**Chapter**

# TOWARDS A DIGITAL PEDAGOGY OF INCLUSIVE ACTIVE DISTANCE LEARNING

*Author name\**
Dr Helen Caldwell: Associate Professor of Education, University of Northampton
Dr Emma Whewell: Senior Lecturer in Physical Education, University of Northampton
Dr Cristina Devecchi: Associate Professor of Education, University of Northampton
Mary Quirke: PhD Researcher, School of Education, Trinity College Dublin
Dr Conor Mc Gukin: Associate Professor of Educational Psychology,
School of Education, Trinity College Dublin

*Corresponding Author address
helen.caldwell@northampton.ac.uk

## ABSTRACT

This chapter focuses upon the concept of Active Distance Learning [ADL] as a pedagogical approach to designing and teaching in a remote learning setting. This concept has been developed at the University of Northampton to complement their pedagogical approach of Active Blended Learning. ADL combines sense-making activities with focused and engaging interactions in synchronous and asynchronous online settings. It engages students in knowledge construction, reflection and critique, the development of learner autonomy and the achievement of learning outcomes. The chapter also draws upon the Universal Design for Learning Framework for making ADL inclusive. This approach enables learning to be designed or modified for the greatest diversity of learners possible. This chapter is aligned with contemporary social constructivist, constructionist and connectivist learning theories that emphasise the social situatedness of learning in communities of practice where learners feel empowered to co-create knowledge. Key pedagogical approaches are mapped with the affordances of a range of digital tools to exemplify inclusive ADL practice. A set of vignettes from practice demonstrates digital pedagogies and tools in action, showing how they can add pace, collaboration and engagement to synchronous and asynchronous online learning.

## INTRODUCTION

This chapter presents a selection of vignettes from practice to consider how they represent key pedagogic aspects of Active Distance Learning [ADL] through their uses of digital technologies. ADL is an approach to the design of online learning that has been explored across a number of online education courses at the University of Northampton, including the online MA Education, and was extended across other courses when on campus teaching was suspended due to Covid19. The development of ADL in our education courses followed the implementation of a pedagogical model of Active Blended Learning [ABL] that has been in place across the institution since 2014. An aim of ABL is to enhance student engagement through active learning strategies alongside a move to a new campus without lecture theatres [Palmer, Lomer and Bashliyska, 2017; Armellini, Antunes and Howe, 2021; Rodriguez and Armellini, 2021]. It is characterised by a digitally rich learning environment and collaboration between students in knowledge construction through interaction with content, peers and tutors [University of Northampton 2020]. In designing online courses for teachers

and students and in revising existing ABL content to make it fully online, we have aimed to keep these principles in mind, and we have used the term ADL to describe our teaching and learning strategies. This chapter also explores the relationship between Universal Design for Learning [UDL] and ADL, and how this can create more inclusive online learning environments.

# THEORETICAL BACKGROUND

The notion of active learning has its roots in constructivism that emphasises learners' active engagement with knowledge building [Cummings, Mason, Shelton and Baur, 2017]. Papert's  constructionist theories add an extra layer by suggesting that digital environments can enable learners to develop ideas by constructing meaningful digital artefacts [Papert, 1980; Harel and Papert, 1991]. Although these ideas date back to the development of Logo in the 1960s they anticipate the emergence of today's maker movement. Interestingly, the term Logo derives from the Greek word *logos* meaning thought and Papert coined the phrase 'objects to think with' to describe a creative process that bridges physical and abstract spheres.

We can also draw theoretical underpinnings from the links between social interaction and learning [Vygotsky, 1978], together with the idea of communities of practice engaging in joint enterprise around shared goals [Wenger, 1998], and the concept of communities of inquiry linking cognitive, social and teaching presence [Garrison, Anderson and Archer, 2000]. As Young and Tseng [2008] point out, studying an online community requires an understanding of the physical as well as the virtual contexts, and this may be especially true for communities of teachers. Online learning communities allow a merge of real and virtual worlds as participants engage in discussions about real practice in the virtual world. The online community represents a continual crossover between these two spheres, and this may be mediated by the shared artefacts [Burnett, 2016]. Social online learning often involves a process of participation and reification; in other words, 'making something real', identified by Wenger [1998]. Goggins *et al.* [2011] describe this process:

'Participation involves acting and interacting, and reification involves producing artefacts [such as tools, words, symbols, rules, documents, concepts, theories, and so on] around which the negotiation of meaning is organized.' [Goggins *et al.*, 2011 p.210].

An area in need of further consideration, they suggest, is how the technology tools mediate social and intellectual engagement within a community [Goggins *et al.,* 2011 p.224]. This invites us to consider the role of posted comments, media, and digital artefacts in articulating pedagogy and practice, and the possibility that they might act as anchors for the further evolution of ideas within the community [Caldwell, Whewell and Heaton, 2020].

The idea of networked communication has become part of everyday life and is increasingly integrated into collaborative learning environments as a form of social constructionism, recognising that the social context creates a richer environment for learning [Stevens, Boden and Rekowski, 2013; May and Mumby 2004; Kafai and Burke, 2013]. Like constructionism, connectivist models recognise the role of digital technologies in learning. They suggest that the virtual and physical worlds are interconnected rather than independent [Young and Tseng, 2008], describing the shifting nature of knowledge as patterns of connections are formed and reformed, and as ideas are co-constructed through social interactions [Siemens,

2005]. Connectivism emphasises the links between people and digital resources [Siemens, 2005; Downes, 2010], taking account of the fact that tacit knowledge can be encoded in digital artefacts [Nilmanat, 2011] and that information shared by participants may be drawn from either:
'Connectivist models explicitly rely on the ubiquity of networked connections between people, digital artifacts, and content' [Anderson and Dron, 2011, p. 87].

Research in the field also notes ways in which that active learning implies that learners will take responsibility for their own learning [Godlewska *et al.,* 2019; Armellini *et al.,* 2021]. Moreover, it is recognised that active learning methodologies that involve authentic tasks lead to deeper engagement and deeper cognitive processing [Jeong *et al.,* 2019]. Traxler suggests that in an online environment it is important to remain flexible, to seek connections, and to retain learner agency and authenticity [Traxler, 2018].

The idea of 'learning by doing' in a digital environment, and then making this process explicit by thinking and talking is central to ADL as learners engage in making sense of ideas by explicitly representing them and building upon them through dialogue. Knowledge construction takes place through technology-enabled exchanges and social interactions mediated by technology tools and tangible outputs. In many of our examples learners engage with content in active dynamic ways that result in shareable products that evoke responses.

Also key to ADL is the interplay between personalised learning and collective knowledge construction. ADL aims to be student centered and to value student voice, whilst seeking to create discursive environments where learners feel empowered to co-create knowledge. The knowledge building process can be described as rhizomatic in that it is evolutionary and fluid in response to the learning community [Cormier, 2014; Deleuze and Guattari, 1988; Bozkurt, *et al.,* 2016]. An aim is to mobilise dispersed groups to learn with and from each other in nurtured communities. However, this aim is not without its challenges, and online learners may become increasingly disconnected, tending towards lurking, losing presence and eventually dropping out [Mackness and Bell, 2015].

In summary, the ADL examples that follow are aligned with contemporary social constructivist, constructionist and connectivist learning theories that emphasise the social situatedness of learning. They illustrate that it is important to share what knowledge and knowing looks and feels like in an online space, and through this to build epistemic cognition amongst learners [Cope and Kolantzis, 2009]. They demonstrate that establishing strong online communities increases the engagement and enjoyment of learning at a distance. The making of digital artefacts can add pace to learning and prompt re-discussion and re-mixing of content, resulting in an evolutionary, non-linear learning process. A typical learning journey within such social online communities moves in and out of cognitive, digital and physical domains as participants articulate ideas through various modes of representation. In a creative and social online learning environment, rich collective content and shared understandings can represent connections between thoughts, spaces, time and content [Caldwell, Whewell and Heaton, 2020].

# UNIVERSAL DESIGN FOR LEARNING [UDL]

This section examines Universal Design for Learning [UDL] and the potential of its relationship with ADL as we seek to be inclusive in designing online learning. The world of education has radically changed over the past year, and consequently a model of 'universal *and active* inclusion' is being embraced as the new norm. A key part of this emerging agenda is the application of UDL philosophies and practices to online educational opportunities.

UDL has its origins in the principles of Universal Design [UD]; an approach that emanated from the architectural and built environment disciplines and is defined by seven key principles that seek to guide all designs '… to be usable to the greatest extent possible by people of all ages and abilities.' [Story, Mueller, and Mace, 1998, p. 2]. Key UD thinking, and actions have been successfully adapted to the world of learning through several frameworks, with some necessary and bespoke modifications and additions to the original seven principles.

Whilst several different UDL frameworks have emerged, the CAST framework is perhaps the most well-known and applied [https://udlguidelines.cast.org]. The CAST guidelines were originally influenced by UD, Vygotskian thought, and neuroscience research. They seek to offer a framework for the implementation of UDL around three paradigms:

• the 'what' [multiple means of representation],
• the 'why' [multiple means of engagement], and
• the 'how' [multiple means of action and expression] of learning
[CAST, 2018].

UDL promotes successful and active learning processes by advocating for the considered design of learning environments, for the diversity of learners that engage in our educational programmes [Rose and Meyer, 2006]. This goes way beyond the traditional considerations that many appreciate for those learners with a disability, in that it seeks to appreciate all conceivable individual differences in our student population [e.g., second language learners, non-traditional students]. Therefore, active inclusion practices are at the very core of UDL practice. Fundamentally, a UDL approach necessitates that online learning environments are designed from the very outset to be as inclusive as possible, minimising but never negating the need for add-on support entirely, as a learner may require reasonable adjustments in a grouped or individualised manner.

Both UD and UDL emerged from the 'social model' of disability – a perspective that has successfully argued that inclusion cannot be achieved without acknowledging that changes are required regarding how society organises itself – i.e., that the way in which society is organised disables the person. A simple way to appreciate UDL and its approach is to remember that its central objective is to design for the possibility for every individual to engage in an active manner in a fully inclusive educational environment. This necessitates a similar shift of thinking as when considering the medical and social models of disability [Quirke and Mc Guckin, 2019].

However, the application of UDL thinking should not assume that it is only for those learners who have a disability – doing so would be exclusive and become a contradiction. Thus, this 'thinking' about 'designing for active inclusion' shifts the focus as to how we might "… consider universal design [as] a process, rather than [as] an achievement …" [Story et al., 1998, p. 2 [parentheses added]]. With the very best of intentions, many

practitioners often believe they are taking an inclusive approach in their course development and interactions with their learners.  However, we should acknowledge that this is generally done in an unintentional and unplanned manner.  The trick is, as argued by Quirke and McCarthy [2020], to acknowledge that 'inclusion is everybody's business' and that change should be planned and be intentional from the conception. The difference between adopting an intentional approach [or not] becomes even more critical when we consider the affordances that inclusive learning environments can offer in online modes. Moreover, the consideration of active learning opportunities for the virtual world and the need to intentionally design it to be inclusive in and of itself, while continuing to recognise the need for individual and grouped supports, is a critical part of the 'active' inclusive learning agenda.

It is evident that we need to consider how we define and action 'inclusive practice' in the virtual world and subsequently in the contemporary 'inclusive virtual learning environment' for the diversity of learners that we meet on our courses.  As a relatively new concept, Edyburn [2010] reminds us that 'The allure of UDL has captured the imagination of many educators and policy makers.' [p. 33] with literature '… starting to give definition and shape to what a UD educational model-based project or intervention looks like …' [Rao, Ok, and Bryant, 2014. p. 164].  Together with ADL, an active and well considered approach to UDL can give definition and shape as to what a virtual inclusive learning environment can be, how it will operate, and not just for those that require grouped supports but moreover, be exploited, for a greater diversity of learner.

The first vignette from practice in the section below describes how UDL guidelines were applied as a weekly research group at Trinity College Dublin moved online during Covid19.


# MAPPING PEDAGOGICAL APPROACHES

This section presents a number of vignettes from practice drawn from higher education provision at the University of Northampton and Trinity College Dublin, and maps them with examples of pedagogical techniques associated with ADL and UDL.  The vignettes demonstrate a range of tools that were employed to improve student experience and engagement in online learning. They are related to aspects of learning such as inclusion, sensemaking, student engagement, learner experience, communities of practice and collective knowledge building. Pedagogical techniques associated with ADL evolve from well-known distance learning approaches which often include;

- Online learning tools
- Flipped learning
- MOOCs and online courses
- Learning management systems
- Education and Gaming
- Mixing and matching digital tools.

[Traxler, 2018]

ADL builds upon these techniques to embrace learners as part of the process, offering authentic asynchronous and synchronous opportunities for learner generated content creation. Examples of participatory practice include:

- Use of polls, chat, video and microphones
- Collaborative digital tools embedded in resources
- Cooperative and team-based learning using breakout rooms
- Simulations and augmented reality to promote inquiry, debate and case study-based learning
- Collaborative project-based learning.

A colleague explains their adjustment to remote learning in 2020;

'In the early planning stages we talked about the importance of online learning not being just the students accessing a LE via their laptops or mobile phones. It had to be a different style of learning and needed to incorporate collaboration, accountability and a feeling of belonging to a community. This was at the heart of all our online sessions.'

## Vignette 1: An inclusive learning experience

As ADL and UDL are merged, it is timely to reflect on 'inclusive practice' and what that means for the virtual world, and in particular how this new model can be fundamental to the very application of inclusive thinking for virtual learning.

*Moving a research group that meets weekly online was a challenge when Covid arrived. The Inclusion in Education and Society Research Group in the Trinity College Dublin planned to re-establish itself in a virtual world, while continuing to espouse the values of UDL and inclusion. As each week was prepared in terms of content, the needs of a diverse audience and speakers had to be considered to ensure that all had a successful learning and personal experience. As noted by the convenor of the group [Dr Patricia McCarthy], 'One of the things we were trying to achieve was to ensure a sense of community was maintained during the pandemic – while also exploring theory and practice emerging around inclusion'. Each week a speaker was engaged, briefed, and the ethos discussed. Consideration was given to a variety of issues, including the platform used, content, pacing, timing, structure, and additional features [e.g., chat functionality being used appropriately]. A decision was made at an early point to not record – allowing for open conversation. Inclusive practices have been exploited by ways of considered use of imagery [alt text used where possible], terminology and language considerations [to ensure optimum learning and engagement for all], and moreover a subtle demand for researchers engaging to consider 'inclusive practice' not just in terms of their research but also their very engagements. The group has grown, and participants are varied; from academic professors to learners with a disability [including intellectual disability]; colleagues from other disciplines, other colleges, and even other countries. Maintaining an active and inclusive ethos is a continuous and very conscious effort - but this will ensure equality of outcome and a more sustainable research agenda in line with UN SDG goals [e.g., SDG4: Quality Education, SDG10: Reduced Inequalities].*

## Vignette 2: Sensemaking through remaking and reconceptualising digital artefacts

Sensemaking is integral to ADL as students interpret ideas and demonstrate their understanding. It involves an interplay of 'action and interpretation', thinking about organising and categorising learning, and allowing for agency and flow. [Weick, Sutcliff and Obstfeld, 2005, p.409]. It takes small steps forwards as ideas are reconceptualised and

re-represented. The example below demonstrates how higher education students might remodel, reinterpret and re-order existing material. Independence is central to sensemaking and this activity allowed students to experiment with their digital artefacts, design them as they see fit and in a way in which they felt would best communicate the material. These serve as catalysts for further reflections and reinterpretations within the online community.

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*With students who would be using Padlet as a tool for evaluating learning my aim was to ensure that they understood the full potential of all the tools that Padlet has to offer. With this in mind, I made a Padlet with a post for each individual tool available within Padlet, fifteen in all. Students were asked to remake this Padlet, claiming it as their own, and then systematically use each tool, editing each post to add an example. This moved them from the familiar: adding a post, an image, a link; to the unfamiliar: adding an audio comment, a screen recording, a screenshot, a map, using the searches available within and outside Padlet and changing the appearances of posts, text in posts and the background and cover image. I also made a Padlet in the canvas format with some summary posts of different theories and approaches to using digital technology in learning and some examples from practice [Figure 1]. Suggested reading supported students to investigate learning theory further.  This activity gave them a clear scaffold but also pushed them to investigate everything they could do with Padlet, something that would be vital when they came to use it in their assignments.*



*Figure 1: Remaking a Padlet*

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## Vignette 3: Working in small groups to co-construct knowledge within an online community of practice

A distinctive feature of ADL is its active nature. To achieve this, good ADL practices make use of a variety of digital tools to re-create online the experience and benefits of belonging to a community of practice [Lave and Wenger 1991]. An online community allows learners to construct, build and share knowledge across time zones and countries and offers control

over their pace, type and location of engagement [Caldwell, Whewell and Heaton, 2020]. Lecturers can draw upon the community's rhizomatic potential to enable multiple groups of learners to tackle tasks. In this way, being active means to foster learners' engagement and interaction through teamwork and collaboration as they learn together in a shared domain. Vignette 3 demonstrates a sustained commitment to building a sense of a community of learners. By assigning tasks that can be completed asynchronously, learners are encouraged to reflect and respond critically. Within these virtual communities, learners are engaged in multiple and varied learning spaces which re-create online the affective and emotional experience of being together physically. The individual and collaborative activities overlap and might be described as convergent ecologies of learning [Sangrà, *et al.,* 2019]. The combined physical, social and cognitive spaces develop both social and independent learning skills, via a flexible, anywhere and anytime learning experience.

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*This maths masterclass was held on Zoom meetings with around 70 participants. They were able to display their cameras and post comments. Having their cameras visible allowed me to see what they were doing, provide feedback, clarify instructions, and change pace if necessary. I created a team-based activity, referencing aspects of the preceding five disparately-themed sessions in the form of an online treasure hunt: the students were split up into teams, randomly, using Zoom's breakout rooms. Each team was given a URL which took them to an activity created using H5P [an open-source tool for creating interactive HTML5 content].*
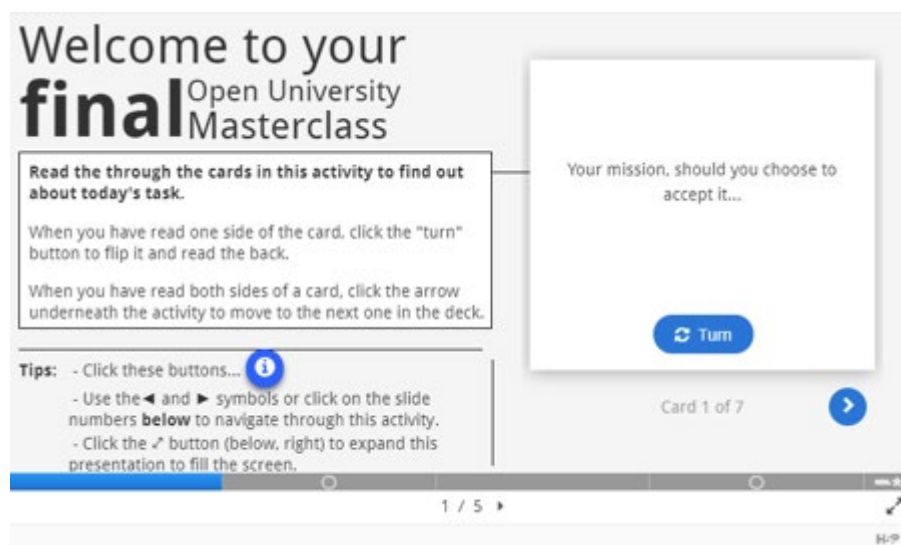


*Figure 2: H5P interactive content for an interactive maths workshop*

*Achieving an appropriate score on tasks revealed portions of text which could be concatenated to find the URL of the second task [which worked similarly to find the third, and so on]. My role during the session involved moving between breakout rooms providing support and occasional hints. Whilst doing so I saw [and congratulated] emergent digital collaboration solutions. Some students worked on spreadsheets or word processing documents while one screen-shared. Others used collaborative environments to work directly on the same document whilst continuing discussions via Zoom.*

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## Vignette 4: Social and intellectual engagement within a community

In vignette 4 the use of discussion boards alongside synchronous discussions facilitate joint

exploration of a topics leading to greater depth of community building. An integral member of the community, the teacher is both present when needed, but absent and able to stand back while also ready to step in to support, provide feedback, add to the discussion and model the learning  process.

*When planning my module on the Online MAEd at the University of Northampton, I considered how I would engage students outside of taught sessions and support an active community of practice. I started by considering how I could encourage students to reflect on what was to be taught and decided that having pre-sessional tasks would be beneficial. Pre-sessional tasks are often posted on a discussion board within the online learning platform and consist of tasks such as asking students to watch a short video or engage with reading with carefully planned questions to encourage critical thinking and reflection in relation to students' personal professional experiences. To support the development of an online community, I respond to posts made by students, identifying positive points raised as well as asking questions to deepen critical thinking.  Students are encouraged to respond to each other [Figure 3]. This virtual communication not only enhances students' understanding of the subject, but also the rapport of the group when engaging with each other during the online taught sessions.*



*Figure 3: An example of a pre-sessional task to inspire an online discussion*

*Each session follows the same structure, from the pre-sessional tasks, to a something to think about, which usually starts the online taught session, to materials used during online teaching and finishing with a post-sessional task. This structure supports students' knowledge construction, critical thinking skills and sensemaking through consolidating learning during the post-tasks and asynchronous discussion boards. Being consistent with structure provides familiarity for students as well as expectations of student engagement being clear. The structure helps to make a smooth transition between the synchronous and asynchronous discussions.*

## Vignette 5: Creating collaboratively online

Contextualised experiential learning opportunities and constructing knowledge together are key features of ADL and offer increased student autonomy and engagement, potential for cross pollination of ideas and a sense of purpose [Caldwell, 2018]. Vignette 5 demonstrates the use of a live shared Powerpoint where students are working synchronously on the content of a Powerpoint slide in a breakout room. The teacher can move between the breakout rooms as well as monitoring the groups' progress on the shared document. This scenario illustrates peer to peer online learning, wherein the teacher becomes a facilitator of shared knowledge creation and can support students effectively where needed.

*When working with PowerPoint Online the presentation can be shared with a group allowing a collaborative use of the slides. Planning for this, I set up a PowerPoint presentation with a 'model' or 'scaffold' slide at the beginning and a reference list slide at the end. In between these I had enough slides for students working in pairs to have one each. I shared the presentation with the students as viewers as we talked about the learning activity and discussed what they would be doing to prepare and make their slide. I either provided an example slide for them to use as a model, or we devised a scaffold together based on earlier activity in the session. Students were then put in pairs in breakout rooms, so they could work together, one pair allocated to each slide.*

*I was able to see students working on their slide/s 'live' as they added text and other material, using the slide sorter view to keep an overview of how the learning was progressing and identifying where I might need to focus my support. I could then go to individual slides and use the comment function to prompt, ask questions and give feedback or provide this in conversation within the breakout groups. It was the closest to circulating around the class and working with pairs and groups face-to-face that I have experienced so far. Students found this activity engaging and seemed to enjoy the sense of 'live' interaction it supported. It gave them a sense of momentum and pace.*
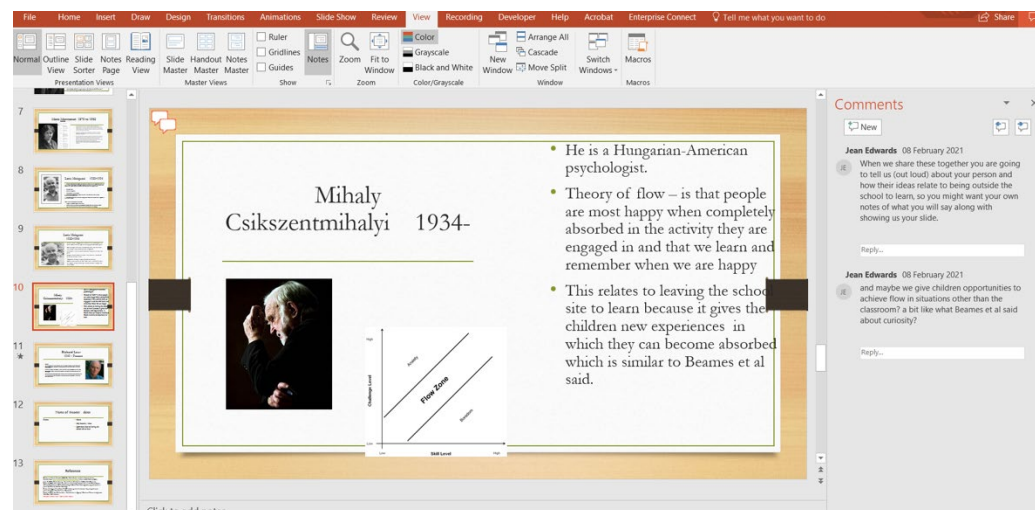


*Figure 4: Students collaborating to create a set of slides with tutor support*

## Vignette 6:  Enhancing student experience and skills through virtual placements

Collaborative content creation allows learning to evolve out of social behaviours and engagement with others. ADL can involve an interplay of personal and collective

knowledge building and critical thinking is often an outcome of this. Within the virtual community in this example the teacher is both visible and invisible, distant and close. The teacher's role is that of 'sketching' what is to be accomplished whilst giving space and freedom to the learners to add depth and detail to the direction of travel.

*A range of 'virtual' placement days were offered as alternatives to face-to-face placements. The following is an example of a single placement day which was developed on Behaviour Management and Executive Functions for second year students. An online, visual collaboration platform called Miro was used to host the session. [Figure 5].*

*Students had to watch a You Tube clip which captures some of children's more humorous behaviour and then cast a vote, via a coloured post it, whether they regard children to be 'mischievous or inquisitive'? Students then completed a behaviour management skills audit via a link to Google Forms. This provided students with questions which would help them reflect on their own experiences of behaviour management and highlight any areas for development. Once the Behaviour Management Skills Audit was completed it was sent directly to the students. This then enabled students to refer to this form for the next task.*
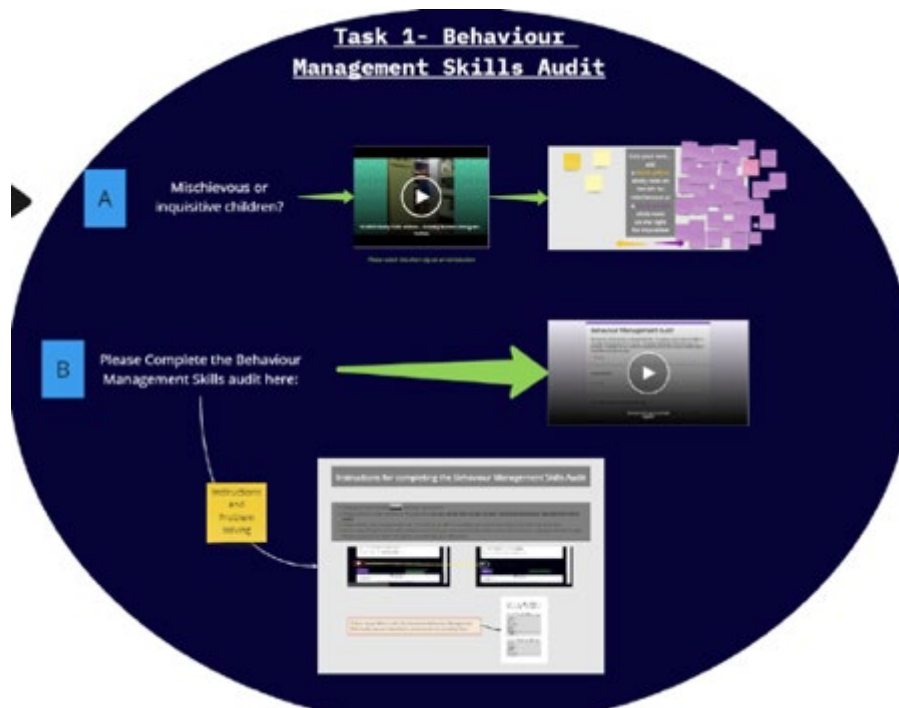


*Figure 5: Using a MIRO board to develop a virtual placement.*

*The final question of the Behaviour Management Skills Audit asked students to select five areas that they would like to learn more about in relation to Behaviour Management. Referring to their e-mailed version of the Behaviour Management Skills Audit, students were then asked to follow the hyper-links to more information regarding their chosen areas and make notes to inform their practice in future. The final activity involved a mini course which would help students begin to understand why Executive Functions are important in relation to children's behaviour. The task involved four parts, where students were asked to navigate a readable Word Document within the Miro Board, before contributing a comments or resource.*

## Vignette 7:  A student's perspective of student engagement and learner experience

Engaging in online learning can be challenging. During Covid19 as educators we were faced with trying to understand the factors which impact upon student engagement and disengagement and their sense of embodiment within the remote environment.  We were aware that it may have been an isolating and difficult time for many learners and being expected to be part of a community of learners and to show autonomy in their learning choices may have been challenging. This vignette is written from a student perspective. It acknowledges some challenges but also suggests that ADL offers choices and greater freedom within a digital environment, meaningful interaction with other learners, collaborative opportunities, increased authenticity, and potential for thoughtful responses to course content [Caldwell, Whewell and Heaton, 2020].

*In studying an online MA Education course, I have experienced several digital pedagogies which have been used to enhance our ADL. Interaction between students and lecturers, and among students themselves, is perhaps less natural with remote learning, particularly when cameras and microphones are frequently unused. Alternative approaches are required to encourage interaction, one of the most common of which is the use of breakout rooms. Breakout rooms provided me a more intimate and less intimidating environment for discussion. Other tools can be used to not only encourage interaction and engagement but support learner autonomy. My sessions have featured several tools such as Jamboard, Padlet and Mentimeter. These tools enable collective knowledge building and real-time remote collaboration. Students can post ideas of work onto these forums and simultaneously view and comment on other students' posts. I have found these tools to be very effective in increasing my engagement with the learning. Tools such as Google Classroom and Google Slides have also enabled my tutors to create digital environments in the absence of physical environments. For example, when teaching about health and safety in physical education, a virtual sports hall featuring Bitmoji characters provided a visual demonstration of common hazards [Figure 6].*



*Figure 6: Bitmoji Sports hall Hazard building activity*

*ADL offers me a range of ways that I can engage with the learning. I can choose the environment in which I learn, whether this be at home, in an educational setting or elsewhere. In many respects I have found ADL to be more accessible as it allows more flexibility for how and where to learn.*

## Vignette 8: Building graduate skills through a simulated physical placement setting

Inclusive ADL can create the space for learners to develop and refine a range of hard and soft skills leading to the establishment of long lasting, much sought-after graduate competencies. Regarding the social dimension, good ADL practice fosters teamwork and collaboration. This vignette draws upon virtual reality to create a simulated placement. By requiring individuals to work in teams, it fosters learners' time management, cooperation, sense of responsibility and appreciation of the importance of interdependence within a virtual, but nonetheless real community of learning. ADL offers potential for widening access to higher education, developing employability skills and lifelong learning.

*As a result of the COVID-19 pandemic students have been unable to attend a physical placement setting. To support both knowledge and practice, a virtual placement experience was created. Students completed daily tasks to support them in understanding their wider role within a setting, for example, exploring the role of professionals and what contributes to an enabling environment through the exploration of an interactive virtual learning platform. For each daily task the students were expected to upload their progress to enable them to contribute to discussion boards as well as enable them to reflect on how they had met aspects of the Graduate Practitioner Competencies. Due to the flexibility of the placement, students could complete their tasks at their own pace whilst supporting each other such as the use of peer assessment to reflect on each other's lesson plans in relation to inclusion and diversity, choosing the appropriate medium to share their planned session with wider professionals.*



*Figure 7: Inside a virtual reality classroom*

*Although the project has been challenging such as not being able to physically experience a physical setting, it has been rewarding for students and the Early Years team. Students were*

*able to explore the Early Years Virtual Learning Environment which supported them to consider a real setting in practice. This was of particular benefit to the first year Early Childhood students where the majority had never experienced an education setting. Whilst exploring the environment the students were able to consider the application of policies such as health and safety and consider risk management strategies. Feedback has included: 'Being able to work the activities in when it best suited me due to my work hours extending and still gaining from the experience, especially the courses as even though I work in a setting already it furthered my knowledge that I then could take back to work and also informed my colleagues'.*

*The virtual placement enabled the students to gain knowledge which was difficult to gain due to the pandemic and this demonstrates that although a 'real setting is beneficial' to aid experience, an online community can still support and develop students holistically to aid their transferability into their future pathway.*

# CONCLUSION

This chapter has discussed ADL and UDL as pedagogical approaches to online learning in relation to a selection of vignettes from recent HE practice. As the vignettes exemplify, ADL combines sense-making activities with focused and engaging interactions in synchronous and asynchronous online settings. It focuses on engaging students in knowledge construction, reflection and critique, the development of learner autonomy and the achievement of learning outcomes through communities of practice.

We demonstrate how the UDL framework can be used alongside ADL to enhance online inclusivity. This approach enables learning to be designed or modified for the greatest diversity of learners possible. It is based on the idea of offering multiple opportunities for engagement, representation, and action and expression in online learning environments and providing choice in how learners to access information and display their learning. Moore *et al.*, [2018], suggest that multimodal learning allows learners to 'represent, record and reflect on their own learning through visuals, dialogues and written texts' [Moore *et al.*, 2018, p. 45]. Choice about how to and when to engage with learning offers inclusivity and autonomy which can support learners with a wide range of needs and preferences.

Inclusive ADL offers learners and educators many distinct advantages when working online. Despite inevitable technological challenges it is not bound by some of the physical, time and geographical restrictions that face-to-face learning presents. Digital tools effectively facilitate sharing, and the cyclical making and talking, posting and responding that takes place synchronously and asynchronously within online communities can positively enhance learning. Digital posts and artefacts can act as stepping stones for re-discussion, re-making and re-mixing content. This leads us to summarise the online community knowledge building process as an interplay of three dualities: physical and digital, talking and making, and personal and collective, that describe the interaction between communities, tools, content and pedagogies [Caldwell, Whewell and Heaton, 2020] [See Figure 8]. We suggest

that there are significant opportunities to develop ADL learning environments that all students can thrive in.
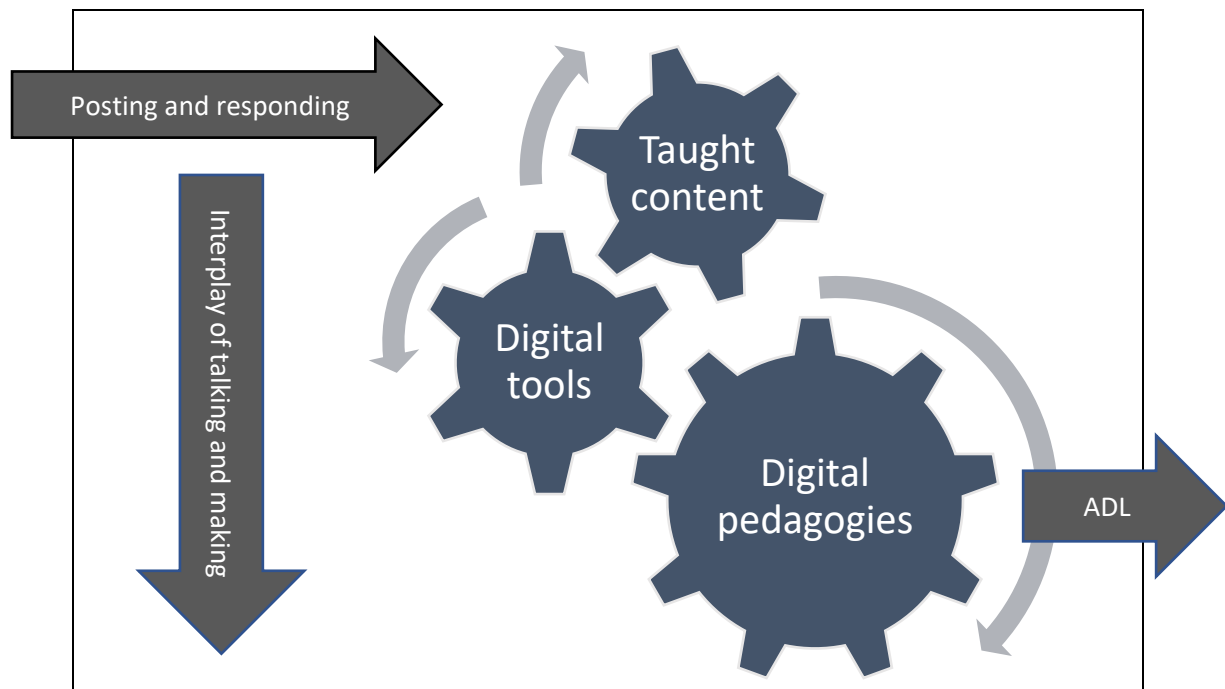
Figure 8: The process of collective knowledge building within an ADL online learning community [adapted from Caldwell, Whewell and Heaton, 2020]

We make the following recommendations when planning learning in an online environment:

• Recognise the process of active and creative social online learning leading to collective knowledge-building
• Use technology tools that allow for multimodal responses that foster inclusivity and allow for responding and remixing to amplify learning within a community
• Embrace a model of universal and active inclusion by creating online learning environments that intentionally address the full diversity of our student populations.

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Mary Quirke: PhD Researcher, School of Education, Trinity College Dublin

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