learning through video games – Making learning fun, interactive and stimulating.
- Learning through social media – Using social media to offer long-term learning opportunities.
- Navigating post-truth societies – Epistemic education for the 21st century.
- Influencer-led education – Learning from education influencers on social media platforms.
- Pedagogies of the home – Understanding the home as a place for cultural learning.

9. Making learning personal

- Adaptive teaching – Adapting computer-based teaching to the learner's knowledge and action.
- Dynamic assessment – Giving the learner personalised assessment to support learning.
- Teachback – Learning by explaining what we have been taught.
- Translanguaging – Enriching learning through the use of multiple languages.
- Student-led analytics – Using data to help learners set and achieve their own goals.
- Formative analytics – Developing analytics that help learners to reflect and improve.
- Assessment for learning – Assessment that supports the learning process through diagnostic feedback.
- Pedagogy of autonomy – Building capacity for freedom and independent learning.

10. Engaging learners

- Event-based learning – Time-bounded learning events.
- Immersive learning – Intensifying learning by experiencing new situations.
- Maker culture – Learning by making.
- Multisensory learning – Using several senses to enhance learning.
- Learning through storytelling – Creating narratives of memories and events.
- Learning from gaming – Exploiting the power of digital games for learning.
- New pedagogy for e-books – Innovative ways of teaching and learning with next-generation e-books.
- Learning from animations – Watching and interacting with short animations.
- Enriched realities – Extending learning with augmented and virtual reality.
- Student co-created teaching and learning – Teachers and students creating materials and curricula.
- Walk-and-talk – Combining movement and conversation to enhance learning.

Hybrid models

Maximising learning flexibility and opportunities

Introduction

In 2011 researchers remarked that combining face-to-face and online learning would become a 'new normal'[1], as technology in education was increasingly perceived not as part of, but completely merged with, and indistinguishable from, the learning experience. The big change in education in 2020 was the exponential expansion and exploration of different hybrid models of education, driven by the reaction of educators (and others) to the Covid-19 pandemic.

The pandemic outbreak's restrictive measures of social distancing and lockdowns in educational institutions was the catalyst for speeding up the rate technology was adopted in education. New models for learning were also introduced to provide better opportunities within education, multiplying ways in which students could participate by opting to attend either in-person or online. Concurrently, the widespread implementation of alternative models for providing and engaging in education (which the hybrid model exemplifies), provided a response to demands for more flexible ways of learning, more online resources and learning opportunities, and continuous professional development in most forms of employment.

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more was needed than endless online lectures to make this move towards online instruction more successful
”

We need to welcome the new approach the hybrid model offers, but we also need to explore its consequences for the future of learning in challenging circumstances and at scale.

Evolution of place-based and distance learning

The traditional distinction between school or campus-based learning and distance learning has evolved over the years. The hybrid approach focuses on a cohesive learning experience of combining face-to-face sessions with online learning materials and activities. The development of technology applications, increase in wired or wireless bandwidth, expanded optical fibre and mobile networks, and the cost reduction in hardware and connectivity services have all significantly improved the possibilities of synchronous and asynchronous communication and learning by providing opportunities for increased interactivity and collaboration. Access to a vast quantity of resources on the web and to direct contact with others without geographical boundaries offers many individuals and institutions new opportunities for education that better accommodate students' personal, professional and work agendas.

Open hybrid learning for career personal development

During the pandemic, commercial video conferencing platforms such as Zoom and Teams made it possible for educators to move easily towards remote teaching by providing lectures and seminars streamed online. Arguably this has increased access for students to higher education, although it soon became apparent that more was needed than endless online lectures to make this move towards online instruction more successful. The demand for help with improving instructional design was immediate.

Learning together, either in class or at home

Many open online courses (available for free) were produced to support educators in their development. For example, *How to teach online: providing continuity for students* is a course provided free by FutureLearn which has attracted over 100,000 participants. In addition, over the past decade the rise of Massive Open Online Courses (MOOCs) platforms such as FutureLearn, MiríadaX and FUN (France Université Numérique) in Europe, Coursera and EdX in the USA, SWAYAM in India and XuetangX in China demonstrated that online education could be carried out at scale, but that instructional or learning design was essential.

Flexible hybrid models for student choice

New types of hybrid models are being explored, particularly in post-secondary education, where students are given the option during the period of a course's delivery, to alternate between attending classroom sessions and participating synchronously[2] and/or asynchronously online. Synchronous participation takes place at prearranged times, which could be at the same time as the classroom session or at another time, and it usually takes place via video conferencing or live chat.

Asynchronous participation takes place in online forums or chats, within defined timeframes but at the learner's own pace within those timeframes. Face-to-face classroom sessions can be combined with synchronous and/or asynchronous participation, or learners may be given choices as to their participation in class and/or online.

On the one hand, this approach to hybrid learning prioritises students' preferences and constraints, offering the maximum possibilities to keep the pace of the course and increase their chances of success. On the other hand, this demands complex course design to tailor course content, activities, and pathways to ensure that all students have an equal chance of reaching their full educational potential. Some of these new models have been developed by professors at higher education institutions as ways of responding to new students' demands and to broaden access to education: the Hyflex model at the San Francisco State University, the Rebelflex at the University of Nevada, and the Blendflex at Central Georgia Technical College, to name just three.

Designing for choice

The flexible hybrid model's distinctiveness relies on what Beatty[3] identifies as the four pillars which guide the design of the whole learning experience. The first refers to the learner's freedom to choose between options relating to their pace of study or topics they prefer. The second is equivalency, ensuring that different types of participation lead to similar outcomes. The third focuses on reusing supporting teaching materials to meet the requirements of different strategies and channels. Finally, the fourth pillar focuses on the learner's ability to perform adequately within all participation modes or paths.

Design for flexibility must support these multiple participation paths, as Beatty's model emphasises a single course, a single community learning together, connecting from different places in a common but distributed space. He links a physical room with distant online learners who are exchanging and collaborating. The notion of synchronicity applies then to in-person and online togetherness. But flexible hybrid learning may also integrate a 'bichronous learning' approach[4] where special attention is given to asynchronous learning in terms of meaningful learning design and the optimal use of platforms, such that asynchronous learning connects prior or post-synchronous learning moments. These combinations depend on the learning design applied to the course, promoting more individual or collaborative work, and more teacher or student-led learning experiences. The student's 'attending journey' (when and how they attend) is decided during the course.

At the time of writing (April 2022), a set of HyFlex course design examples is being collected online by Kevin Kelly from San Francisco State University, presenting different length class sessions or specific learning activities. For instance, a 50-minute class session may start with a warm-up task (poll, quiz, self-assessment or other) followed by an instructor intervention.

The next step consists of a pre-recorded short presentation that can be watched in class, or synchronously or asynchronously online. Students then participate in group discussion in the classroom, in breakout rooms online or asynchronously using an online forum. New tasks may be added and the session ends with the instructor's summary and closing of the session. Ensuring equal experience for asynchronous online learners requires orchestrating key activities that may demand either an earlier start for these learners, or later updated announcements regarding changes in, for example, poll results or discussion insights.

Setting up the physical space

Teaching and interacting in flexible hybrid models demand a certain installed infrastructure composed of a set of devices to ensure that students attending in-person and those attending online simultaneously are all able to follow the lecture or participate in active learning approaches (e.g., gamified activity, role playing, challenge-based learning, scenario-based learning) and exchange with the teacher and other students. Although a basic setup involving a laptop with a webcam and a videoconferencing platform for streaming and interaction may support hybrid models, simultaneous face-to-face and face-to-screen learning is easier to implement with more robust infrastructure. Standard equipment and software include video conferencing technology, highly sensitive microphones and a wireless microphone for the teacher, a learning management system supporting class interaction, computers for the teacher and students, cameras for streaming video, and boards for presenting in class. Examples and video demonstrations of actual implementations and useful recommendations regarding flexible hybrid mixed environments are provided by the centres for teaching and instructional support of the University of Florida, Columbia University and the University of San Diego.

Pedagogies and strategies for flexible hybrid learning

Technology is crucial to the hybrid flexible models, but special attention should also be paid to pedagogical decisions made concerning how to engage students through active learning and participation[5]. The freedom of student choice in respect of attendance may inadvertently repeat some undesirable face-to-face lecture attendance practices, whereby students simply choose not to attend certain lectures. To make the most of the experience, here are some ideas on how to best apply a flexible hybrid approach:

- Use active learning strategies where students perform tasks to increase understanding and knowledge integration, e.g., an online task before, during or after class.

- Promote collaborative learning and teamwork for students' increased interaction and co-construction of knowledge, particularly in synchronous learning, e.g., through an online vote to express opinions or a shared document to contribute ideas in real time.

- Adopt a 'flipped classroom' strategy to better integrate differentiated paths of in-person and online synchronicity for collaboration, discussion, and assessment, while using asynchronous individual and group work for building background knowledge and a sense of community.

- Enrich the experience with short videos, simulations, gamification and interactive content, some of which may be created by students.

- Suggest available tools for note taking, logging events, reflection.

- Provide formative feedback and encourage self- and peer-assessment, e.g., comments and suggestions in a forum or shared writing space.

- Propose project/problem/inquiry-based learning to better articulate learning paths and to support a more sustained commitment from the students. For example, use of an e-portfolio to show student work as it develops.

- Reuse and adapt learning materials like recorded videos of classroom sessions and presentations to provide further autonomous learning opportunities.

Challenges in adopting hybrid learning models

While the open hybrid learning model focuses on the individual forging their own lifelong learning path towards a personal journey in career development, the flexible hybrid models multiply students' possibilities to participate and engage in more bounded and institutional educational offerings. Each type of model has its challenges.

Challenges in open hybrid – for the individual

Implementing open hybrid learning demands that several issues be addressed by the individual and the provider. For example, these types of courses need a clear set of goals, both for good instructional quality and to help individuals make choices that will help them develop a career path.

The open hybrid model also requires the individual to develop several different sets of skills, including self-regulation and digital skills which are vital for independent learning in this way. Self-regulation skills include planning, monitoring and reflecting. Digital skills include digital communication and digital literacy – skills which are also valuable in contemporary society. Most important is the design of appropriate recognition of achievement for the individual that validates those skills developed in this mode of learning. All these aspects combine together to form the ways in which independent learning can work in open hybrid models.

Challenges in flexible hybrid – for the teacher and the institution

Implementing flexible hybrid learning is a whole institutional endeavour that must be aligned with the organisation's vision, mission and strategic positioning. It demands not only investment in technology, but also special attention to teacher training and providing room for experimentation. Sufficient time must therefore be allowed for the teacher to become familiar with both synchronous and asynchronous teaching and learning. It also presents a challenge for students who need to be supported in the transition to a different model of course delivery and new ways of engaging in learning.

Conclusions

There have been many implementations of hybrid models, particularly fostered by the pandemic situation, but there are still many questions regarding their effectiveness and teacher and student satisfaction with them. More research is needed, focusing on those models in context and the specifics of their implementation. It remains to be seen how this approach is formally adopted by institutions and whether it helps to reach more students, improves students' learning gains, or addresses the issues of student retention and course completion.

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Dual learning scenarios

Connecting learning in classrooms and industry workplaces

Introduction

There is a long history of students learning in a combination of classroom and industry settings to understand both theory and its practical application. Examples include working apprentices learning theory in a college setting as part of their training, or undergraduate students given practical industry placements to apply what they have learned in authentic work settings. This approach is given a number of different names, including cooperative education[1], dual education, or work-integrated learning (WIL). Dual learning sees the value of close synchronisation between classroom training and professional practices in industry: to bring professional reality to the classroom, and theoretical understanding underpinning practice to the workplace. The world of work has changed because of networked technologies, accelerated by the Covid-19 pandemic, a workspace which has increasingly shifted to also include the student's home as an optional practical third place for learning and working. Innovations in pedagogical practices and technology developments mean that dual learning is well placed to prepare students for future employment. Dual learning graduates not only have broad skill sets that accelerate innovation in firms, but also offer innovation through their high flexibility and employability[2].

However, traditional arrangements are not always satisfactory. For example, there are concerns that the two domains of learning (classroom and work setting) need to be more closely aligned; and observing and assessing students' progress while they are working at a distance from the teacher also needs improvement.
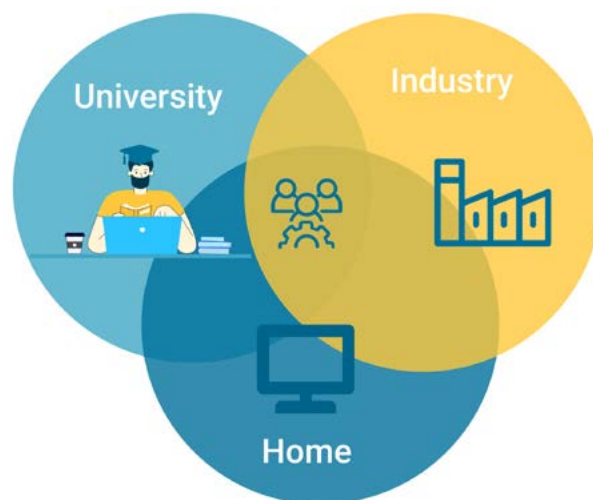
Dual learning takes place across different sites of learning

Aligning industry needs and classroom teaching

Industry partners in dual learning collaborations have sometimes criticised classroom teaching as not offering close enough alignment with professional practices expected in industry. For example, in industry settings, problem-solving and skills acquisition are taught via collaborative project work, drawing together teams of people from different domains of knowledge, competencies and skills, while classroom teaching has traditionally focused on individual learning, organised by subject. On the one hand, educators must update their knowledge about production processes, work procedures and techniques and technologies used in companies to complement the theoretical content explained at school or university. On the other hand, from the educational centres' point of view, industry partners do not allocate enough time and resources to propose real practical activities for the classroom. They must invest in creating structures or departments to support universities and other educational centres.

To align with industry needs and listening to partner recommendations, the vocational training division of The Open University of Catalonia has shifted its teaching model and altered its curriculum:

- The structure of the 'study by competencies' based on conventional modules is moving to a model based on 'learning by knowing how to do' and 'project-based learning'[3] where projects can be carried out in groups or individually.

- Projects carried out address real industry problems or challenges. For example, analysing and managing the goods in the warehouse of a real company, with real data on stocks, returns and costs.

- Company recommendations are taken into account when defining the projects.

- There is 360-degree feedback or multi-source assessment: a process through which feedback is provided by supervisors, academic staff, subordinates, colleagues and students, as well as a self-evaluation. 360-degree feedback includes assessment of the process, skills and knowledge (the theoretical or practical understanding of a subject).

- The model is student-centred, so the student learns from the practical processes as well as other students. Collaborative learning takes place with groups of students carrying out a joint project. The group identifies the requirements, distributes tasks, collaboratively reviews work, and devises a shared presentation from the project.

The challenge in higher education is to find the most appropriate methodological, pedagogical and technological tools to work in an interdisciplinary way. In addition, it will be very important to adequately train the lecturers who will participate in this new pedagogical model[4].

Secondly, by using authentic problems and industry equipment in university learning activities, professional practices encountered in the workplace can be taught away from the industrial setting. Given the increasing digital nature of work and use of virtual tools, this also allows the students' own remote learning spaces (such as home or a café) to become a professional practice setting.

One such example is the use of Cisco Networking Academy courses to train computer network engineers. This approach places great emphasis on hands-on practice skills and on helping students become familiar with real networking devices to ensure that new experts not only have theoretical knowledge but are also able to face real-life environments. However, given that interaction with networking devices is via internet-connected computers, students are able to carry out learning tasks and interact with teachers remotely. This enables the Cisco Networking Academy courses to be delivered, assessed and updated via web-based content[5].

Similarly, both engineering and science laboratory skills can be taught by using remote or virtual laboratories, an approach that has been explored by The Open University in the UK, in its OpenSTEM Labs[6]. These enable students to experience a range of realistic workplace laboratory equipment and experiments, connecting via the internet.

Methodological and pedagogical keys to support learning between university and industry
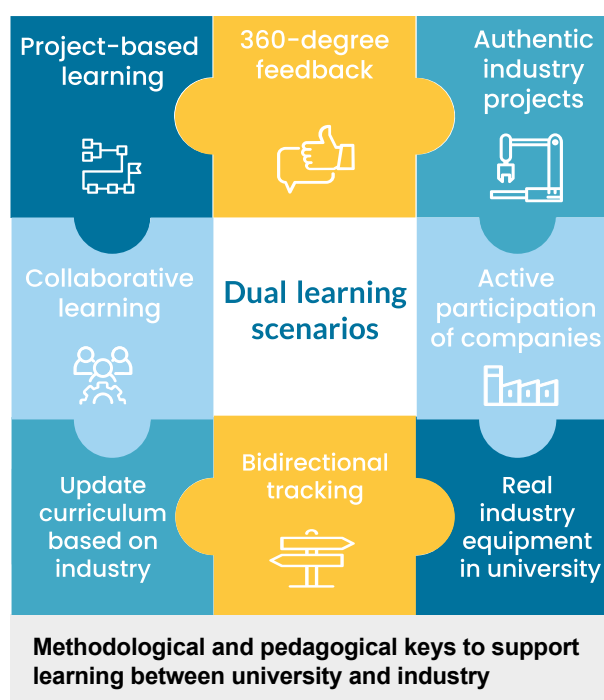
New ways of effectively assessing study in the workplace

To offer the maximum benefits to using dual learning scenarios, universities need tools to effectively track student progress and provide support across all their learning environments. While there are established processes for supporting students learning in universities, and novice employees in the workplace, it is more challenging for teachers to effectively observe and evaluate a student's progress remotely. Furthermore, evaluating students' work in the classroom and in the workplace are often carried out very differently. Dual learning seeks to align these evaluation processes, and also make it easier for assessors both in industry and in education to see the student's progress elsewhere.

> **"**
> it is more challenging for teachers to effectively observe and evaluate a student's progress remotely **"**

Advances in networked technologies, particularly when embedded in working practices, have supported better observation of students' work progress. For example, for students developing software code as part of their work, GitHub is a commonly used open-source tool for storing and updating code. As this can be viewed by multiple readers over the internet, it can act as a live space for tutors, both in industry and academia, to observe the progress of their students when they are elsewhere, to assess their work and to leave comments and feedback.

New connectivity technologies like 5G enable greater real-time remote observation of students in the workplace. Combined with other technologies such as augmented reality (AR), and remote equipment monitoring, they allow teachers or tutors to understand in detail what actions their students are undertaking, and the consequences of their actions. These technologies also enable complex learning analytics (the analysis and reporting of data about students' actions and progress).
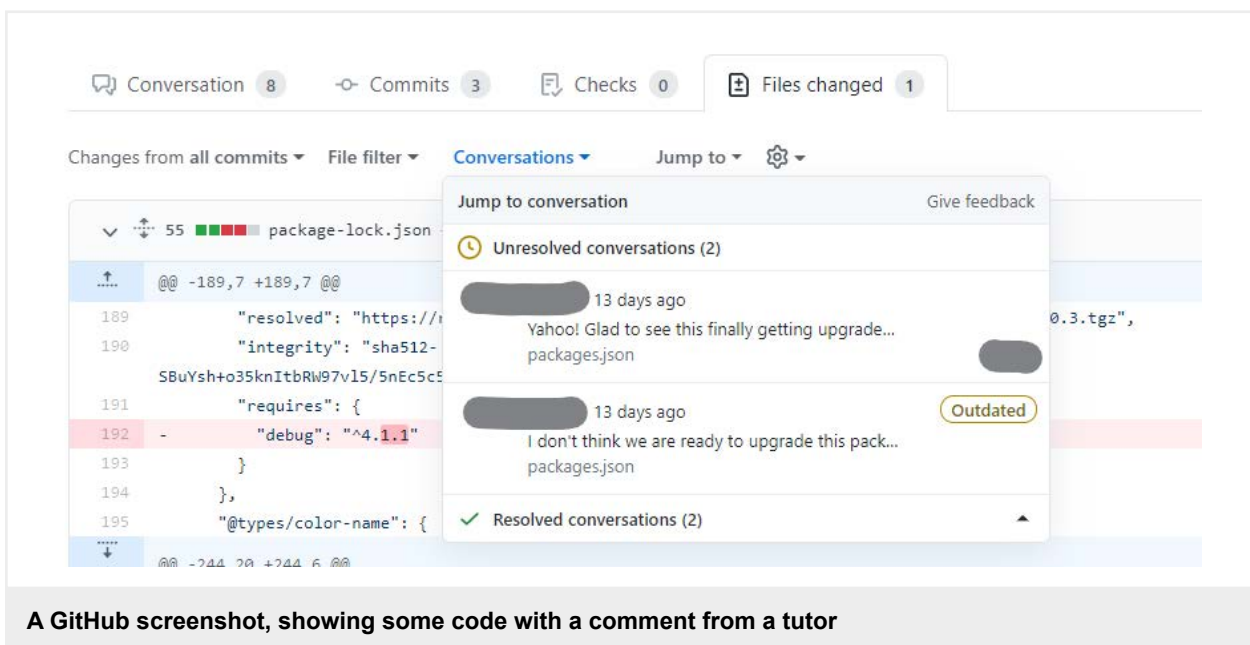
A GitHub screenshot, showing some code with a comment from a tutor

For example, an engineering trainee might wear AR glasses to guide them through carrying out a repair procedure on an aircraft. The equipment they use for testing the completed set-up might report data that can be checked remotely by a teacher to ensure the correct procedures were followed. The AR tools may have a tracking facility to record the student's actions that can be assessed and later discussed with the teacher as a reflective activity to guide them in their future training. These technologies can support advanced as well as basic activities: for example, in healthcare AR glasses can enable live remote supervision of surgical operations, supported by specialists located elsewhere[7].

However, this evolution in monitoring students and their learning in universities and workplaces also comes with ethical challenges, such as considering privacy and commercial sensitivities in data sharing. One potential route forward is the use of existing approaches like ePortfolios (digital collections of students' work) but adapting them to enhance the evidence collected from practice. For example, by incorporating photos and videos to illustrate practice, as well as tools for monitoring and communication within a student-led portfolio system, agency and control are handed to the student, involving them as an active partner in the ethical discussions of what could or should be recorded. Pioneering work by the Norwegian Vocational Education and Training (VET) system positions ePortfolios as a liaison device between apprentices, training offices, schools, and companies, acting as a 'hybrid learning arena', bridging learning spaces and improving the relationship between academics, students and employers[8].

Conclusions

Dual learning has a strong heritage and is adapting to new ways of working that make it a highly relevant educational approach for preparing students for the future workplace. New technologies and more integrated approaches to developing a curriculum owned by both academic and industry collaborators enable dual learning scenarios to offer students insights into the challenges they will experience in future employment and provide industry with etter prepared graduates. Careful pedagogic design is required to weave together a single learning strategy that combines the different techniques and methodologies that effective dual learning requires.

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Pedagogies of microcredentials

Accredited short courses to develop workplace skills

Microcredentials are a new type of qualification with their own characteristics. Although the definition of these courses has not yet been standardised around the world, elements that are common to many of them require a distinctive approach to teaching and learning. One of these elements is their focus on career, workplace and professional skills. Microcredentials are intended to open opportunities for new groups of learners, so the people who study them are likely to have different characteristics to those who sign up for other forms of education or training. In addition, most microcredential opportunities are offered online and so their design must take into account learners who may have not studied in this way before and need to develop a new set of study skills alongside their studies.

Approaches to microcredentials

Social, technological, economic and other shifts in society mean there is a continuing demand for courses that train workers in new skills. Microcredentials have emerged in the last decade in response to this demand. Although they vary from country to country, in their most basic form microcredentials are small amounts of learning for which individuals can receive formal acknowledgment – a badge, a certificate, academic and/or professional credit. Their main focus is on employment: training people for work, enabling the transition from 'learner to earner', and developing professional skills. This focus on workplace skills has attracted the attention of governments around the world, which have commissioned many reports on these new courses, what they have to offer, and how they can be aligned with existing educational and professional frameworks[1,2,3].

These reports make the links between microcredentials and existing qualification frameworks. For example, the European Commission[4] connects them with the European Credit Transfer and Accumulation System [ECTS]:

- Microcredential modules worth 1–5 ECTS form part of a formal education offer. These microcredentials may be awarded following successful completion of formal assessment at the end of massive open online courses [MOOCs] or other academic professional development courses.
- Microcredential short learning programs worth 5–30 ECTS are made up of interrelated courses in which skills can be mapped to qualification frameworks.

An alternative approach recognises skills, particularly 'employability skills' benchmarked against industry frameworks and regional or international qualification frameworks. Evidence-based assessment is used to recognise these skills and make an award. In this case, learners collect and submit for assessment relevant and sufficient evidence of skills they have developed based on professional and work experience.

In Australia, Deakin University's professional practice credentials[5] follow this skills-focused path, issuing microcredentials for employability skills such as self-management, problem solving and innovation. Similarly, the US-based National Education Association[6] currently offers over 175 microcredentials relating to educators' professional development journeys that are awarded for demonstrated mastery of skills in a subject area. Another initiative, from the EPICA project in East Africa[7], adopts this approach but framed within a university curriculum, connecting learning with work experience, and issuing skills badges as expanded recognition of graduate achievements, complementary to the diploma.

> **"**
> this focus on workplace skills has attracted the attention of governments around the world **"**

Why are microcredentials different?

Although in the past many higher education courses have been aligned with the world of work, these have mainly been designed for young people making the transition from full-time education to full-time employment. The characteristics of this student population vary considerably, but the assumption is often that they have little experience of the world of work, few or no caring responsibilities at home, and their primary focus during the working day should be on their studies. These assumptions do not hold true for microcredential learners, who are likely to be studying while employed and may also have caring responsibilities that take priority over study.

Overall, there are multiple aspects of microcredentials to be taken into account when selecting an appropriate pedagogy:

- The emphasis is on career, workplace and professional skills.
- Learners may have substantial relevant work experience that can be drawn on in the course and shared with others.
- Many learners will have commitments that take precedence over study, so will benefit from a flexible timetable.
- Learners may be new to online learning and need support with the skills associated with this mode of study.
- Learners require skills that enable them to take responsibility for their own learning process.
- Learners require opportunities to interact with others – online or offline, a sense of belonging is an important factor in learner retention.
- If learners are in different time zones it may not be possible for them to be online at the same time.
- Learners may be based in many countries, with different expectations about how learning and teaching take place.

Engaging with a microcredential for professional development

- Since online learning is often easier to access than campus study, it can suit learners with disabilities, however they may need additional support with their studies.
- Unless intake is restricted, cohorts are likely to be large.
- If cohorts are large, learner/educator ratios are likely to be low.
- Learners may want to 'stack' microcredentials to form larger qualifications and will require support to do this.

Pedagogies for microcredentials

Because microcredentials vary greatly in length, level, scale and scope, there is no one-size-fits-all pedagogy that is suitable for all these courses. Instead, there are various options that can be combined as appropriate, bearing in mind the aspects listed above.

ePortfolio for skills articulation

The process of articulating and evidencing skills starts with inquiry. Learners are prompted to explore and question their current and past experience. Doing this enables them to identify situations in which they have applied relevant skills. Learners can then be supported to reflect on these situations, making connections between insights they have gained and creating a broader picture of the skills they have mastered. This process helps to bring together experiences gained in different courses and in the workplace, integrating academic learning with lived experience.

Evidence of these skills can be gathered in e-portfolios (students' digital collections of their completed work or achievements), which are accessible in both academic and professional contexts. Learners can then be supported to engage and communicate about their skills with different audiences, including their teachers and employers, using a range of channels, formats and styles. As a whole, the process of compiling an e-portfolio and communicating with different audiences enables learners to identify and select evidence relating to skills development and then use this evidence for academic assessment (to show they have acquired

certain skills) and professional recognition (to demonstrate skills required to join a professional body).

Competency-based learning

Competency-based learning focuses on learners mastering a set of measurable outcomes. It is appropriate for courses designed to help learners progress along well-defined career paths. Progress is evaluated based on whether learners demonstrate they have acquired explicit and measurable competences that have been communicated to them clearly. This includes the ability to apply that knowledge in practical situations, such as their job. Learners cannot move on until they have mastered prerequisite skills, which may be taught in one course or split over a number of microcredentials.

This approach is easiest to implement in areas that already have defined sets of competences. The curriculum should link these with professional skills required in the field such as teamwork, communication and the ability to work under pressure. Assessment can be used to link the different competences so learners are able to explore the relationships between them, rather than treating them as discrete units.

Case-based learning

Case-based learning is well suited to courses that help learners develop job-related skills. It takes the form of a guided inquiry involving a practical case, problem or question to be solved, and a stated set of learning objectives with a measured outcome. Some of the information and content learners require to solve the problem is presented in the course; some is discovered by them. If a student's approach takes them in the wrong direction, facilitators use guiding questions to bring them back to the main learning objective.

Learners are not left to their own devices but can ask for advice from experts. This approach links with the work environment – learners find out when it is appropriate to investigate for themselves, and when to ask for support from others with more experience. They work in groups, which gives

them opportunities to explore team-working skills such as group planning, timetabling, and knowledge sharing. A multinational group of learners who are already working in business or industry may have a wealth of experience to draw on and share, which means that developing the skills to work with an online team may be as important to their development as the acquisition of subject knowledge.

It is important that learners feel comfortable participating, and that the course environment is structured so they have the time and opportunities to reflect, share knowledge and experience, present and discuss opposing viewpoints, and explore gaps in their knowledge. Achieving this in an online environment requires careful attention to the structure of activities, guidance on communication and group working, modelling of appropriate behaviour by educators, thoughtful use of introductory sessions, and regular reviews of group progress and interaction.

Conversational learning

The relevance of conversational learning to microcredentials, which often run on MOOC platforms, is that it is a pedagogy of scale, designed for courses that have hundreds, or even thousands, of learners[8].

A conversational approach to learning engages learners actively. The focus is not on passive consumption of content (watching videos and reading text) but on active engagement. This can involve conversation, collaboration, reflection, experimentation and putting ideas into practice. Learners are encouraged to relate course content to their local context, to introduce different perspectives on material that relate to their own experience, and to share relevant resources. Course activities include opportunities to discuss topics, negotiate understanding and to reach agreement where possible. Guided by educators, learners connect the theories and skills introduced by the course with their lived experience and generate new knowledge and understanding in the process.

This approach can be employed successfully with large cohorts; it works well when study is asynchronous, draws on learners' existing knowledge and can be applied in situations where there are relatively low levels of educator support for students. However, when it is applied online, learners will require study skills in order to study effectively and have the best chance of completing a microcredential successfully.

Developing learner skills

Universities typically offer full-time students opportunities at the beginning of their studies to meet staff and students informally, try things out in a low-risk way, explore their new surroundings, locate resources they will need while working for their qualification and generally get settled in before starting their studies in earnest. Learners on a microcredential may only be planning to study for a few weeks, but they need opportunities to do similar things. This could involve setting time aside at the beginning of the course, or including a pre-course induction period with optional activities.

Time set aside for induction can encompass study skills support, including advice on developing effective study strategies, reading and taking notes, thinking critically, preparing assignments and revising for assessment.

Those who have not studied online before will require support with this, and most learners will benefit from some initial guidance on how to use a specific platform and navigate the course itself. Depending on the course and their previous experience, all online learners are likely to need guidance and time to do the following:

Set study goals: One goal will be to complete the microcredential. Most learners will have other goals, such as exploring one or two topics in more depth, gaining experience of a particular aspect, or making contact with other practitioners. Reflecting on their goals and stating these explicitly will help them to prioritise their work.

Manage time: Most microcredential learners will have other commitments, so they will benefit from putting important course dates in a diary or calendar at the start, blocking out times for study on a regular basis, and considering how to get ahead or catch up if it is necessary to work round a commitment that cannot be moved.

Workspace: Some learners will already have a study space available; others may need to negotiate access to a space that is comfortable, not too noisy and has access to the internet. If they do not have reliable access to a good internet connection they may need to download course materials in advance, or be prepared to study whenever the internet is accessible.

Support: It is sometimes easier to study with others by setting up a study group or identifying another person to be a 'study buddy'. Microcredentials learners might be able to do this in their workplace, especially if the company has registered a group of them on the same microcredential.

Note-taking: Online learners may prefer to take their notes online, using an online note-taking tool on their computer or tablet, or in a handwritten notebook. The decision will partly depend on personal preference and partly on context. They will need to think ahead to avoid situations where, for example, they are studying at home but their notes are on a computer at work, or when their notes are online but they have no access to an internet connection during a study session.

Self-regulation

At school, teachers provide structure, resources and motivation for learners. When studying at a distance, whatever the level of the course, more of the responsibility lies with the learner. This requires a new set of skills – those involved in self-regulation or 'learning to learn'.

Learning how to learn involves being able to:

- decide what you need to help you learn
- manage your time
- set goals
- find valuable resources – including other people – to learn with
- choose learning strategies
- reflect on progress
- evaluate learning outcomes.

Self-regulated learners:

'have a clear understanding of what they want to learn and how it will impact their career, job or personal development. These individuals assume control of their learning, monitoring their progress and adjusting their effort to maximise the benefit they gain from their studies. These learners go beyond the core tasks of the course, searching for additional resources and engaging with others in the forums to develop their ideas and grow their learning network'[9].

While it is beyond the scope of a microcredential course to develop all these skills, they can still be incorporated into courses in several ways. Most important is to bear in mind that skills in learning to learn are not innate and that learners may not be aware of their benefits. They are more likely to work on these skills if educators show they value them by mentioning them in the learning outcomes, setting aside time within the course to develop them, and assigning credits for learners who demonstrate they have engaged with them.

Conclusion

Microcredentials provide opportunities to review and combine existing pedagogies in new ways. As this is a new type of course, it is possible to try out different ways of teaching and learning. This is important because microcredential learners have their own characteristics and their needs are not the same as those of full-time learners studying on a campus.

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Pedagogy of autonomy

Building capacity for freedom and independent learning

Introduction

'Learning to learn' featured in the 2014 *Innovating Pedagogy* report. Since then, the move to remote teaching during the Covid-19 pandemic has increased interest in the related area of autonomous (self-directed) learning. This involves the development of educational systems and resources that encourage the growth of learner autonomy, as well as confidence in the learner's use of self-directed learning strategies. Autonomous learning aligns learning activities and teaching behaviours in order to open up possibilities for learning, rather than constraining learners with a limited curriculum[1]. Teachers and learning designers can provide and promote specific activities that develop these skills and strategies, enabling students to develop higher levels of autonomy.

Developing the learner profession

This is an approach associated with two ideas: (i) learning is a profession and (ii) learners are professionals. Learners' autonomy can increase at every stage of the educational system, from primary school to professional and postgraduate study. Individuals need to understand that they are not simply passive recipients of teaching: they are actively engaged in the learning process. They need to develop the skills to establish their own paths to learning, acting as professionals who take account of mandatory requirements but make their own decisions about their learning goals and how to achieve them. In order to develop these professional skills, learners need teachers who facilitate and implement the pedagogy of autonomy.

Peer learning to develop self-regulation and achieve learning goals

Self-regulation and learning strategies

Learners need support to develop the efficient study habits and techniques that will enable them to regulate their own learning[2]. Some people assume that having the skills to be a good learner is a talent that you are born with. Others assume the necessary skills will develop automatically as they become older and more mature. In fact, self-regulation can be promoted and developed from early childhood onwards.

Self-regulation is the ability to understand and manage both your behaviour and your reactions to feelings and events that are happening around you. It includes, but is not restricted to, regulating reactions to emotions like frustration or excitement; being able to focus on a task and refocus attention on a new task; and getting along with other people.

Self-regulated learning strategies include:

- **Metacognition:** Reflecting on your own thinking processes.

- **Time management:** Timetabling study, taking into account energy levels, access to resources, deadlines, fixed events such as lectures and external commitments.

- **Effort regulation:** Monitoring and sustaining effort, even when learning content and activities are difficult or frustrating.

- **Peer learning:** Interacting with other students in order to achieve learning goals.

- **Elaboration:** Making links between new material and past lessons or experiences.

- **Rehearsal:** Repeating and returning to material in order to understand and learn it thoroughly.

- **Organisation:** Scheduling access to expertise, resources and study materials.

- **Critical thinking:** Seeking out and evaluating information and opinions and reflecting on different perspectives in order to reach a well-informed conclusion.

> " self-regulation can be promoted and developed from early childhood onwards "

Teaching these skills and building into lessons opportunities to practise them can help students become more confident that they can organise their learning successfully, which means their level of learning autonomy can grow[3,4]. These strategies can be built into all stages of learning and teaching: selecting learning resources, designing interaction, developing assessment practices, or using learning analytics to improve the teaching and learning process. Several authors have suggested ways of incorporating these strategies into course design and implementation[5]. Additionally, digital tools can help learners to be more autonomous and take more control of their own learning. These tools include websites and apps that support timetabling, planning, time management and reflection.

Providing guidelines for self-regulated learning, with concrete examples of how to use the strategies can produce more confident and resilient learners. They can use these techniques when facing unexpected challenges (such as switching to online learning in an emergency). In addition to improving their self-regulated learning strategies, learners can begin to work independently online. They can also strengthen their digital literacy – those skills needed to create, find and evaluate information using technology – thus developing a set of skills that are valuable in the workplace.

Learning ecologies

Each learner has their own 'learning ecology', meaning the set of contexts – including activities, resources and relationships in both physical and virtual settings – that provide opportunities for learning. Recent studies of lifelong learning ecologies show how important it is to raise awareness of how people organise themselves to learn, and the kinds of choices they usually make to facilitate their learning[6]. The more aware individuals are of their own learning ecology, the more their learning capacity and autonomy increase. The pedagogy of autonomy therefore emphasises students' awareness of what they can do to improve their learning outcomes, together with the benefits of employing self-regulation strategies. This awareness can be developed with support from teachers.

Autonomy and accompaniment

The pedagogy of autonomy does not mean that students study alone; teacher support plays an important part in developing the necessary skills. The intention is to provide learners with resources, strategies and the confidence to face any difficult situations they may encounter during their learning journey. This approach builds learners' resilience, so they have ways of avoiding obstacles to their learning; it also provides tools and other support, making learning more efficient.

The role of the teacher is central when helping learners grow in confidence as they become autonomous learners. Five elements can help with this process[1]:

1. **Engagement:** Unless learners are engaged in the experience, learner autonomy cannot flourish.

2. **Exploration:** Issues learners explore should not be trivial; they should have personal significance to learners and require real answers.

3. **Personalisation:** Learners need to see personal relevance in the subjects they study and the tasks they are set.

4. **Reflection:** Learners need opportunities to consider what they have done, assess their actions and use these reflections to prepare for future learning.

5. **Support:** Students learn more with support from others than they can learn alone. The support of teachers is key to empowering students to continue with their learning.

The supportive role of teachers therefore becomes a key issue to empower learners to be more capable of advancing on their learning paths.

Challenges and barriers to autonomous learning

Although innovative methodologies and learning designs intended to develop learners' skills and competencies are gaining ground, teaching in many areas remains largely focused on content transmission. Teachers may complain about students' lack of the autonomy necessary to manage and evaluate their own learning, but too often they do not provide them with strategies and tools to achieve this. On the one hand, instruction-based approaches tend to concentrate on discipline-specific knowledge, rather than developing 'soft skills' such as time management, communication, critical thinking and problem solving. On the other hand, learning settings that leave individuals to study alone, without support from a teacher or mentor, are likely to lead to frustration and loneliness rather than spontaneously generating autonomous learners.

Conclusions

The pedagogy of autonomy designs teaching to support self-regulation strategies, incorporating sufficient guidelines and tools for learners. It considers classrooms, both online and physical, as capacity-building environments in which learners can find a place to develop themselves. It makes use of a personal teaching approach – one where both student and teacher embark upon a journey which builds competencies and makes the students aware of their own learning ecologies. This facilitates student confidence to take responsibility for their own learning.

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Watch parties

Watching videos together, whatever the time or place
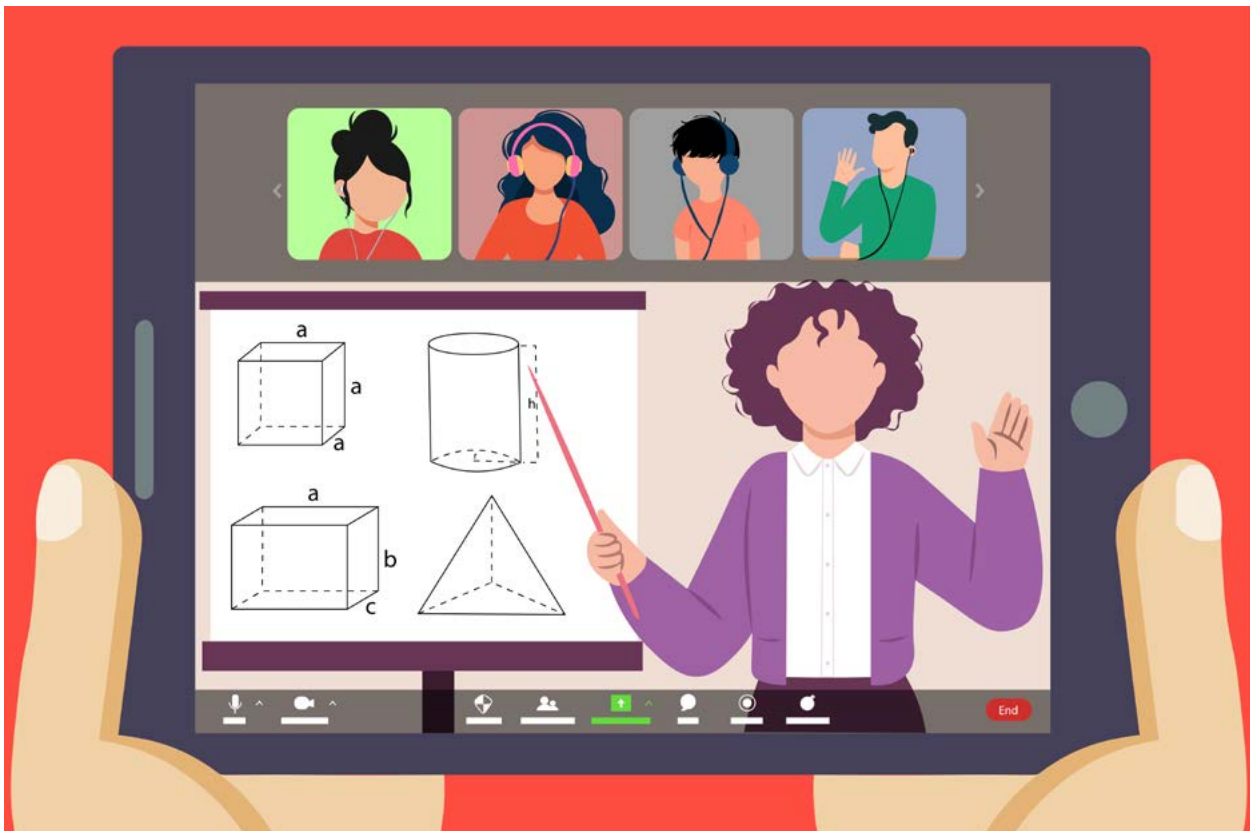
Watching and discussing a video presentation together with other students

Introduction

Watch parties take place when people watch videos or online presentations together simultaneously; viewers may come from all over the world and are not necessarily co-located. When we use the word 'party' in everyday life, we often refer to a social gathering where people are invited along to an event that might include food, drinks and entertainment of some sort. With watch parties, although there is a social gathering, there may not be any refreshments – the focus instead is on the shared learner experience and the video or presentation as the entertainment.

Watch parties have similarities with what many learners may have experienced in school, when they and their class would gather around a television to watch a video that would aim to teach them something

relevant to the topic in hand. The difference with watch parties is that they are done online and the viewers involved are usually not all sat together in the same room, or even the same locality – potentially not even in the same country, all watching the media (such as videos) simultaneously. Videos are used a lot for online courses, particularly in Massive Open Online Courses (MOOCs), or even as the basis of entire platforms, e.g. Khan Academy[1].

Watch parties have become a very topical tool through which learners can engage collectively with a specific video or broadcast. There may be activities to engage with beforehand, during and/or afterwards, such as a group discussion, message-based chats or links to particular learning tasks such as a comprehension activity or a reflective piece.

Setting up and running watch parties

Watch parties can be used for many online learning purposes. Examples include formal schooling or university tuition or training and professional development. The approach can also be used for more social purposes, as evidenced by Meta (the company behind Facebook), which in 2018 released 'Watch Party', described as 'a new way for people to watch videos on Facebook together in real time'[2], where Facebook users can have watch parties with their Facebook friends. Likewise, other media providers also offer solutions for watch parties, such as Netflix (which uses Teleparty, https://www.teleparty. com/), Disney+ (GroupWatch, https://www. disneyplus.com/welcome/groupwatch) and Amazon (Prime Video Watch Party, https://www.amazon.com/adlp/watchparty). This is becoming a growth area for many online service and media providers.

> **"** there was more social engagement in watch parties than in face-to-face teaching **"**

The technology to deliver watch parties independently of media providers such as those just mentioned is now widespread in many parts of the world. It includes examples such as Zoom, Teams and more recent platforms such as Twitch (https://www.twitch.tv) and Discord (https://discord.com).

The Covid-19 pandemic has led to an increase in the need for online learning activities, and the benefit of watch parties is that they can be scheduled and made part of the formal curriculum, as evidenced by Kuepper-Tetzel and Nordmann[3], who present the notion of 'watch party lectures', which combine asynchronous and synchronous teaching approaches. In their study, they recorded 2–3 short videos for each lecture, with a combined time of around 45 minutes; these were then uploaded to the university's Virtual Learning Environment (VLE). Scheduling set times

when these videos were to be watched by all students provided structured learning and did not rely on students watching them in their own time.

An additional benefit was the synchronous chat discussion that occurred, which can provide excellent interactivity and the feeling of presence between lecturer and students[4]; indeed, Kuepper-Tetzel and Nordmann[3] found that there was more social engagement in watch parties than in face-to-face teaching. This was mostly due to the chat box that was used during the watch party, where the lecturer could respond immediately and provide additional links where appropriate. Engagement between peers was also apparent in the chat box, where they answered each other's questions and gave follow-up opinions and comments.

Additional quiz activities provided at the time can also help to increase retention and transfer of knowledge[5]. These effective interactions – that can be integral to watch parties – could mean that learners can benefit from co-construction of knowledge via social and cognitive processes. In short, watch parties promote interaction between students and teachers, a key element for motivation and fostering a sense of belonging for learners in online education[6].

Recommendations for effective learning with watch parties

If video is to be used as an effective educational tool, student engagement with it should be maximised[7]. It is important to promote active learning, and help students manage the cognitive load of watching the video. To achieve all that, Brame[7] made the following recommendations to educators:

- Use of 'signalling' to highlight key concepts, such as using coloured text or changing the contrast on screen, or using short out-of-video text to give further details on the context or learning objective

- Use of shorter videos, or 'chunking' longer videos

- Using a conversational language when recording videos, to increase the sense of presence and social partnership
- Including interactive questions within the video

Several guides also exist to help plan and run a watch party, such as that from the University of Brighton[4], where the main considerations are the time zone that it is hosted in, and also where the viewers are located. Students with disabilities should also be provided for, including any additional support (such as the use of subtitles).

Benefits

Watch parties are a good way to get people together to watch a video or presentation on a shared issue, particularly as part of a formal or planned curriculum. As previously stated, they do not rely on the viewers all being in the same location, or even the same time zone (although obviously they need to fit into the time zones appropriate for an individual's study time).

Participants can engage from their own homes, from a coffee shop or a variety of other potential venues. They can often have their own comforts or preferences accommodated, such as a relaxing sofa to sit on or food if they are hungry. With carefully planned and recorded videos, learners can engage effectively with each other and the educator in a similar manner to face-to-face experiences, or even more effectively.

Challenges

One of the issues that can be limiting for watch parties is internet connectivity, specifically the speed of the connection. This can be partly overcome by asking viewers to download the video beforehand, or preload it so the data requirement is not as high during the event itself. However, the more viewers that are invited, the bigger the streaming requirement of the video host. This can cause issues with the viewer experience. Similarly, some viewers may not be able to engage effectively with the video, such as those who are blind or partially sighted, or those with hearing issues. In the latter case, subtitles

must be included – it is good practice to have these available anyway. An alternative, or additional consideration is including a sign language interpreter as part of or to accompany the video.

It can also be difficult to pause the video, as this either is not an option or it is under the control of the person in charge of the event. Lastly, some watch party providers are only available on personal computers rather than mobile devices or 'smart' televisions, which is not always the preferred viewing option for learners.

Conclusions

It is likely that watch parties will continue to be available – or even become more prevalent – as internet bandwidth increases and becomes more widespread. The combination of learning from videos with the social experience of watching with others can make for an effective learning experience. This is particularly true as students are becoming increasingly diverse in terms of where they live and where their learning provider is based – which might be in a different country altogether.

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Resources

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- Scener (https://scener.com/) – Scener is a free service that enables you to watch shows and movies socially from any major streaming platform.

- Echo360 (https://echo360.com/) – Echo360 combines video management with lecture capture and active learning to increase student success. It also includes analytics and peer learning tools.

Influencer-led education

Learning from education influencers on social media platforms

An edu-influencer creating and sharing educational content

Introduction

High-speed, affordable internet access combined with easy and free-to-use authoring platforms like YouTube, Facebook, TikTok and Instagram have resulted in the rise of 'social media influencers'. These influencers are online personalities who have built up a large fan base: thousands and even millions of viewers who regularly follow them online. They present information and share their views on products, services, and social trends in a multi-sensory way through images, animations, infographics and videos. Until recently influencers were largely associated with the marketing sector, but some are establishing themselves in education. Social media influencers are increasingly shaping learners' decisions about what to learn, from whom and where, and their online presence tends to blur the boundaries between entertainment and learning.

The content that influencers create, together with their teaching approaches can have great reach and a potentially profound impact. We are increasingly witnessing influencers being

treated or positioned as teachers, as well as teachers turning into influencers. This has led to discussions among educators as to whether it would be possible to use the popularity of influencers or draw on their practices to improve formal and quality-assured modes of online education. For example, influencer-led education could be used as one model of how to facilitate the creation of communities motivated to participate in learning.

Characteristics

'Edu-influencers' (education influencers) provide freely available videos and other content to their followers beyond formal and accredited education programmes, and mostly work outside educational institutions[1]. Their content varies from supporting academic studies, such as explaining difficult science concepts or teaching how to take notes in class, through to more informal and community-based learning, ranging from politics to fitness training and craft skills.

Influencers appeal to large groups of followers through their audience-orientated presentation styles. Common teaching methods include the educator 'talking to camera', appearing to be conversing with their followers and demonstrating or describing an idea, concept or a product in a short video. These videos often involve rich media (animations, graphics, images and music) to enhance the presentation. By cultivating an online identity and promoting an 'authentic' personal experience for their followers, education influencers seek to develop a personal connection with their audience[2,3]. This personal connection enables the followers to relate to the identity of the teacher[4]. The presence and performance of a key individual characteristically lend them authority and create trust; consequently, followers may develop a belief in the professional expertise of the influencer, their competency, and/or their honesty.

Using globally available, free to use social media platforms, influencers reduce barriers to access and participation and can build up audiences of millions. The platforms are designed to enable followers to interact easily with the educator (influencer) and other followers, encouraging a sense of shared community, for instance through 'likes', leaving comments or starting conversations. In turn, the influencer develops a sense of belonging by responding in simple ways to conversations that they have stimulated: for example by responding to comments left by followers, or referring to feedback or requests as part of their next video presentation.

An example of influencer-led education is Ahmad Al Rashid's 'British English Plus' channels on Instagram, YouTube and TikTok which, together, have over a million followers. British English Plus has a simple and successful formula – one message a day, teaching one point, hitting the interests of the target audience (people studying or working
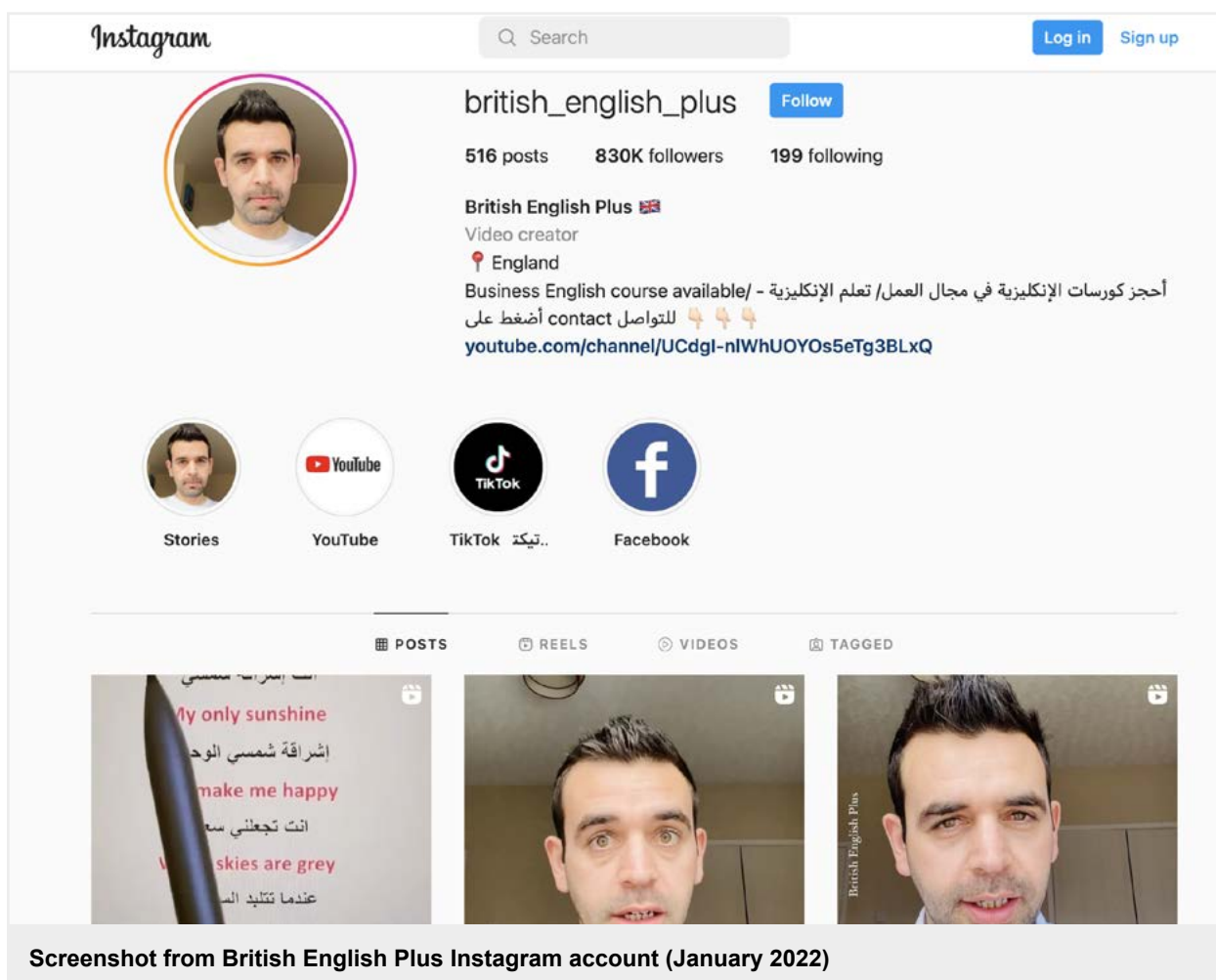
Screenshot from British English Plus Instagram account (January 2022)

in the UK, or seeking to do so, who want to learn British English). Followers fall mainly into the 18–35 age group and are located in Middle East, North Africa and their many diasporas in the UK, Europe and elsewhere. Al Rashid's bilingual Arabic-English mediation of key teaching points has proved to be hugely popular.

Universities have begun to explore how to adapt social influencer approaches to expand their reach. As well as many universities and colleges now using social media platforms to promote their activities, some actively distribute learning content through these channels or analyse social influencer methods to extend their audiences. The Open University in the UK offers one minute 'mini-lectures' on different educational topics, distributed on YouTube (for example, a geologist explaining how to read a rock); the Max Planck Society in Munich has a video series in collaboration with two YouTube influencers to help students better engage with complex scientific content[1].

> influencers reduce barriers to access and participation and can build up audiences of millions

Challenges

'Edu-influencers' can offer valuable teaching and learning that may supplement or provide the only access to education for some learners. However, with no regulatory oversight beyond the legal frameworks of their chosen online platforms and their sponsors' demands, they may accidentally or even purposefully exploit, mislead or misinform their followers. They may have undisclosed motives or other biases underlying the information they provide. 'Teaching' might be given not on educational grounds but as a means to sell products or services, or as a pretext to knowingly mislead for a purpose that is not made clear to the viewer, who may be part of

a vulnerable group. The harms of influencer culture on younger audiences in particular are concerning[6]. When children become influencers they may also be exploited if they lack legal rights and protections, such as the right to the earnings they generate[7].

With no required professional standards or quality assurance processes, there is no guarantee of the educational value or sound theoretical underpinning of what is presented as valuable knowledge[2]. Influencers might be well-meaning but untrained. With no oversight, influencer-led education runs the risk that the content has not been checked, and the teaching approach has not been seriously considered. Influencers may lead their followers towards certain commercial or marketing messages, or promote dubious or dangerous viewpoints as 'facts' (for example encouraging people to follow unsafe diets, or providing false information about vaccines). Influencers may encourage their audience to act without considering the ethical responsibilities of a teacher. This can include the problematic use of feedback: the audience will often be encouraged to post their reflections in comments spaces, but there may be little or no facilitation or moderation of these conversations. This could result in false or misleading information being posted, missed opportunities for connection to important social issues, and unacceptable online behaviour (bullying, dominating conversations, harassment) that reduces the value of these potential peer learning spaces and networks.

The social media platforms themselves may be problematic, having their own motivations for what they promote rather than necessarily seeking the best interests or educational priorities of the influencers' audiences. Social media audiences may be encouraged to view what is profitable for the platform rather than what is beneficial. Platforms often fail to identify problematic content. Much of the content available on digital platforms is determined through algorithms that control its visibility and may reinforce biases. As such there is a risk that the content promoted to users may be manipulated without their understanding or control[6].

For instance, algorithms can lead to a person's viewing being unduly influenced by their prior selections of online content: this has been described as the 'echo chamber' effect which can reinforce radicalisation[2]. Influencers themselves may also be at risk, with many social media platforms refusing to recognise themselves as 'employers' and placing the responsibility of any negative consequences on individual influencers.

Conclusions

The rise of non-traditional forms of education such as influencer-led education, combined with their appeal and reach to vast audiences via digital and online platforms, make this pedagogy timely and important. For its critics, influencer-led education is viewed as being driven by commercialised lifestyles and unqualified individuals whose motives are at best questionable. However, educational influencers reach millions of people who consider themselves to be learning, and they have established a depth of expertise in how to gain and sustain audiences in new online spaces. The pedagogical potential associated with influencers can inform contemporary educational practices that have been calling for pedagogical models that foreground new learning spaces, flexibility, ubiquity and connectedness in learning. In summary, educators in accredited institutions would do well to learn from how influencers use social media platforms to inform and educate as online social learning increasingly becomes a global norm. As it does so, large-scale influencer-led teaching is likely to have an increasing role in education in the future.

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Pedagogies of the home

Understanding the home as a place for cultural learning

Introduction

Since the Covid-19 pandemic it has become even more crucial to understand the 'home' as a learning environment in terms of its educational and cultural relevance. With children being home-schooled or studying online from home, there has been a pressing need to consider ways in which educational experiences can be adapted to ensure that they are both personally and educationally relevant. The theoretical concept of 'pedagogies of the home' (or 'home pedagogies') differs from the more traditional 'home schooling'. Whereas home schooling refers to the education of school-aged children at home, pedagogies of the home seeks to investigate the types of informal teaching and learning practices that occur in a home environment, as well as culturally specific ways of learning such as through the local community.

Origins

In 2001, Delgado Bernal sought to explain the idea of 'pedagogies of the home' or 'home pedagogies'. These are teaching methods and practices that occur in a home, family or community setting. The idea comes from the desire to better incorporate the cultural heritages, lives and families of Chicana/ Chicano students (Americans with a Mexican origin or descent – abbreviated later in this section to 'Chicana/o) into educational experiences in the United States (US). It seeks to identify culturally specific ways of organising educational experiences in non-formal settings such as the home[1]. Another term used is 'home(land) pedagogies' which can be described as the lessons people learn and are taught as a result of connections to their homeland or land of birth, such as learning a native language[2].

A public expression of Chicano identity

Examples

The approach aims to better understand the home-based ways of learning within 'marginalised families', which refers to individuals or groups that may be treated as unimportant due to aspects such their economic status, ethnicity or nationality. It aims to prepare young people to negotiate their experiences with different systems (such as schools) that may be sites of unjust treatment. As such, the pedagogies of the home approach is interested in exploring the family setting, such as practices passed on by different generations that assist in academic achievement and success. Bernal, for example, was instrumental in noting how Chicana/o students employed their multiple cultures of Mexican and American heritage to leverage sources of support in their social and academic development.

An example of home pedagogies is research describing how some Latina/Latino parents living in the US impart advice (called *cuentos* and *consejos*, which, when translated, refers to moral advice and giving tips through stories), notions of respect (*respeto*) and 'education' (*educacion*) to their children, and how these ideas are imparted from generation to generation[3]. This is supplementary learning to the ideas children are exposed to at school.

Phenomenological research (focusing on experiences and consciousness) conducted with a Chicano family in the US shows how the family believed very strongly in *their* 'pedagogy of the home', as it greatly influenced how and what they understood about schools, teachers, higher education, gender and employment[3]. Their views were somewhat different from the school's understanding of success and communication; messages the children received in the home centred around aspects such as hard work, independence and life skills (such as washing and cooking).

> " students employed their multiple cultures of Mexican and American heritage to leverage sources of support "

When researching Puerto Rican households it was found that pedagogies of the home varied based upon whether family members had a college degree[4]. When experiencing individual or systemic racism in higher education, Puerto Rican children exemplified aspects such as *sin pelos en la lengua* ('without mincing words') and *pa'lante siempre pa'lante* ('always moving forward') as ways to apply what is taught and learned from their parents to help them navigate their higher education experiences.

Research on home pedagogies has also been conducted with other aims and in other contexts, such as to understand the role of parent engagement in college choice processes, college completion and school enrolment[5]. Other interpretations include the exploration of doctoral students' experiences of having mentors in academia[1]. Its uses in formal teaching are very sparse. Nonetheless, educators' understandings of household knowledge can be an effective tool for selecting culturally relevant picture books and textbooks for students[6]. Similarly, culturally relevant books can be used with children to foster strategies for critical reading, discussing social and political aspects such as race or injustice[6]. Others have sought to explore how home pedagogies can be used to teach from a critical perspective and to disrupt 'knowledge as usual'[7], meaning knowledge that is assumed to be shared by all. Yet, based upon its use in research, it would seem to have potential in terms of helping teachers and students to understand and deal with different experiences in schools (as examples, learning alongside children from different cultures and the issue of bullying). It has been argued that it is useful as a tool to challenge educational norms that may exist within higher education and the dominant perceptions that can be

held around certain groups of students (for example, Chicana/o students dropping out of school or the impact of historic segregation or cultural deprivation on student attainment)[3].

By using different sources of learning gained both at home and in their wider communities, students may be better equipped to challenge discrimination they may face, wherever it may originate. On a broader level, it is hoped that a better understanding of home pedagogies will allow educational policies and practices to be developed that value and build upon household knowledge. One existing example of this is a social worker training curriculum that serves as a complement to social work practice within the Chicana/o community[8]. Similarly, it is argued that educational policy makers and higher education institutions can enhance the learning experiences of students from cultural minority backgrounds by further examining how policy makers and institutions support 'first generation college students'[4] (i.e. students who are the first in their families to go to college). As a result, it is hoped that utilising home pedagogies will create a better student experience and success in education for marginalised groups.

Home pedagogies can also be a helpful self-reflection strategy for teachers and students alike, where the focus is on the communities of people and places we learn from outside the educational context.

Challenges/barriers

For teachers to employ culturally responsive home pedagogies, they need to consider aspects such as the cultural knowledge, experiences and frames of reference of ethnically diverse students to make learning outcomes more relevant and effective[2]. This involves a reflective approach to teaching which is student-focused rather than following a set of principles or guidelines or a fixed curriculum. A further challenge is that home pedagogies rely on teachers being critical of their own practices, or their institutional practices, and seeking to extend their understanding of learners beyond the walls of the classroom and into their communities and homes.

A family setting for an educational experience

Conclusions

Incorporating home pedagogies within teaching and learning involves investigating and understanding the informal education-related practices that occur in students' homes, communities or families. It has been explored within teaching in relation to critical and reflective pedagogy, as well as in research aimed at understanding Chicana/o students' educational experiences. Challenges include the fact that home pedagogies rely on teachers' critical reflection and their use of cultural knowledge sources that may not be easily accessible or understood. It has, however, the potential for educators to bring into the formal education setting the voices and cultural knowledge that students experience outside of school and to make schooling experiences more relevant to students from different cultural backgrounds.

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Resources

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Pedagogy of discomfort

Emotions as powerful tools for learning and for promoting social justice

Introduction

The 'pedagogy of discomfort' is a process of self-examination that requires students to critically engage with their ideological traditions and ways of thinking about issues such as racism, oppression and social injustice. This process of reflection by the students can bring about a range of emotions, including emotions that cause discomfort (hence the name). The emotions this process elicits can challenge traditional ways of understanding a topic and assumptions made about it, and the process can be a catalyst for change.

Some researchers and educators believe that by reflecting on and emphasising the role that discomfort plays in teaching and learning about these topics, students would experience greater learning and transformation. Putting the students in someone else's shoes is one strategy often used to discuss and challenge binary attitudes such as 'us and them', where one side of the binary is seen as 'us, good, right, and moral,' reflecting the status quo or the dominant culture[1,2]. However, the pedagogy of discomfort can be tricky to put into practice, as educators need to be prepared to share their own emotions and discomfort in addition to providing emotional support and guidance to students and promoting learning.

The pedagogy of discomfort was developed in the late 1990s by Megan Boler[1] and has been applied in various disciplines, as the following examples show:

- to increase understanding of First People's (indigenous people's) health by non-indigenous students in Australia, in discussing racism in theology education
- in the professional development of schoolteachers
- in 'performing arts' education
- in contemporary architectural education
- in teaching and understanding political conflicts
- in immigration studies
- in decolonisation of education
- in training on gender-related violence for youth leaders.

Difficult emotions can have transformative effects

Background

For decades, attempts have been made to teach challenging topics in the classroom[3]. One example is the controversial 'Blue eyes/brown eyes exercise' conducted in 1968 by the educator Jane Elliot to teach students about racism[4]. In the experiment Elliott divided her classroom of 28 third graders into two groups: children with blue eyes and those with brown eyes. For a full day, the blue-eyed children were considered superior, smarter, cleaner, and better behaved. They had more time at school breaks, they would drink water first and the brown-eyed group after them. The 'inferior' (brown-eyed) group had to wear a handkerchief around their necks for easy identification. The roles were reversed the following day, when the brown-eyed children became superior, and the blue-eyed children had to wear the handkerchief. The experiment showed that when the children where in the 'inferior' group, they had lower performance, lower self-esteem and some were even excluded in the school playground by the children with the 'superior' eye colour. After being treated like a member of the 'inferior' group, students were less inclined to treat their peers that way. Elliot wanted to show her students what discrimination feels like, and what it can do to people.

> emotions are a powerful tool to question and disrupt existing preconceived ideas

Research findings reveal that students' emotional engagement with difficult scenarios or topics may contribute to changes in perspective and ways of thinking, which can translate into actions that can challenge the status quo of 'systems of privilege' – social systems in which some groups have more advantages than others.

Putting the pedagogy of discomfort into practice

In the pedagogy of discomfort, emotions are a powerful tool to question and disrupt existing preconceived ideas, while the collective debate and reflection on these emotions amongst students and teachers can create new understandings that could lead to a call for action through 'new ways of being and doing'[4]. For emotions to be fully explored, social, cultural and political contexts must be understood. According to Boler[1] there are four main elements that could help educators practise the pedagogy of discomfort. These are:

1. **Spectating versus witnessing:** teachers should try to move students from their passive position (spectator) where they are unaware or indifferent about an issue being learned, to being a witness, where students are exposed to a different side of history and are asked to reflect on the issue. This reflection could leave to transformative learning and a call for change.

2. **Understanding and exploring anger:** here teachers are asked to unpack and understand anger and other uncomfortable feelings while exploring a certain topic. These emotions tend to emerge when the status quo is challenged, and students and teachers are exposed to a different and more complex perspective. By stepping out of their comfort zones they can create a dialogue where it is possible to collectively identify what and how we have been taught to see or not to see.

3. **Avoiding the binary trap of innocence and guilt:** when exploring a challenging topic such as racism, for example, educators need to avoid the binary trap of 'innocent versus guilty', as this can be unproductive and make white students feel blamed, lose interest or even get defensive. This is not to say that no one is guilty, because not all actions are acceptable. However, the intention here is to create opportunities for open and honest reflection and discussion while still keeping everyone accountable.

4. **Learning to inhabit ambiguous selves:** educators and students should be willing to explore unfamiliar approaches, challenge the status quo, show vulnerability and share their emotions with the students.

These elements could be adopted and adapted during the design of content and learning activities and during the delivery.

In addition, teaching about sensitive topics should be done in a controlled environment where teachers are prepared, and students are aware of what is going to be taught. Casinader[3] suggested three considerations to keep in mind:

1. Timing matters, as teachers need time to build trust with their students from upper levels of primary school or in secondary school.

2. Prior discussions with the school leadership and the students are necessary.

3. Teachers need personal and professional expertise.

Teachers who have personally and/or professionally experienced the topic being taught are more likely to have developed the skills required to manage the pedagogies of discomfort. Professional development can also help, for example training on cultural pedagogies of discomfort in teacher education can help prepare teachers to engage proactively with racist behaviours as part of their work.

An example of how this pedagogy has been adopted is in the teaching of First Peoples' health to majority non-indigenous students at an Australian university[5]. All students who enrolled in a 3rd year, semester-long undergraduate course in First Peoples Health and Cultural Safety were invited to participate (N = 218), but only 82 students accepted to be included in the study. This is an important course, as it is a core component of 11 other undergraduate 'health professional' programmes. It was designed based on the Aboriginal and Torres Strait Islander Health Curriculum Framework, where critical reflection and cultural safety (the recognition that 'cultural knowledge belongs to the cultural group') are key elements[5]. Topics such as 'self-reflexivity', 'racism and anti-racism in healthcare' and 'white privilege' were addressed, and educators supported students through a critical reflective process. The teaching team included First People's academics and health professionals and used First Peoples' pedagogies and strategies to encourage learning, including story sharing, deconstruction and reconstruction of information, non-linear approaches and community links.

Learning activities were purposefully designed to challenge preconceived assumptions as well as to develop students' understanding of their place in power dynamics within society. The assessment task was a 2000-word reflective essay about a topic that resonated with each student. Common topics students selected included the Stolen Generation (First Peoples children forcibly removed from their families), white privilege, intergenerational trauma, and racism. Students were asked to reflect upon their emotional response and draw upon their personal and professional culture, as well as the dominant cultural paradigm, to critically analyse their understanding of the chosen topic. Students who engaged in this study reported uncomfortable feelings such as 'challenged, confronted, confused, disappointed, hopeless, ignorant, overwhelmed, ashamed, shocked, upset, worried and/or sick'[5] (p. 33) and these mostly related to being unaware of the history and the way First Peoples were treated by the dominant society. As a result of experiencing these uncomfortable feelings and reflecting on them, some students were motivated to engage further with course content and develop different understandings and transformational changes.

Challenges

There are a few challenges that educators and their institutions might face while trying to adopt the pedagogy of discomfort: it could be considered unethical to cause discomfort in students; not all students would be emotionally prepared to learn this way; and discomfort may not bring transformation[6]. This then creates a further challenge, which is to provide specialised training to teachers so that they have a good understanding of the pedagogy and how to adequately support students if emotions and discussions get unpredictable and go off-track. Such specialised training could be difficult to find. Another challenge is that this pedagogy is closely linked to the social, cultural, and political context, as demonstrate in the First Peoples health case above, where some of the teachers and health professionals were also indigenous and familiar with the context. Therefore, teachers would need to be familiar, or have experienced the issue being discussed. There could also be hesitation from institutions, teachers and students around the uptake of this approach for various reasons, including personal, ideological and political.

Conclusions

With stronger calls from minority, excluded and discriminated groups for a more diverse, inclusive and equitable society and educational systems, the pedagogy of discomfort is more relevant today than ever. Advocates of this pedagogy believe that emotions should be part of learning, and that if students are emotionally invested, transformation is more likely to occur. If assumptions are not challenged, education could reinforce the status quo of societal issues leaving social justice, inequality and other issues still hidden, unexplored and not discussed. A learner who does not experience discomfort in learning could remain empathy-challenged, disadvantaged, and deprived of the truth. The pedagogy of discomfort is a powerful tool which can help teachers and students to utilise their discomfort to experience new emotional understandings of themselves and ways of living with others.

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Wellbeing education

Promoting wellbeing across all aspects of teaching and learning

Introduction

Wellbeing education is education that supports and promotes good mental health for learners. It can have a positive impact on academic attainment as well as other student outcomes such as self-efficacy, self-esteem, motivation and decreased probability of drop out[1]. Good mental health is *'a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community'* (World Health Organisation, 2018)[2]. Mental health has a continuum ranging between healthy functioning (wellbeing) and ill functioning. Depending on life circumstances, a person will commonly move up and down this continuum at different points in their life. While physical health has received attention in education, the mental health and wellbeing of learners has been largely neglected until recently.

Wellbeing education helps students to develop mental health 'literacy' by teaching them how to manage their own mental health, recognise possible disorders, and learn how, where and when to seek help. Wellbeing education also extends beyond learners and the development of relevant knowledge, skills and competences by relating to mechanisms that can support learners while they are navigating their way through education. These include the creation of a student-centred environment that promotes wellbeing and addresses obstacles to wellbeing in areas such as the cultural realities of learners. This, in turn, embeds values such as compassion and empathy in the learning process, also supporting teachers' wellbeing alongside that of their learners.

Planning how to expand wellbeing education

Why now?

Mental health issues are an alarming concern amongst students worldwide, who report pressures in their lives relating to issues such as anxiety, depression, self-harm and eating disorders[3]. Students in higher education face stressors relating to their transition from school to university, with depression and anxiety impairing academic performance and social life. Worryingly, most of them do not reveal they are facing a mental health problem due to fears of stigma and discrimination, a lack of knowledge and negative university attitudes about mental health. These issues have been exacerbated during the recent pandemic. Social distancing measures, school and university closures, and financial consequences have all had a negative impact on student mental health and wellbeing[4]. For example, charities in the UK such as Refuge have reported a 700% increase in calls to their helpline about domestic violence. Some of the mental health-related challenges experienced during the pandemic have been loss and bereavement, including a sense of grief; challenging home experiences; and inequities in relation to school closures.

Following the pandemic, UNESCO (2021)[5] stated that: *'No education system is effective unless it promotes the health and well-being of its students, staff and community. These strong links have never been more visible and compelling than in the context of the COVID-19 pandemic'*.

While the need for wellbeing approaches in education is not new, the vision of developing a sustainable whole school or university wellbeing education has not yet been met. In 2020, Universities UK published the Step Change Framework[6] calling on universities to make mental health a strategic priority and advocating for a whole university approach to this. Such an approach is structured on the premise that *'all aspects of university life promote and support student and staff mental health'* (p. 12), acknowledges the impact of inequalities, culture and environment on mental health and wellbeing, and empowers students and staff to support their own wellbeing. It asks educational institutions to assess their learning environments and take measures to promote learners' wellbeing. This can be achieved by answering questions relating to four pillars:

1. **Learn:** e.g., How does the university ensure the curriculum design considers mental health and wellbeing?

2. **Support:** e.g., How does the university ensure support services are attuned to the local context and responsive to changes in need?

3. **Work:** e.g., How does the university ensure that managers are equipped to support good staff wellbeing and maintain a healthy workplace culture and practice?

4. **Live:** e.g., How does the university ensure that students play an active role in the development of interventions to promote good mental health?

Similarly, UNESCO (2021)[5] proposed a five-step plan for achieving a whole school/university approach to wellbeing:

1. setting up a team for implementation that will consult global standards for health promotion at schools

2. identify priorities, goals and key stakeholders

3. select implementation strategies and create an implementation plan

4. implement plan

5. monitor progress against goals and areas for improvement.

The third step proposed 13 implementation areas such as the use of evidence-informed practices, allocation of resources, strengthening of school-community partnerships, development of the curriculum and associated resources for implementation, access to comprehensive school health resources, teacher training and professional development, and monitoring and evaluation.

> **"** support strategies are tailored to the needs of specific groups of students **"**

A key dimension of wellbeing education is the active engagement of students and staff in the production of a whole school/university approach. This means that all involved stakeholders co-define and share the same vision and work together to implement it. Co-production is about joint decision making; it is about listening and building on students' unique experiences of mental health and including them in all stages of developing a school/university mental health strategy. This means that support strategies are tailored to the needs of specific groups of students. For example, students of colour are found to experience trauma associated with their race, LGBTQI+ students present with higher rates of depression and suicidal thoughts, whereas adult learners have dependents and work full-time. These needs could be documented

through consultation with specific groups of students and support could be jointly developed. Such work can enable the scaling up of mental health and wellbeing support interventions and ensure their sustainability over time.

To create a culture of care and compassion amongst students, campus health providers in the US stress the importance of teaching students life skills such as how to manage relationships and friendships, how to solve problems and make decisions and how to manage emotions. They also emphasise the importance of connectedness to university life, friends and family that could often be achieved through small acts of kindness. Additionally, they encourage the design of campaigns and activities through which students are encouraged to seek help when they need it. For students experiencing mental illness there should be immediate professional help in place available 24/7 without waiting times.

The Peer Education Project[7] is another initiative that targets the development of students' knowledge and skills to successfully manage mental health and wellbeing. Led by the Mental Health Foundation in the UK, it aims to change perceptions about mental health by:

• showing that mental health is something each individual has

• promoting ways to look after mental health and wellbeing

• providing advice on where to find help if needed, and how to support peers.

This is being achieved through the innovative approach of peer-to-peer training. Teaching staff train older pupils through a series of lessons on how to develop the skills and knowledge needed to safeguard their own and their peers' mental health. Pupils then deliver the programme to their younger peers, who have reportedly found it particularly useful and effective. Lessons last 50 minutes each and focus on five themes: basic mental health awareness; risk and protective factors; ways to stay well; the importance of seeking help; and how to support others. For example, the first lessons introduce the concept of mental

health and the mental health spectrum; teach students that mental health changes over time and is unique to each person and that it can be affected by life events. It also addresses some common myths about mental health.

Challenges

There are several challenges associated with wellbeing education. A whole school (or university) approach to wellbeing education requires financial and staff resources to be implemented. This is a rather long-term process that should become embedded in all teaching and learning practices if it is to be successful. In addition, wellbeing and mental health education is still widely seen as extra-curricular. Processes for reporting and supporting students through a mental health crisis or the diagnosis of a condition are in place in some educational institutions but not in others. Also, the development of proactive interventions and ongoing approaches that could prevent mental illness and encourage wellbeing practices is rather uncommon.

Conclusions

There is an urgent need to enable wellbeing education across schools and universities, so students can develop the life skills they need to manage challenges in and out of school or university. Such skills should help them prevent problems or identify problems early on and seek support accordingly. It could also help minimise and remove the current stigma around mental health, freeing young people to express themselves and seek help when in need. Students who are happy and satisfied with their lives are more likely to attend to and achieve high educational outcomes.

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Walk-and-talk

Combining movement and conversation to enhance learning

Introduction

Philosophers long ago remarked upon the fact that the act of walking, alone or with others, facilitates thinking and discussion, which are key elements of learning. As education is increasingly conducted online and there are concerns around the harmful effects of too much sedentary and isolated learning from home, there is interest in reviving, adapting or devising pedagogies that involve both conversations and the act of walking. During a pandemic, outdoor activities such as a walk or a hike may be available when meeting indoors is not possible, providing an alternative way to connect with others and relief from sitting in front of a computer or TV. These developments dovetail with the contemporary rise of mobile learning, especially when the educational activities involve longer walks combined with side-by-side conversations when walking with someone else, phone conversations or messaging through texts.

Walking can stimulate curiosity about one's surroundings, improve one's mood, clear the mind and spark new ideas. Its rhythm is conducive to oral rehearsal, for example when preparing or learning a speech, which may aid memorisation and build confidence. When walking with another person or in a group, there are opportunities for side-by-side conversations that may differ from those when people are looking at each other face-to-face. When we are walking, we are not directly looking at each other, and this may encourage some people to talk more openly or be willing to talk more than they would otherwise, therefore the walking element of the conversation influences the interactions we have in these situations. Combining walking and talking is a powerful way to enable some types of interaction, reflection and consolidation, to alter states of mind and to encourage new ideas.

A learning conversation outdoors

Examples in educational contexts

Walk-and-talk has been used in several contexts in education:

- to support psychological and physical well being
- in research as a teaching method
- in informal learning.

It is used in therapeutic approaches and counselling to address psychological issues or stress, by encouraging people to talk about their experiences while walking with another person or in a group[1]. The approach has recently been documented in healthcare settings, where it has been used for 'less threatening' supervision of stressed carers. Similarly, in an educational context students could be accompanied by their supervisor, mentor or coach as they talk through their experience of a challenging assignment or work placement. This can be a way to minimise their anxiety, bring out new perspectives and encourage creative thinking and problem solving. In a distance learning context, students suffering from anxiety can be walking around at home (perhaps while wearing headphones) and contributing to a remote tutorial, which may lower barriers to participation in a class. The walk-and-talk approach has also been shown to facilitate broader access to psychological support and knowledge networks (social networks that expand a person's knowledge and social capital) through meeting new people when out walking and sharing experiences in a group[2,3]. As increasing amounts of online teaching, learning and working compel more people to spend long periods of time sitting in front of a computer or using a tablet, a 'walking meeting' can bring health benefits and help develop healthier habits.

In the context of educational research, which is also increasingly used as a teaching method, walk-and-talk is used when conducting interviews and may be referred to as the 'walk-along interview'[4]. By walking alongside a research participant during the interview, we can discover more about aspects such as what they experience on their daily journey to work and interactions with people they meet on the way. We can also share in their experience as was shown in a study of researchers following a temporary protest organisation[5]. The walk-and-talk research method has been used to capture visitor experiences walking around a museum, which develops our understanding of learning in these kinds of spaces[6]. In some research contexts the participants are wearing equipment such as a virtual reality helmet that captures the position of their head in relation to the person with whom they are walking and conversing, which can provide data about their rapport or other relational aspects of their conversations on the move[7,8].

> "combining walking and talking is a powerful way to enable some types of interaction, reflection and consolidation"

In informal learning contexts, walk-and-talk has been used as an innovative approach to supporting the integration of migrants in the UK. A three-year project run by Learning Unlimited, based in London, has found that the walk-and-talk approach can help migrants in several ways, including some that are specifically linked to informal learning:

- develop their language skills if English is not their first language
- increase their knowledge of their local area
- find out about local services, support and recreational opportunities.

In Liverpool in the UK, Walk and Talk is a series of monthly events for refugees and asylum seekers to help them develop their English as they get to know Liverpool's cultural attractions and each other. The walks include visits to parks, museums and galleries.

Challenges and barriers

Some challenges associated with the walk-and-talk approach include talking acting as a distraction that may stop people paying attention to where they are going, as they focus on multiple activities at the same time. They might stumble, walk into something (a ditch, a lamp post, traffic), or accidentally wander into an area that they should not enter because they are caught up in a discussion. If they become excited by their surroundings, they may start taking photos or making videos without due preparation or permissions to do so, especially if their photos or videos are going to be shared in public forums. Similarly, the success of the walk-and-talk approach could be reliant on 'safe spaces' for walking which may not be accessible in all contexts. Furthermore, some researchers have argued that 'sit-down' interviews with research participants are better than those conducted while walking; doubtless walking may be an issue, depending on several factors, including the nature of the interviews and where they are conducted.

Barriers to participating in this pedagogy are faced by those who cannot physically walk, and by those who have specific difficulties speaking or hearing. Such difficulties may be more acute outdoors or in changeable environments. However, as research has shown, it is often possible to adapt this pedagogy to ensure it is accessible to all those participating. For example, several projects at The Open University and elsewhere have demonstrated that fieldwork can be made more accessible for students who have declared that they have physical mobility disabilities. Real-time communication using mobile devices between participants in different locations can increase opportunities to participate. Nevertheless, careful planning is required.

Conclusions

Walk-and-talk provides opportunities to support learning through stimulated conversation. It may generate a deeper understanding of research participants' experiences; it can contribute to the development of healthier daily habits and provide psychological support. Its use in education and informal learning settings has demonstrated its potential as a teaching and learning approach. The challenges of this approach include accessibility to walking spaces, location constraints and the act of walking and talking being a possible distraction. Future directions for this approach are likely to be developed in therapy and as a research method for exploring participants' learning experiences.

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INNOVATING PEDAGOGY 2022

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