Innovations in the Space of Learning and Social Interaction

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Abstract

The COVID-19 pandemic has led to an increase in virtual work and learning environments. The paper at hand sheds light on how social interactions are affected in the virtual space. We focus on one specific sub-area of virtual interactions in adult professional development programs: The virtual learning environment offered to United Nations High Commissioner for Refugees (UNHCR) staff members. This study applies a qualitative research strategy and conducts semi-structured interviews with 3 different target groups. The investigation found that all 3 stakeholder groups coincide on certain advantages and disadvantages when learning online, and that the creation of meaningful social relationships virtually is especially problematic. The current investigation concludes by giving 3 higher-level recommendations on how to foster social interactions in the virtual space and relates these to specified hands-on approaches.

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1 Introduction

The shift to virtual spaces was accelerated by the COVID-19 pandemic. Whereas before the pandemic only roughly 2 out of 10 workers worked online, this number has increased to 8 out of 10 after the COVID-19 outbreak (PEW, 2020). While this rapid movement to virtual environments has many advantages, such as the containment of the COVID-19 outspread, it has also brought along new challenges. There are unanswered questions, especially regarding the incorporation of successful social interactions in learning environments. Virtual spaces allow individuals from different geographic locations to interact with one another, but these interactions are often different from the ones observed in the physical space, especially when it comes to body-language and non-verbal communication.

Our paper attempts to shed light on how social interactions are affected in adult virtual learning spaces. The study focuses on one specific sub-area of virtual interactions: The virtual learning environment offered to United Nations High Commissioner for Refugees (UNHCR) staff members. More concretely speaking, the investigation addresses how social interactions within virtual learning settings, such as virtual workshops or online learning modules, have been affected by its movement to the virtual space. The online learning experiences analyzed are focused on professional training and adult on-the-job learning. Based on the findings, the aim of this study is to determine how successful social interactions can be created online. The second part of our research attempts to answer the following question: How can UNHCR design and deliver interesting and experimental learning experiences online that allows people to truly connect with each other?

In order to address this question a qualitative research strategy is applied, along with semi-structured interviews with 3 different target groups. The methodology consists of pre-defined interview guidelines tailored to 3 different sample types: 5 UNHCR learning officers, 4 UNHCR learning programme participants and 5 experts. These predefined interview guidelines covered a total of 6 different categories, while leaving room for additional topics that arose. The predefined categories covered by our semi-structured interviews include Methods of Learning, Technologies Utilized, Challenges and Successes, Virtual Learning Compared to Face-to-face Learning, Maintaining Social Interaction in Virtual Learning and Levels of Perceived Motivation and Engagement. After finalizing our interviews we distribute our interviewee's responses into the aforementioned categories for each of the 3 subgroups.

The findings demonstrated that all respondents agree on the fact that the movement of learning into virtual space will continue, independent of the course of the COVID-19 pandemic. This further stresses the relevance of the research at hand. Additionally, interview participants were generally satisfied with their virtual learning experience. They see benefits in the increased flexibility as well as accessibility of learning material, when conducted virtually. Still, all of the learners interviewed coincide on the difficulty to create meaningful social interactions in the virtual space. Not only do they miss the "human touch" and ability to communicate through body language, they also notice a lack of spontaneity in creating these interactions online. Furthermore, challenges raised through our interviews were the difficulty to focus when learning online and to create healthy work-life balances. Overall, all interviewees perceive the necessity of a paradigm shift when thinking about virtual social interactions. According to our findings, it is not possible to compare the virtual to the in-person setup. This means that we cannot draw as much from our experiences created in in-person settings as we might have assumed.

The paper at hand gives 3 higher-level recommendations on how to foster social interactions in the virtual space. First of all, organizations should build human connections through hands-on approaches, utilize rich technologies based on Media Richness Theory, without overwhelming staff members, and employ capable facilitators. It then gives some hands-on examples of how to implement each one of these 3 recommendations and relates them to some concrete technological tools.

The current research contributes to a still relatively new but fastly evolving literature on virtual social interactions and online learning. What is clear from research so far is that the movement towards virtual and online learning reshapes the traditional concept of learning and learning spaces, and with it, brings new challenges and opportunities (Gillett-Swan, 2017). However, as Hodgeset et al. (2020) pointed out, the rapid transition to the online modality as a result of COVID-19 has not yet allowed to take full advantage of the online learning potential. Our research is related to a variety of existing theoretical frameworks, such as Learning Theories, Social Interaction Theories as well as Media Richness Theories.

Our main contribution to this literature is an empirical application of some of the aspects raised in the theoretical literature. Additionally, to the best of our knowledge, this study is the first to apply a 3-sample-group methodology, bringing together the different perspectives of various stakeholders relevant to virtual learning settings. This research is highly relevant to a large set of institutions, as many sectors have been affected by the COVID-19 induced movement into the virtual space. Not only is it relevant for staff members in international organizations, but also for all kinds of private and public sector employers.

The currency paper is structured as follows. Section 2 gives a short explanation of the underlying key concepts of this work, Section 3 presents the theoretical framework and section 4 presents our data and empirical strategy. Section 5 presents our analysis while section 6 discusses our results and limitations. Finally, Section 6 concludes.

2 Key Concepts

There are several concepts at play in the underlying work, and the following gives a short introduction to the main concepts.

Social interaction. The APA Dictionary of Psychology defines social interaction as any reciprocal stimulation or response between two or more individuals. Social interaction results in social relationships and "includes the development of cooperation and competition, the influence of status and social roles, and the dynamics of group behavior, leadership, and conformity" (APA, 2021). In sociology, scholars refer to social interaction as "the ways in which people act with other people and react to how other people are acting" (Libraries, 2021).

Learning and online learning. The Cambridge Dictionary defines learning as "the activity of obtaining knowledge" and "the process of getting an understanding of something by studying it or by experience" (Cambridge Dictionary, 2021). Other definitions refer to learning as the acquisition of skills or knowledge or experiences leading in alteration of behaviors (Merriam-Webster, 2021). Online learning is a subcategory of learning and refers to electronic learning, or learning online through the application of the internet and/or an electronic device (MBN, 2021). Learning systems which help to formalize teaching and learning through electronic systems are also often referred to within the space of e-learning.

Innovation. The Cambridge Dictionary (2021) classifies innovation as "a new idea or method, or the use of new ideas and methods" or the development of such. While innovation is something "new" and refers to the introduction of something that has not existed before (Collins Dictionary, 2021), Innolytics (2021) deducts its definition from the Latin meaning of the word (innovare) meaning renew. According to this definition innovation does not only refer to something new, but can also relate to renewing or improving something. Innovation has to create value and "is a process by which a domain, a product, or a service is renewed and brought up to date by applying new processes, introducing new techniques, or establishing successful ideas to create new value" (Innolytics, 2021).

3 Theoretical Framework

3.1 Learning Theories

The theory of connectivism states that individuals have better learning outcomes when they form connections (Burnard et al., 2008). Connectivism is social learning that is networked (Burnard et al., 2008), and based on the importance of making connections. These connections can be external and include relations with others or the instructor and tools, but they can also be the connection of ideas. Connectivism assumes that it is only through personal networks that the learners can acquire the diverse viewpoints necessary for making critical decisions (Burnard et al., 2008). In online learning these connections often involve technological tools employed in a virtual space. According to this theory, connections that these tools may provide, both external

and internal, are crucial for effective learning. Similarly, According to Learet al. findings in (Lear et al., 2010) interactivity enhances the sense of community and improves learner engagement.

In order to improve these connections and be able to create a sense of community, it is important to understand the interactions that occur during online learning. Moore introduces in (Moore et al., 1989) 3 types of interactions in the distance education modality: Learner-Content Interaction, Learner-Instructor Interaction and Learner-Learner Interaction. The main outcome from the meta-analysis carried out by Bernard et al. in (Bernard et al., 2009) was that the implementation of at least one of these 3 interactions learning outcomes are improved. However, Learner-Learner interaction and Learner-Content interaction were found more effective than the Learner-Instructor interaction. Learner-Learner is the most important when it comes to social interaction, as it prevents learners from boredom and isolation (Martin et al., 2019). Several studies agree on the importance of online discussions to create a participatory learning environment (Martin et al., 2019), (Watkins et al., 2005), (Baker, 2011). That being said, Learner-Content interaction is different from face-to-face interaction, and therefore online content cannot be directly copied from face-to-face content (Kebritchi et al., 2017).

Furthermore, interaction based learning requires real time synchronous feedback between learner and teacher (Morgan, et. al, 2015). While observational learning is based on observation, for example watching pre-recorded presentations where the learner learns from the teacher (Laland & Rendell, 2019), interaction learning is centered on the learner learning with the teacher and with others (Morgan, et al, 2015). Bi-directional exchanges are necessary in interactional learning environments, as they allow each person to directly respond or give immediate feedback (Morgan, et al, 2015). In a recent study on social interactions as a catalyst for adult human learning in online contexts by De Felice et al. (2021), researchers found that interaction-based learning is more effective than observation based learning in online environments (De Felice et al, 2021).

Picciano (2017) develops an integrated online learning model, which brings together several of the traditional learning theories, including Learning Theory, Behaviorism, Cognitivism and Social Constructivism, and adapts them to the virtual setting. Picciano (2017) also draws from coexisting Learning Theories for Online Education, such as the Community of Inquire (CoI) model, which is based on the existence of 3 virtual presences: social, cognitive and teaching presence. Additionally, he references the Connectivism Learning Model. This model's main message is about the shift through which information and knowledge flows and grows through data communication networks and internet technologies. Lastly, Picciano refers to the Online Collaborative Learning theory. The underlying idea of this theory is that the internet has facilitated the way in which we learn and collaborate. Picciano's integrated model tries to bring all these different aspects together. His model is based on the fact that, depending on the virtual degree of a learning experience, the components at play differ.

3.2 Social Interaction theories

It is also important to keep in mind individual learning styles as they relate to social interaction in virtual learning settings. Grasha classifies in (Grasha, 1984) learning styles as different scales of

Social Interactions: Avoidant, Participative, Competitive, Collaborative, Dependent and Independent. Identifying the learning styles of the participants can allow the facilitator to adapt their teaching in order to achieve a better learner perception, and thus a better learning experience. Since the learner's perception is more important than the context when it comes to learning according to Entwistle (Entwistle, 1987).

Similarly, social presence theory is concerned with social interactions. Social presence is the need for individuals to feel connected with one another and perceive each other as real people (Gunawardena & Zittle, 1997; Kear, 2010). Low social presence can be an issue in online forms of learning, where less social cues are accessible. According to Kear (2010), "Learners in an online community can therefore increase social presence by communicating in ways which are perceived as 'warm' or 'sociable', and can compensate for the lack of richness of the medium" (p. 1). Technology tools can also aid in boosting social presence (Kear, 2010). For increasing social presence in online learning communities, Kear (2010) suggests incorporating a way to visualize one another or create "member profiles" (Zimmer et al. 2000) which may include photos, biographies, resumes, and even interests or hobbies. Additionally, Kear (2010) recommends using synchronous communication, which can be achieved through synchronous chats on a variety of platforms such as Whatsapp, and chats on platforms like Zoom or Slack, etc.

Social Interaction and presence are also important in the business field, the term called Networking refers to "the process of trying to meet new people who might be useful to you in your job, often through social activities" (Collins Dictionary, 2021). Following the same idea, in the field of learning there is the term Networked Learning, which is defined by the Networked Learning Editorial Collective (NLEC) as involving, "processes of collaborative, cooperative and collective inquiry, knowledge-creation and knowledgeable action, underpinned by trusting relationships, motivated by a sense of shared challenge and enabled by convivial technologies" (Hodgson, 2020). Convivial Technologies were inspired by the Convivial Tools introduced by Illich et al. in (Illich et al., 1973), which are defined as «those which give each person who uses them the greatest opportunity to enrich the environment with the fruits of his or her vision». The understanding of the key features of technologies can boost the quality of the learning programs thus improving the learning experience.

3.3 Media Richness Theory

Media Richness Theory was developed by the organizational scientists Daft, Lengel, and Trevino (Daft & Lengel, 1984, 1986; Trevino, Lengel, & Daft, 1987). The theory states that communication efficiency between people is affected by the fitness of the media and the characteristics of the communication task (Sun & Cheng, 2005). According to Daft and Lengel (1986), Media Richness Theory (MRT) claims that the efficiency of communication is improved through the implementation of multimedia technologies in order to address student's needs in regards to learning objectives. The level of richness depends on the following characteristics; ability to provide immediate feedback, capacity to transmit multiple cues, access to language variety, capacity of medium to have a personal focus (Balaji & Chakrabarti, 2010; Sun & Cheng,

2005). Research suggests (Mehrabian, 1971) that non-verbal communication cues invoke feelings and attitudes that intensify interactions. Although these non-verbal are not transmitted in online learning, Balaji and Chakrabarti (2010) posits that, "that the lack of cues may unbind the social hierarchy in the online environment resulting in more democratic and equal participation from members" (p.4). According to Ruberg, Taylor and Moore (1996) online environments encourage students to overcome a lack of non-verbal social cues and rather, maximize the interactions between students, instructor and content. In order to do so, Volery and Lord (2000) state that a rich medium with both asynchronous and synchronous communication is needed.

4 Literature Review

Before conducting qualitative interviews, we did a thorough literature search about the usage of EdTech in adult learning.[1] A review by Involvio (2019) found that there is a shortage in technological tools designed for adult learners although a high demand for further training and education among adults is necessary (Involvio, 2019). Still, the literature agrees on the fact that education technologies can help to make things more efficient (Edtech Magazine, 2019). This is especially valuable in the case of adult learning, as most adult learners have full-time jobs and often a family to take care of next to their learning experiences. Technologies can support the teacher in this dimension through organizing the learning experience more efficiently (Involvio, 2019). Technologies also have the power to introduce flexibility to the learning journey, making it possible to adapt the learning experience to each adult's own daily reality (Involvio, 2019).

Moreover, technologies have the potential to capture the learners' attention and keep them engaged (Involvio, 2019). Here the literature mentions the usage of game-based learning or learning management systems (ibid). They can also help to create support systems and learning communities, additionally increasing the engagement of motivation of learners. Examples are chat boxes or discussion boards (ibid). Moreover, technologies have the potential to create adaptive and agile learning environments. Virtual Reality and Augmented Reality tools create a completely different learning experience for learners (ibid).

Another point made in the literature is the fact that tools should be usable by all users. Overcomplicating the learning experience through tools requiring a high technical literacy or the application of a variety of different tools might be counterproductive (Edtech Magazine, 2019). At the same time, one should not assume that users are not technical literate enough (Edtech Magazine, 2019).

We also found in the literature tips to improve learner engagement during synchronous learning (Khan et. al, 2021), which included the importance of whiteboards to encourage collaboration, breakout rooms to divide participants into smaller groups, interactive quizzes or pools (Khan et. al, 2021). The literature also mentioned the power of the breaks to rejuvenate and engage learners

[1] For a detailed overview of our literature review on how to improve social interactions in the virtual space see Annex 4.

and second, the choice of the appropriate online learning interface to integrate synchronous activities (Khan et. al, 2021).

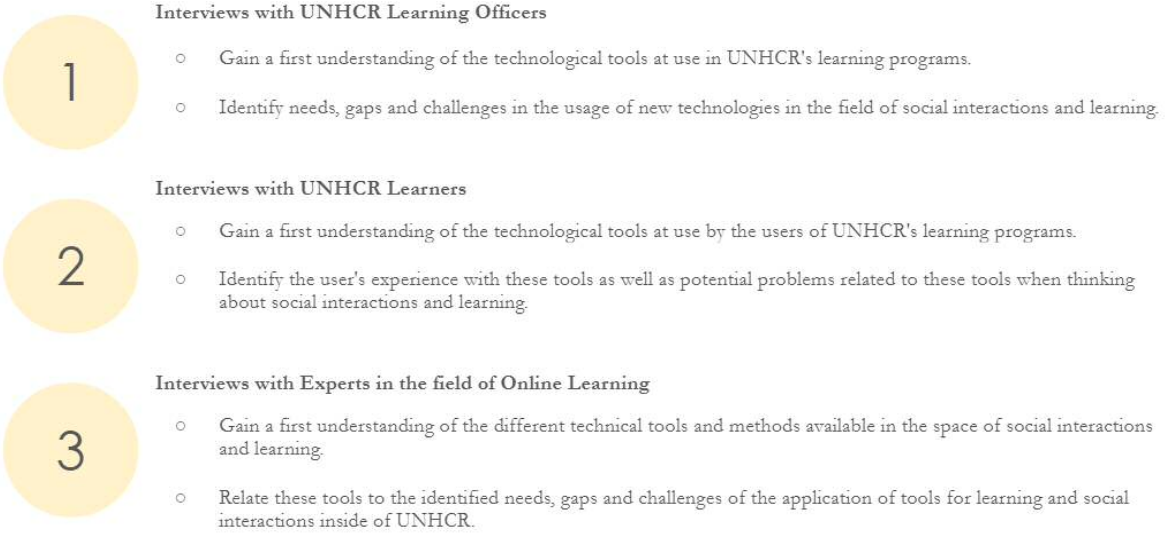
5 Methods and Data

This study closely follows the approach by McVeigh-Schultz et al. (2019) and focuses the research on semi-structured interviews in order to extract crucial data. Our research follows a step-by-step approach to gain a deeper understanding of learning inside and outside of UNHCR. This approach includes a series of interviews, outlined in Figure 1, conducted with (1) UNHCR learning officers, (2) UNHCR learners, and (3) experts in the field of EdTech and education.

The UNHCR learning officers interviewed work on program development, learning, and innovation within the Global Learning and Development Centre (GLDC) at UNHCR. The learners interviewed are UNHCR staff members who have participated in at least one internal learning program over the past few years, and were asked questions regarding their subjective experience as a learner participating in GLDC programs. Experts came from various backgrounds within the EdTech sector, from EdTech startups to academia. We conducted interviews with a total of 5 UNHCR learning officers, 4 UNHCR learners, and 5 experts, resulting in a total of 14 interviews.

The investigation follows a deductive approach (Burnard et al., 2008) and applied a predefined interview questionnaire (see Annex 1 for the list of questions). We then followed an open-coding methodology (Burnard et al., 2008) and categorized the answers into different categories to find commonalities and differences between the 3 interviewed groups. The content collected from the interviews were broken down into 6 categories: (1) methods of learning, (2) technologies utilized, (3) challenges and success, (4) virtual learning compared to face-to-face learning, (5) steps currently taken to facilitate social interaction and (6) current levels of perceived engagement and motivation. Using this information gathered from these interviews, potential tools and techniques for improving the level and quality of social interactions within virtual learning programs are identified.

Figure 1: 3 different types of interviews



6 Analysis

The following section presents the results of the semi-structured interviews, grouped into the 6 different topics.

6.1.1 Methods of Learning

This category focuses on how learning happens at UNHCR in virtual settings.[2] According to UNHCR learning officers, learning is facilitated through workshops, peer-to-peer interactions, networking, community building, small groups led by coaches, webinars, workshops, learning on the job, self-assessment, and deep-dive discussions. These methods include both group and individual work that is done within virtual environments as well as during daily tasks done off screen when learners are actually doing the work.

According to UNHCR learners, the learning method depends on the objective of the program. While some interviewees emphasize that the most important aspect of the learning method is the facilitator's work (how they prepare the session and how they prepare the interactions), others think that learning can be conducted without a facilitator. Yet, experts emphasized the importance of the instructor in the learning experience.

Experts unanimously agreed that there is no one-fits-all solution when it comes to virtual learning and that the method applied depends on the objective of the learning experience, the characteristics of the target population, as well as technological possibilities. It is important to consider cultural differences, language and the set-up of the learning experience when developing the correct method. Additionally, technology should be seen as a complement to instructors or teachers instead of a replacement.

While specific experts also comment on the importance of thinking through virtual learning programs from the beginning, not as an alternative for face-to-face instruction. Another expert similarly expresses that interaction should be placed at foreground when planning the course/training. When it comes to technologies this expert also stated that adult learners are less interested in gamification learning technologies, but rather, are interested in practical content that is usable and practical. While, they also found that more and more learners seek programs that cater to them. Furthermore, they emphasize that community is made through interactions, and technologies, although useful, are enablers that facilitate interactions, but do not replace them.

6.1.2 Technologies Utilized

According to the learning facilitators at UNHCR, current technologies can be broken down into specific categories based on the use: course facilitation, team activities, quizzes, and small groups. Technological tools that support course facilitation include; Zoom, Google Slides, Webex, MS Teams, and E-learning tools. Mural, Padlet, Miro, Gathertown, Mystery Coffee, and Jamboard are

[2] For an example learning program see Annex 2.

used for team activities. Quiz tools include Mentimeter, Kahoot, and Poll Everywhere. Technologies that also facilitate small groups and meetings are Zoom, Webex, and MS Teams. Other tools utilized include Slack, MOOC, Jampots, Get-Abstract, and the UNHCR LMS.

According to experts, for the development of synchronous classes or workshops, tools such as Zoom, Google Meet, Discord, Teams, Jitsi or Unhangout may be suitable. If the activities require online collaboration between participants, these platforms can be used in combination with more cooperative tools such as Jamboard, Miro or Mural. However, learning can also occur asynchronously, using for example Voice recording tools. To encourage peer-to-peer interaction, tools such as Rocket.Chat or Slack can be appropriate. Moreover, according to experts mobile phones can also be good devices to encourage this interaction, for example by sending SMS or using messaging applications such as WhatsApp. All experts agreed on the fact that it is important to seek simplicity in the tools at use and should be adapted to the target group.

When it comes to the learners, one of the tools regarded as successfully utilized by nearly all of the learners interviewed in this study was the use of breakout rooms in Zoom. Additionally, learning participants stated that platforms such as MS Teams and Whatsapp worked well. When it comes to tools that didn't work well, learners commented that there are limited options for poor connection and low bandwidth. Similarly, they mentioned receiving PDF documents, but that these documents weren't sufficient alone for learning. They recommended investing in more options for situations when the internet may be an issue.

6.1.3 Challenges and Successes

Drawbacks identified by learning officers include limited access to technology, a general lack of knowledge regarding using new technologies, and a limited attention span when it comes to prolonged learning activities online. An additional challenge mentioned includes the difficulty of creating a community when learning is done exclusively online, while the importance of creating meaningful discussions, spaces for sharing, and facilitating trust were emphasized.

Similarly, experts interviewed pointed out several challenges, for example that online communications can lead to misunderstandings, interrupted communication flows or cultural barriers and differences. Additionally, they highlighted the fact that learners might get overwhelmed by new tools, the usage of too many different tools, or the usage of overly complex tools, which may result in participants feeling overwhelmed. Experts all agreed that it is best to search for simplicity and create content which is practical, usable and understandable.

Internet connection was a challenge pointed out by experts, learning officers, and learners alike. Learners also identified the challenges of exhaustion after long trainings, and the effect this may have on concentration, as also previously commented by learning officers. Another challenge that continuously arises for learners is staying motivated. Not only was it important to stay organized, manage your time wisely, and push yourself to stay motivated, but the participants also discussed the added factor of constant distractions present when learning virtually. Additionally, learners reported that time constraints can be difficult, as they have to complete the training while trying

to maintain a work-life balance. Lastly, learners acknowledged the added challenge of ensuring a personal and human touch within the virtual program, yet identified this as crucial.

As highlighted in the interviews with learning officers, an important component for the success of current virtual tools is the connectivity that online learning allows for individuals spread across the globe. Learning officers identified the absence of additional expenses or logistics of travel as positive effects, along with the flexibility that virtual learning allows. Learning officers also stated that virtual learning has allowed for more intentional content delivery, which has increased efficiency. Moreover, all of the learning officers interviewed commented on the success of small groups in virtual learning environments.

According to experts, the advantage of using tools to facilitate online learning is the democratization which we can achieve through it. Examples ranged from training all household members through adapted content on the same device in vulnerable communities, to achieving a much higher teacher-to-student ratio in a project where NGOs taught Afghan refugees in Turkey, through bringing a lot of different communities from around the globe together. Still, all experts agreed upon the fact that the methodology behind virtual learning needs to be adapted to the learner. Furthermore, they highlighted the importance of taking into account the socio-economic as well as cultural background, age group, professional pathway, gender and other individual characteristics when designing virtual learning programs.

Another advantage suggested by experts, is the fact that virtual settings optimize the learning experience. New technologies make it possible to track the learning journey of each participant in real-time and offer adjusted solutions. Moreover, it is possible to offer the same amount of learning content in a shorter time frame.

A question about one's satisfaction with the online learning experience was addressed at UNHCR learners. When rated on a scale from 1 to 10, 1 being the worst possible satisfaction, the scores learners gave their virtual learning experience ranged from 7 to 9. Overall, learners were satisfied with their learning experience. All 4 learners also agreed that they would prefer a mix between online and in-person learning experiences and could not choose between one or the other option. Some of the success factors that led learners to rate the online learning experience so high coincide with those mentioned by the learning officers and experts, they include the efficiency and flexibility allowed for by online programs. With expansive flexibility the learners were able to join multiple programs consecutively and fit them into their busy schedules, also promoting a work life balance. Some interviewees agreed that virtual learning is more economical, dynamic, brings together diversity, and it caters to a variety of learning styles. Finally, an active and engaging facilitator was stressed as key for the success of online workshops.

6.1.4 Virtual Learning Compared to Face-to-face Learning

The goal of this category is to identify if there is anything that is missing in the virtual environment compared to traditional in-person learning. Interviews with learning officers

identified that there is a lack of networking opportunities, organic conversations, and "water cooler" chats in the virtual classroom. Additionally, some learning officers reported that they missed seeing students' facial expressions and nonverbal responses. One interviewee also commented that students were held less accountable online than in face-to-face learning. A learning officer also mentioned that they notice that learners feel burnt out more quickly while participating in virtual training.

When it comes to virtual learning, experts claimed that some people tried too hard to bring face-to-face interactions into the digital space, including techniques that didn't work. Rather, experts suggest trying something different by creating a new model where social interaction is at the foreground of virtual learning experiences. Additionally, experts mention that social interaction is just as possible online, and technologies in the virtual space should be used as enablers for said social interaction.

Learners, like learning officers, mentioned that body language was something that they missed from in-person workshops, and that for some topics a personal touch, along with non-verbal cues, are key. Moreover, learners reported enjoying meeting people and being in a social environment, which they stated, is not as easily navigated in virtual settings. According to learners, sensitive personal information was stated as something that participants often don't feel as comfortable disclosing online. Whereas, in face-to-face training and workshops the facilitator has a larger ability to control the space where the training is happening. Lastly, in terms of distractions, learners mentioned less opportunities for distractions in face-to-face environments. A learner even reported that they pay more attention to the speaker when they are in the same room.

In general, all interviewees believe that the movement from in-person learning to virtual learning will continue. All interviewees also expressed that we should not be comparing online learning to face-to-face learning at all as those are two completely different concepts. Some expressed the need for a paradigm shift to embark on virtual learning and social interactions. Another expert interviewed believes that innovative forms of hybrid learning are the future of learning.

6.1.5 Maintaining Social Interaction in Virtual Learning

This category aims to identify what is currently being done to promote social interaction within virtual learning. While some learners do not consider social interactions to be a key element for learning, experts suggest that creating a community and securing fluid communication is crucial for the success of virtual learning. Almost all interviewees agreed upon the importance of small group activities, interactions, and group sessions, along with having coaches to lead these small groups. Attempting to create a space for sharing and collaboration was also noted. Specific tools were referred to for their abilities to connect people online, such as Mystery Coffee and GatherTown.

The role of the facilitator was also highlighted by interviewees, along with the idea that activities to maintain social relationships need to be intentional. Introducing basic small talk in the

beginning of meetings, standing up during calls, constantly keeping the learners cameras on, doing virtual gymnastics or sending friendly and motivating messages to participants and asking how everybody is doing were some of the examples of how to do this named by experts. Other examples were the usage of short videos to transmit learning content or regular calls to check upon learners. Whatsapp as a way to connect communities was mentioned by all experts due to its low data requirement, ease-of-usage and global reach.

Another successful driver behind social interactions in the virtual space was the degree of agility tools and learning systems provide. One expert mentioned that the real-time tracking of learners' advances and success as well as failures through a learning app facilitated a tailored student-teacher-interaction. Another expert mentioned that certain tools were more successful due to the ability to spontaneously check-in and communicate frequently with one another. They also mentioned the importance of noise management in technologies at use, for example the possibility of not muting yourself in meetings to avoid distracting background noise.

Experts saw technological tools as a facilitator of social interactions. They shared the view that technologies can help to create networks and social relations which would not be virtually possible without these technologies. If used correctly, they can facilitate informal interactions which go much wider than the traditional ways humans interact.

6.1.6 Level of Perceived Motivation and Engagement

This category is aimed at understanding participants' motivation, engagement, and overall involvement in virtual learning environments. Some interviewees stated that there have been no negative effects, and that virtual learning has increased engagement and motivation, especially for learners who are typically more introverted. Other interviewees agreed that although there may have been some push back in the beginning, most learners have adapted well. It was also mentioned that there are frequently people who do not show up for class, don't use the camera, and who aren't participating nor completing assignments. However, as one learner pointed out, this can also happen in face-to-face learning, if participants do not find the content interesting.. The temptation of multitasking was also mentioned in regards to its negative impact on involvement and engagement.

Many of the experts interviewed have been facilitating online learning prior to the pandemic. According to these experts they have achieved an adequate level of engagement based on the intention of the learning program and the resources available to the participants. One expert has had experience teaching both online and in person, this interviewee believes that the instructor needs to facilitate methods for social interaction which then improve motivation. They do so through starting each class with an icebreaker, allowing the students to get to know their peers and the instructor. This interviewee even disclosed that one of their students provided feedback stating that they got to know their peers better in this online course than in any other class, including in-person instruction. This expert emphasized the importance of building trust, respect, and caring, specifically in regards to what they are doing.

7 Discussion & Recommendations

7.1 Discussion

When it comes to learning in the virtual space at UNHCR there are some mixed attitudes. Many learning officers believe that learning is highly accessible, concise, and efficient in online settings, and that with virtual learning comes a world of possibilities that reshape concepts of traditional learning. On the other hand, some learning officers, learners, and experts are feeling the absence of face-to-face interactions, especially when it comes to organic social interactions.

In regards to social interaction online learning environments, most interviewees agreed that we need a paradigm shift. Instead of comparing the way we learn and interact with each other virtually to the in-person setting, we should see this as something entirely new that needs to be approached differently, and built from the ground up. When constructing solutions to the challenges which emerge in online settings, it is important to think out of the box. Moreover, the experts agreed on the fact that a virtual setting without human facilitators is unlikely to be successful. The power of technological tools is not within the tool itself, but within how we use the tool for learning and interacting with each other.

Learning officers and experts alike highlighted that communities can be difficult to foster within face-to-face settings, let alone virtual ones. In online environments there are limitations regarding opportunities for organic interactions and nonverbal cues, such as eye contact. The concept of network learning, as previously defined, is important within connectivism as it highlights the importance of trusting relationships in fostering collaboration, interaction, and community. Within the interviews, the importance of creating a safe space to share and cultivate trust was emphasized. While forming trusting relationships may be integral for network learning, encouraging these types of relationships is likely the biggest challenge when it comes to promoting social interaction in virtual environments. That being said, interviews with experts, learning officers, and learners demonstrated successful network learning within online learning through focusing on Learner-Learner interactions. The expert that most succeeded in maximizing social interactions within online classrooms emphasized the importance of trust, respect, and caring, all of which, if managed correctly, prompt network learning.

Our findings are in line with outcomes and recommendations from previous studies. It adds to the existing literature through combining the perspective of 3 different stakeholders involved in adult learning. Still, some of the points raised by interview participants stand in contrast with other, quantitative evidence. As an example, while interviewees feel that virtual settings make the learning experience more democratic through making learning more accessible to a larger group, studies have found that certain groups benefit more than others from the movement into the virtual space. As an example, research from the United States (US) shows that younger workers in the US face, on average, higher productivity barriers in the virtual space (PEW, 2020). Older workers, on the other side, are less likely to use online tools (ibid). Similarly, a larger share of mothers (39 %) than fathers perceive it as challenging to balance work and life in the virtual space (28 %) (ibid). In general, the usage of tools depends on age, education, industry, supervisory

roles, among others (ibid). It is important to have these dynamics in mind when designing virtual learning programs.

7.2 Recommendations

Based on the analysis, the study provides 3 overall recommendations for the design of online learning programs that maximize social interaction (see Table 1). First of all, it is crucial to build human connections through hands-on approaches. Secondly, it is recommended to use a rich set of technologies, based on Media Richness Theory (MRT), without overwhelming learners. And lastly, one should look for virtually experienced facilitators and the right "EdTech match".

In line with connectivism, it is clear that in order to maximize social interaction in online learning, the social presence of individual learners needs to be prioritized through building human connections. These connections can be created in a variety of ways; through implementing trust building ice breakers, by conducting one on one meetings with learners, by having learners submit personal profiles (Kear, 2010), and by ensuring that faces and hand gestures are visible (De Felice et al, 2021).

Additionally, social presence can be fostered through the use of rich technology (MRT) by having the capacity to provide immediate feedback, transmit multiple cues, allow for language variety, and promote a personal focus (Balaji & Chakrabarti, 2010; Sun & Cheng, 2005). The employment of rich multimedia technologies can be utilized in order to increase social presence and facilitate network learning through their ability to provide bi-later feedback in the form of synchronous chats (Kear, 2010). Media rich tools should be used within and outside of the virtual classroom in order to cultivate connections between learners (see Table 1 for some example tools). Still, it is important to not overwhelm learners, rather it's recommended to stick to tools already in use within an organization. Organizations should additionally avoid the usage of too many different tools and the use of overly complicated technologies.

Lastly, the underlying research has shown the importance of facilitators in the online learning experience. Not only do they facilitate social interactions between participants, but they are also responsible for the cultivation of trust and virtual identities[3]. It is therefore crucial to find facilitators who are experienced in the virtual space and aware of important mechanisms behind creating a successful learning experience for participants, and who are well trained. Moreover, institutions should invest in raising awareness about the role social interactions play in virtual learning experiences and develop some best-practices their staff members can apply while facilitating and interacting with each other virtually.

Table 1: 3 High-level recommendations and hands-on actuanable items

[3] A virtual identity refers to the virtual representation of people.

Build human connections through hands-on approaches			
Recommendation	**Do small talk!**	**Conduct trust-building exercises!**	**Create small-group-experiences!**
Description	Incorporate 5-10 minutes of small talk in the beginning of your meetings to create meaningful social relationships.	When starting new team work or workshops, incorporate trust building exercises, such as "Who is your animal spirit?", virtual sport sessions, or some of the below virtual team building activities	Divide your learners into smaller groups. The smaller, the better! The more often, the better! Make use of break-out rooms.
Utilize rich technologies, but do not overwhelm people			
Recommendation	**Find the right technology for your purpose!**	**Reduce the variety of technologies at use!**	**Opt for familiar tools!**
Description	* ***Virtual conferences:*** Zoom, Teams, WebEx, Whatsapp Calls * ***Real Time Communication:*** Slack, Yammer, Whatsapp, ChitterChat * ***Online Project Management:*** Trello, Samepage, Jira * ***Real-time performance tracking:*** Learning Management Systems, Learning applications * ***Online Events:*** Bizzabo, Brella * ***Coffee Breaks and Lunch:*** One Million Cups, LetsLunch, LunchClub * **Networking:** Shapr, Bumble Bizz * ***Teambuilding:*** QuizBreaker, Virtual Escape Room, Virtual Trivia, WorkStyle Personality Tests, Bingo	Do not overwhelm your learners! Find a variety of different tools you want to use in your organization and stick to them.	If possible, try to stick to tools your learners are already familiar with, or combine new tools with well-known ones. Try to find tools which are easy to use.
Find the right facilitators and "EdTech match"			
Recommendation	**Train your staff!**	**Find trust and identify creators!**	**Introduce facilitators of social interaction between peers!**
Description	Make your staff aware of the importance of social interactions for a successful career and learning experience. Provide them with best-practices on how to form and maintain social relations online as well as in learning sessions.	Find the right facilitator for your purpose. Look out for their capacity to create a meaningful virtual learning experience. Find somebody who is familiar with creating social connections in the virtual space.	Facilitators can foster social interactions in the virtua space through checking in on participants, follow up with them, send them reminders, introduce networking tools and games, and distribute learners into smaller groups.

Source: Own elaboration of the authors

7.3 Implications

The findings within this investigation provide a starting point for those who wish to cultivate social interactions in virtual settings. The study shows that the best way to maximize social interaction online is to employ rich technological tools, according to MRT, that aid the fostering of human connections, while also relying on trained facilitators. This information will allow UNHCR to design their learning programs in a way that prioritizes social interaction. This research is also relevant for United Nations (UN) organizations who seek to implement interactive trainings online and who aim to connect people spread across the globe. It also provides relevant information for academic institutions and private industries who wish to do the same.

7.4 Limitations

The scope of this investigation was confronted with limitations. For example, our findings may be skewed for different sample bias. First, due to time constraints and the difficulty of scheduling interviews, the number of samples in this study is rather small and therefore the results will not be representative of the overall population. Secondly, due to the pre-screening of participants: both the learning officers and learners were selected by UNHCR mentors. The learners who were

selected and agreed to participate in the interview were likely those who are the most engaged and motivated learners within UNHCR learning programs, which may skew the findings. Finally, although these outcomes can be shared with participants outside UNHCR, our results are specific to UNHCR learning programs. It is also assumed that every individual who participated in this study has access to reliable internet connection and technology, along with knowledge of how to use that technology, which may not be reflective of all communities across the globe.

8 Conclusion

The research paper at hand analyzes how different stakeholder groups perceive the movement of adult learning into the virtual space. We employ semi-structured interviews with 3 different groups, UNHCR learning officers, UNHCR learners and experts. We code our findings into different categories in order to analyze our results. Our research shows that there are common grounds among all interviewees with respect to the advantages of disadvantages when thinking about social interactions in virtual learning environments. The paper at hand gives 3 different high-level recommendations on how to create meaningful social interactions in virtual settings and deduces some hands-on approaches for each one of the 3 priority areas. As virtual learning becomes more individually focused, emphasizing Learner-Content interactions, as expressed by nearly all experts and learning officers, it is important to prioritize social presence through Learner-Learner interactions, rich technology, and well trained facilitators.

More research is needed to further shed light on how we can create meaningful social interactions in virtual learning environments. The interviews have clearly shown that we cannot compare online learning to in-person forms of learning. Future research should try to generate structured evidence on which methods work best in order to create meaningful social interactions virtually. Most importantly, future work should try to achieve a more representative sample than the one at use in this paper.

Bibliography

American Psychological Association. “Social Interactions”. *APA Dictionary of Psychology,* 10 Jul. 2021, https://dictionary.apa.org/social-interactions.

Baker, David L. "Designing and orchestrating online discussions." MERLOT Journal of online Learning and Teaching 7.3 (2011): 401-411.

Balaji, M. S., and Diganta Chakrabarti. "Student interactions in online discussion forum: Empirical research from media richness theory perspective." Journal of interactive online learning 9.1 (2010).

Bernard, Robert M., et al. "A meta-analysis of three types of interaction treatments in distance education." Review of Educational research 79.3 (2009): 1243-1289.

Burnard, Philip, Gill, P., Steward, E., Treasure E., & Chadwick, B., “Analysing and presenting qualitative data." British dental journal 204.8 (2008): 429-432.

Hodges, Charles B., et al. "The difference between emergency remote teaching and online learning." (2020).

Cambridge Dictionary. 10 Jul 2021, https://dictionary.cambridge.org/de/worterbuch/englisch/.

Collins Dictionary. “Social Interactions”. *Collins Dictionary*, 10 Jul. 2021, https://www.collinsdictionary.com/de/worterbuch/englisch/social-interaction. 2021.

Collins Dictionary. “Networking”. *Collins Dictionary*, 10 Jul. 2021, https://www.collinsdictionary.com/es/diccionario/ingles/networking. 2021.

Daft, Richard L., and Robert H. Lengel. "Organizational information requirements, media richness and structural design." Management science 32.5 (1986): 554-571.

De Felice, Sara, Gabriella Vigliocco, and Antonia F. de C. Hamilton. "Social interaction is a catalyst for adult human learning in online contexts." Current Biology 31.21 (2021): 4853-4859.

EdTech Magazine. “Technology Can Help Adult Learners Get the Most Out of Higher Ed.” EdTech Magazine, 12 Dec, 2019. https://edtechmagazine.com/higher/article/2019/12/technology-can-help-adult-learners-get-most-out-higher-ed

Entwistle, N. "A model of the teaching-learning process. In, JT E. Richardson, EMW Eysenck, & DW Warren (Eds.), Student learning: Research in education and cognitive psychology (pp. 13-28). London: SRHE." (1987).

Martin, Florence, and Doris U. Bolliger. "Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment." *Online Learning* 22.1 (2018): 205-222.

Gillett-Swan, Jenna. "The challenges of online learning: Supporting and engaging the isolated learner." Journal of Learning Design 10.1 (2017): 20-30.

Grasha, Anthony F. "Learning styles: The journey from Greenwich Observatory (1796) to the college classroom (1984)." *Improving College and University Teaching* 32.1 (1984): 46-53.

Illich, Ivan, and Anne Lang. "Tools for conviviality." (1973).

"What Is Innovation? Introduction and Definition for Practitioners." *Innolytics Innovation*, innolytics-innovation.com/what-is-innovation. Accessed 26 Oct. 2021.

Winkleman, Ari. "5 Ways Education Technology Can Support Adult Learners." *Involvio*, 7 Oct. 2019, www.involvio.com/blog/reinventing-the-role-of-ed-tech-in-adult-learning.

Lear, Janet L., Charles Ansorge, and Allan Steckelberg. "Interactivity/community process model for the online education environment." *Journal of online learning and teaching* 6.1 (2010): 71-77.

Kear, Karen. "Social presence in online learning communities." (2010).

Khan, Rehan Ahmed, et al. "Twelve tips to enhance student engagement in synchronous online teaching and learning." *Medical Teacher* (2021): 1-6.

Laland, K. N., and L. Rendell. "Social Learning: Theory. Encyclopedia of Animal Behavior." (2019).

"5.3 Social Interaction in Everyday Life" *Libraries*, open.lib.umn.edu/sociology/chapter/5-3-social-interaction-in-everyday-life/. Accessed 8 Sept. 2021.

Lowenthal, Patrick R. "The evolution and influence of social presence theory on online learning." *Social computing: Concepts, methodologies, tools, and applications*. IGI Global, 2010. 113-128.

Moore, Michael G. "Three types of interaction." (1989): 1-7.

Kebritchi, Mansureh, Angie Lipschuetz, and Lilia Santiague. "Issues and challenges for teaching successful online courses in higher education: A literature review." Journal of Educational Technology Systems 46.1 (2017): 4-29.

"What is E-learning? Definition and examples" *Market Business News (MBN)*, Accessed November 2021. https://marketbusinessnews.com/financial-glossary/e-learning/

McVeigh-Schultz, Joshua, Anya Kolesnichenko, and Katherine Isbister. "Shaping pro-social interaction in VR: an emerging design framework." Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems. 2019.

Mehrabian, Albert. Silent messages. Vol. 8. No. 152. Belmont, CA: Wadsworth, 1971.

"Learning", *Merriam-Webster*, Accessed November 2021 https://www.merriam-webster.com/dictionary/learning.

Morgan, Thomas JH, et al. "Experimental evidence for the co-evolution of hominin tool-making teaching and language." Nature communications 6.1 (2015): 1-8.

Hodgson, Vivien E.. "Networked Learning: Inviting Redefinition." Postdigital Science and Education (2020): 1 - 14.

"How the Coronavirus Outbreak Has – and Hasn't – Changed the Way Americans Work", *PEW* (2020): Accessed November 2021 https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/

Picciano, Anthony G. "Theories and frameworks for online education: Seeking an integrated model." Online Learning 21.3 (2017): 166-190.

Ruberg, Lorena F., David M. Moore, and C. David Taylor. "Student participation, interaction, and regulation in a computer-mediated communication environment: A qualitative study." Journal of educational computing research 14.3 (1996): 243-268.

Sun, Pei-Chen & Cheng, Hsing Kenny, "The design of instructional multimedia in e-Learning: A Media Richness Theory-baed approach" Elsevier, 2005, Computers & Education 49 (2007); p. 662-676

"The UNHCR Innovation Fellowship is a 12-month learning programme for UNHCR's workforce." UNHCR Innovation Fellowship, *UNHCR,* Accessed November, 2021. https://www.unhcr.org/innovation/innovation-fellowship/.

Volery, Thierry, and Deborah Lord. "Critical success factors in online education." International journal of educational management (2000).

Walker, Gordon, Bruce Kogut, and Weijian Shan. "Social capital, structural holes and the formation of an industry network." Organization science 8.2 (1997): 109-125.

Watkins, By Ryan. "Developing interactive e-learning activities." Performance Improvement 44.5 (2005): 5-7.

Annex

Annex 1 - Interview questions

A.1.1 Interview questions for UNHCR learning officers

A. Which technology/tools are you most familiar with?
B. Which tools are the ones working best, for what purpose, and why?
C. Which ones do not work well and why?
D. What are the success factors behind learning in the virtual space in your opinion?
E. What are the main challenges behind learning in the virtual space in your opinion?
F. What would you improve if you had indefinite resources and possibilities in the way online learning happens at UNHCR?
G. What would you like to be different when it comes to learning online at UNHCR?
H. What are you missing from the face to face settings when delivering/attending learning programs?

I. What have you done to maintain social interaction when delivering/participating in online learning programs if anything?
J. How has the motivation/engagement/involvement of participants changed in the digital space?
K. How do peer-to-peer support and collaboration happen when learning happens online? What are the differences with face to face settings?
L. In your opinion, do participants perceive/experience OR as a participant do you perceive community or identify within groups in a different way when learning happens online, and if so how?
M. In your opinion (as a learner or someone who delivers learning programs) how does the fact that learning happens online affect the participants' satisfaction/fulfillment/enjoyment of the learning experience?
N. What do you think contributes to feeling connected (or the opposite of it, *social loneliness*) when learning online?

A.1.2 Interview questions for UNHCR learners

A. What kind of courses have you participated in? How many different courses/modules?
B. Since when are you engaged in "learning" inside of UNHCR?
C. Which technology/tools used to facilitate online learning are you most familiar with?
D. Which tools are the ones working best, for what purpose, and why?
E. Which ones do not work well and why?
F. What are the success factors behind learning in the virtual space in your opinion?
G. What are the main challenges behind learning in the virtual space in your opinion?
H. Are you missing anything from face to face settings when attending learning programs? If so, what?
I. If UNHCR had indefinite resources, what would you invest in to improve the learning experience online?
J. Have you done anything to maintain social interaction when participating in online learning programs if anything? If so, what?
K. Has your motivation/engagement/involvement changed in the digital space? How?
L. How does peer-to-peer support and collaboration happen when learning happens online? What are the differences with face to face settings?
M. In your opinion, do you perceive community or identify within groups in a different way when learning happens online, and if so how?
N. What do you think contributes to feeling connected (or the opposite of it "social loneliness") when learning online?
O. In the future, do you prefer to continue learning online or would you prefer to return to face-to-face learning?
P. In your opinion how does the fact that learning happens online affect your satisfaction/fulfillment/enjoyment of the learning experience?
Q. On a scale from 1 to 10, how would you rate your experience learning online since the start of the pandemic? (1 being very poor and 10 being amazing)
R. Overall, which do you prefer online learning or face-to-face?

A.1.3 Interview questions for experts in the field of online learning

A. How would you describe your role in the space of adult online learning and how is it related to online learning?
B. What is the biggest challenge in online learning/training for you?
C. Which technology/tools do you use/promote/sell to facilitate online learning?
D. Which tools are the ones working best, for what purpose, and why?
E. Which ones do not work well and why?
F. What is the biggest challenge in creating social interactions online for you?
G. Which technology/tools do you use/promote/sell to facilitate social interactions in the digital space?
H. What have you done to maintain social interaction when delivering/participating/selling in online learning programs if anything?
I. Are you aware of any additional innovative tools or methodologies in the field of EdTech for adults?
J. Do you think that learning will continue to happen in the digital space in case we overcome the pandemic?
K. What are you missing from the face to face settings when delivering learning programs?
L. How has the motivation/engagement/involvement of participants changed in the digital space?

Annex 2 -. Learning at UNHCR

A.2. 1. The UNHCR Innovation Fellowship program

The UNHCR Innovation Fellowship program (UNHCR, 2021) is a 12-month program open to UNHCR staff members. The goal of the program is to build innovative skills and competencies as well as to hand its participants the tools to facilitate innovation in their respective role. It is about getting to know new approaches and innovative solution-building. The program shall help participants to think "outside the box" and find new solutions to existing problems, therefore impeding the replication of already made mistakes.

It consists of a kick-off workshop as well as a mid-term workshop. In between there are a variety of online tasks, such as brainstorming sessions, stakeholder mapping and more. It also entails the division of the cohort into smaller subgroups to foster peer-to-peer interactions and learning.

The program took part in a hybrid format before the COVID-19 outbreak and has been fully virtual since the start of the pandemic. The technologies and tools at use in the program are, among others, WebEx, Teams or SLACK.

Annex 3 - Interviews - Responses by Categories

A.3.1. UNHCR Learning Officer Interviews

Table A.3.1.: UNHCR Learning Officer Interview Results

Item	Learning Officer 1	Learning Officer 2	Learning Officer 3	Learning Officer 4	Learning Officer 5
Technologies/Tools at use in the space of learning in UNHCR	- Google slide - Teams - Zoom (not corporate) - Webex - Mentimeter (license) - SLACK - MOOC - Mural (license) - Miro - E-learning tools: "Clicking through slides"	- Teams - Zoom - Mentimeter - E-learning tools - Jampots - Webex - Kahoot - Linkedin Learning Videos - Get-abstract - MUREL - Mystery Coffee - Gathertown - Jamboard - LMS (terrible user experience) - Mural	- Teams - Mentimeter - Mystery Coffee - Webex - Mural - Gathetown - MBTI	- Zoom - Mural - Jamboard	- Mural - Webex - LMS - Zoom - Mentimeter - Kahoot
Purpose/ forms of learning	- Workshops - Peer2peer interactions - Networking - Community building - Trust building - Bringing people together - Support each other - Building leadership - Creating great "value for time"	- Small groups guided by peer/coach - Brief presentations (15 minutes) - Duration: less than 3 hours - Spread time: time to think and apply - On the job learning	- Self assessment - Peer to peer learning - Webinars - Workshops - On the job learning - Self learning - Team development	- Deep dive discussion webinars 45 minutes - 2 1/2 hours for webinars - assessment - to see if behavior has changed after the webinar - use survey - individual and team activities - self assessment - assignments - minimal plan - activities engaging with personal space - small group discussion with facilitator/coach	- Workshops - Small groups - Expert speakers.
Challenges as well as drivers of successful tools	- User-friendliness - Simplicity - No time to practice complicated new tools	- User-friendliness - Short presentations - Spread over time - Small groups	- User-friendliness - Too many tools - can connect from anywhere	- Proper platform for participants to communicate after the program.	- Facilitators in the small groups (at least at the beginning).

	- Culture - People have a low bandwidth/ are already overwhelmed - Competition with more traditional corporate tools - Competing demands (satisfy your manager + learn) - Get managers on board - Connectivity	- It is a different form of delivery - Need for different coaches for different type of technologies - Get managers on board - Connectivity - It takes time to build a sense of community - Multiple facilitators who are prepared	- need proper tools/connecti on - not everyone shows up - can cut out unnecessary spending/trav el - streamlines content - content more focused - learning more efficient - can connect in small groups - multiple tools shouldnt be used in one session for the sake of using them, this negatively affects the content	- Enough facilitators. - Small groups.	- Versatile platforms like Zoom. - Shorter interventions, not having long programs. - Icebreakers and energizers. - Low bandwidth, not allowing the participants to use the camera. - Participation. - Distractions, multitasking.
Improvements with indefinite resources	- Improve the flow of on-the-job learning - Something "new and cool" - Looks new - More user-friendly/e asy to use/simple - People get excited about learning - More holistic - Change the mindset + attitudes of people - Change the way people think about learning - It is not only about the tools, but goes beyond that - Creating great "value for time"	- Technologies that enable relationship building/water-cooler moments - Create "those random conversations that are important" - See learning more as a conference - Get an overview of interesting tools - Take a systematic approach towards how to onboard different tools for different learning experiences - Look outside of the organization	- Create a website for free individual learning based on needs/skills of learning - facilitate learning from peers - facilitate learning by doing	- Oculus VR. - Access to online books. - Access to some courses that are provided outside UNHCR. - Less e-learning, less material that can not be changed.	- Buy a license for Zoom. - Proper training venue.
What are you missing from the					

face to face settings when delivering/attending learning programs?	- Ad-hoc moments and meetings - Personal encounters - Networking - "Staring at the screen" - "Online burden" - Online workshops have to be short	- You cannot compare - Networking (go out for dinner, meet your friends, forming relationships) - How can we create connectedness? - How can we facilitate learning among adults? What are the new needs?	- Talking/networking, but doesn't consider this part of the learning process - said "nothing"	- Interaction between the participants after the program. - The possibility to see people's reactions. - Less interested people are difficult to reach.	- After work chats. - Human energy. - Laughs. - Eye contact.
What have you done to maintain social interaction when delivering/participating in online learning programs if anything?	- SLACK - Peer support groups	- Small group sessions - Action learning sessions - Coaches managing small conversations	- Mystery coffee - small groups - creating a space for sharing	- Cameras on. - Small groups in breakout rooms.	- Chats and platforms. - Keep the space alive. - Offline group work.
How has the motivation/engagement/involvement of participants changed in the digital space?	- No-shows - Black screens/video off - Less engagement - Multi-tasking - An online break is a lonely break	- No negative effects - Introverts are participating more frequently - People are more engaged and motivated.	- At first people we negative about not being able to travel - most people adapted well and are equally as engaged	- Some people are more willing to share and talk about difficult topics. - Others do not complete their assignments and therefore do not complete the program.	- Less engagement and motivation.
Others	- We should not compare virtual and face2face settings - What is driving the preference for face2face learning? Is it really that people learn more effectively, or is it maybe that they love traveling and meeting people face to face?	- We should not compare virtual and face2face - Virtual learning is better due to: More efficient/mindful of people's time, carbon savings, better work-life balance, introverts participate more, it is more democratic,	- Thinks virtual learning is more efficient and ultimately better than face to face workshops - Thinks preferences are based on learning styles, background, access to tech. and wifi, understanding of technology, and home space		

		easy to bring diversity, find specialists all around the world - Learning takes place "on-the-job" - Problems → how can learning be part of the solution.	- Thinks that you should get out of the least money, not buy more tools - Wants to improve individual learning patterns - The feeling of community never really worked, also not in the non-virtual space - You need to create meaning and trust		

A.3.2. - UNHCR Learners Interviews

Table A.3.2.: UNHCR Learner Interview Results

Item	Learner 1	Learner 2	Learner 3	Learner 4
Technologies/Tools at use in the space of learning in UNHCR	- Zoom - Teams - Whatsapp - Online Survey	- E-learning - Zoom - Teams - Videos	- Zoom - MS Teams - Whatsapp	- Zoom - Mentimeter - Whiteboard - "Quizzes"
Purpose/ forms of learning	- Protection and exploitation of social abuse; Gender protection; Gender aspects - Basic learning programs, core responsibilities	- E-learning modules - Workshops	- Hybrid training programs - Workshops - Pdf modules	- Offline courses: animation and PDF can be done on your own time, self-paced. - Courses with a facilitator.
Challenges as well as drivers of successful tools	- Faster - Minimize exposure - More hands-on - collectiveness + reclusiveness during the program - Connectivity	- Flexibility - Team Dynamic - Work-life-Balance - Connectivity - Distractions in the office - Problems to focus on one thing	- Motivation - Peer-to-peer interaction - Organization - Time management - Distractions - Being open to sharing	- Summarize the content enough, making it interesting (make it worth for the learner). - Lack of feedback when learning online.
Improvements with indefinite resources	- Connectivity - Training on virtual learning		- Improved learning material for low bandwidth	- An App to be able to take courses offline (airports, taxis, etc.),

			- Bi-lateral small groups - one-on-one meetings with mentor	especially those that are compulsory.
What are you missing from the face to face settings when delivering/attending learning programs?	- Engagement - Lack of Human Touch	- Body language - Human interaction	- High focus when in the same room as the instructor/peers - Organic social interactions - Clarifying misunderstanding through peers	- Meeting other people who develop the same job as you and face the same problems. - Meeting supervisors in person.
What have you done to maintain social interaction when delivering/participating in online learning programs if anything?	- Get feedback early and continuously - Create some form of human touch - Assign task - Empower participants to share	- Usage of official tools (Zoom, Teams, etc.)	- Create Whatsapp groups	- During the course he participates but nothing else after the course.
How has the motivation/engagement/involvement of participants changed in the digital space?		- Intrinsic motivation, I like to learn - The facilitator is important	- Motivation is even more important - Can be difficult to participate for people who are shy - People need to be open to sharing - Has developed new technology skills - Able to make communities in new ways	- No comparison, you cannot compare online learning with face-to-face courses. Online learning only focuses on the learning. - In terms of learning, for many courses the face-to-face format is not necessary. -
Others	- Key role in sharing additional information - Share case study, share field experiences, share a note - Work-life-balance	- Share real-life problems - pay attention to the other person - E-learning: Interaction is better (e.g. driving a car) - Difficult to have social interaction in virtual space	- Emphasized the importance of a good mentor - Small groups are important for social interaction - People are more honest in virtual settings - Assignments should be based on things to improve rather than basic questions - Harder to resolve doubts in virtual learning spaces	- In the virtual format, you feel more free to talk, you talk more openly. However in-person there is more shyness that keeps you from saying what you think. - You need a combination of both. With the online learning option you can do more courses. However you need some in-person

			- If there is no interaction the training will be a "waste of people's time"	learning programs to make global connections, especially with supervisors. One or two courses a year is enough.

A.3.3. - UNHCR Expert Interviews

Table A.3.3.: Expert Interview Results

Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5
Technologies/Tools at use in the space of learning	- Whatsapp - Discourse - Jitsi - Unhangout - Zoom - Slack - Teams - Discord - Rocket.Chat - Fire Tiger - Jamboard - Miro	- Zoom - Miro - Mural - Mentimeter - Zoom - Poll Everywhere - Teams - Google Meet	- SMS / two-way messaging - Whatsapp - Mobile apps - Voice recording technology - Zoom (depending on group)	- Learning Management Systems - Live Surveys - Whatsapp Groups - Interactive Whiteboards	- Application - Learning Management System - Whatsapp - Zoom
Purpose/ forms of learning	- Cannot transmit old models to virtual space: need to develop something completely new. - Informal learning - Face2face learning	- Discussions reflection (all depends on objectives of specific program)	- Trainings to reach people in remote settings - Mobile technology (only need a phone) - Wrap around coaches who send SMS check ins	- Create a meaningful learning experience at university - Build personalities - Create networks - Peer2peer learning	- Teach English language
Challenges as well as drivers of successful tools	- Peer-to-peer needed - Do not mute yourself. - Teachers need appropriate professional development - Feeling of digital surveillance	- Engaging people is a challenge - Thinks you can get a closer connection in than in class learning depending on how you prepare the interventions and the	- Connectivity & resources can make it difficult - Phone based learning to be more accessible - Using chats such as Whatsapp - Sending voice messages - Phone learning is private and individualized	- Stay motivated - Maintain social interactions - Practical exercises - Maintain the connection between teacher and students - Teachers need to realize the importance of social	- Little data volume - Used around the globe - Teacher as facilitator of technology - More democratic access to learning materials - Technology allows to

	- Some technologies are overwhelming - People often try to replicate face-to-face learning when rather a new model is needed for online learning	purpose of them - The most important thing for social interaction is gaining trust and respect from the participants, as well as getting them to care (about the content and one another) - Keeping track of time in order to be aware of breaks - Never use one, combine different.		interactions, also in the virtual space - Some tools' potential is not fully explored - No spontaneous, unplanned interactions	increase the teacher-student ratio - Tools should not be too complicated - The facilitator is crucial
What have you done to maintain social interaction when delivering/participating in online learning programs if anything?	- Stand-Ups: 30 min space to check in and synchronize - focus on peer-to-peer interactions - Train teachers - Used apps such as Discord	- Icebreakers - Wrap ups - Groups in breakout rooms - Polls - Control times	- Whatsapp groups - content voiced by local person in order to relate to content and individual	- Provide virtual learning experiences (going to the library) - Provide guidelines to teachers - Create a feeling of community (e.g. GatherTown, games, etc.)	- Facilitators: They check in with students, follow up, motivate them - They create the space for social interactions and information flow
How has the motivation/engagement/involvement of participants changed in the digital space?	- Social interaction has to be on the forefront for motivation/engagement - Some feel some form of digital surveillance, which is counterproductive	- A sense of community has been maintained online through her use of icebreakers and wraps ups - Uses forums for discussions - Gaining the trust of people, respect and caring. They need to care about what they are doing.	- Always online	- Very difficult to achieve the same level of motivation	- The motivation is equally high as learners have an intrinsic motivation to learn
Others					

	- One proposal that was not liked was to have the camera on all day - To put social interaction as a foreground, you can incentivize learning as a community learning. Learners study some material on their own. - Need for agile tools - Need to resolve problems with muting + unmuting	- Community is made through interactions, technologies are enablers but you need to interact with the group through things like icebreakers in order to build community - She believes innovative forms of hybrid learning are the future (post pandemic)	- People are less interested in gamification and are more interested in practical content that is usable. - thinking through mobile learning from the beginning - Should be adapted to learner - people want a certificate & programs that cater to them	- Teachers overwhelm students, no streamline in the usage of tools - Cognitive overload of teachers in hybrid settings - We need to bring together education and tool specialists - Virtual will be a long-time thing	- You cannot compare online and in-person learning - We need a paradigm shift

Annex 4 - Literature Review

Table A.4.1. Literature Review: How to improve social interactions virtually?

Title	Authors	Year	Journal	Main Outcome	Explanatory Variable	Methodology & Sample Size	Main findings
Examining the role of perceived value in virtual communities continuance: its antecedents and the influence of experience	Chun-Ming Chang,Meng-Hsiang Hsu,Cheng-Se Hsu &Hsiang-Lan Cheng	2013	Behaviour & Information Technology Volume 33, 2014 - Issue 5	Continuance intention and satisfaction from virtual experiences	Four kinds of resources: techn infrastructure, knowledge resources, human resources, and relationship resources	Data collected from 235 members of a professional virtual community.	How much value individuals believe they are receiving from virtual interactions affects their satisfaction and continuance intention positively

Membership, participation and knowledge building in virtual communities for informal learning	Chunngam, Bunthida; Chanchalor, Sumalee; Murphy, Elizabeth	2014	British Journal of Educational Technology	Social membership. Participation, and knowledge building	The design of the network, as well as interest in the topic	Two groups, one recruited from those interested in the topic, and one recruited among friends and acquaintances.	Evidence to support the hypothesis that interest in the subject of the community positively influences membership, participation and knowledge building in a virtual community for informal learning.
Impact of Internet Use on Loneliness and Contact with Others Among Older Adults: Cross-Sectional Analysis	Shelia R Cotten 1, William A Anderson, Brandi M McCullough	2013	Journal of Medical Internet Research	Perceived social isolation and loneliness	Frequency of going online	study of ICT usage among older adults in assisted and independent living communities	Frequent online usage might be beneficial in decreasing loneliness, but loneliness itself is a factor in frequent internet usage
Virtual Mobility and the Lonely Cloud: Theorizing the Mobility-Isolation Paradox for Self-Employed Knowledge-Workers in the Online Home-Based Business Context	Elizabeth Daniel,MariaLaura Di Domenico,Daniel Nunan	2017	Journal of Management Sciences	Loneliness and seeking face-to-face interactions	Degree of working from home	Examination of conceptualizations of different types of online workers	Paradoxical results: their online status offers flexibility and creativity flows, but are often found seeking face-to-face professional interactions
A Longitudinal Analysis of Team Creativity Evolution Patterns Based on Heterogeneity and Network Structure: An Approach with	Do Young ChoiKun Chang Lee	2012	Digital Creativity	Group cohesiveness and team-level creativity	Heterogeneity and diversity of the team, degree centrality, and structural holes	Cross-sectional approach to analyze changes and evolution patterns of team creativity	Network structure, such as degree centrality and structural holes, is a more effective factor in improving team creativity than heterogeneity over the long term, although

Agent-Based Modeling							both heterogeneity and network structure positively affect team creativity.
The creative link: Investigating the relationship between social network indices, creative performance and flow in blended teams	Andrea Gaggioliad Elvis Mazzonic Luca Milanib Giuseppe Rivaad	2015	Computers in Human Behavior	Social presence, creativity	Density, social network structure, and flow, neighbor interactions	Thirty undergraduate students	No relationship found between social presence and flow, but density and decentralization and neighbor interactions were positively related with creativity and flow
Exposure to virtual social interactions in the treatment of social anxiety disorder: A randomized controlled trial	Isabel L Kampmann 1, Paul M G Emmelkamp 2, Dwi Hartanto 3, Willem-Paul Brinkman 3, Bonne J H Zijlstra 4, Nexhmedin Morina	2016	Behavior Research and Theory	Triggering social fears/anxiety	Using virtual social interactions, as opposed to real ones	Sixty participants (Mage = 36.9 years; 63.3% women) diagnosed with social anxiety disorder were randomly assigned to individual virtual reality exposure therapy	Virtual groups improved from pre-to postassessment on social anxiety symptoms, speech duration, perceived stress, and avoidant personality disorder related beliefs
Influences of Web interactivity and social identity and bonds on the quality of online discussion in a virtual community	Hung-Pin Shih & Echo Huang	2012	Information Systems Frontier	Member willingness to sustain ongoing virtual interactions	Quality of online discussion	Research model grounded in interactivity, social identity, and social bond theories	*No access given to read results*
The effects of gender, educational level, and personality on online learning outcomes during the COVID-19 pandemic	Zhonggen Yu	2021	International Journal of Educational Technology in Higher Education	Online learning outcomes	Personality traits, gender, educational levels	N=599 postgrads and N=533 undergrads	Postgrads learned better than undergrads. Extroverts learned less than those with traits like openness, conscientiousness, and agreeableness

Teaching and learning in Second Life: Using the Community of Inquiry (CoI) model to support online instruction with graduate students in instructional technology	Melissa L. Burgess, John R. Slate, Ana Rojas-LeBouef, Kimberly LaPrairie	2010	Internet and Higher Education	Cognitive presence, social presence and teaching presence	Holding classes in a 3D virtual world	Survey to measure observational data in the users of Second Life	Results indicated that the participants and coders experienced a developed community of inquiry during two 3D world classes.
A study of social participation and knowledge sharing in the teachers' online professional community of practice	Fan-ChuanTsen gaFeng-YangKu o	2014	Computers & Education	Social participation and willingness to help, altruism	Strength of ties, and development of social relationships	Self-reported knowledge-shari ng behaviors from 321 teachers in Taiwna	The development of social relationships among online teacher members helps them obtain potential resources and reliable support through their virtual network
The impacts of information quality and system quality on users' continuance intention in information-excha nge virtual communities: An empirical investigation	YiMing Zheng Kexin Zhao Antonis Stylianou	2013	Decision Support Systems	Continuance of using virtual communities	Information and system quality	Field survey	Information and system quality directly affect perceived individual benefits and user satisfaction, which ultimately determine user continuance intention to consume and to provide information
Social Presence in a Three-Dimensional Virtual World Used for Distance Education.	Rabia Yilmaz , Melike Aydemir , Selcuk Karaman and Yuksel Goktas	2015	Croatian Journal of Education	Social presence	Attending a 3D virtual world conference or a traditional video conference	N = 40. 20 in experiment group and 20 in control	Found that 3D world participants reported higher social presence, warmth, interest, flexibility, and socialness in general.

Meeting others virtually in a day-to-day settings: Investigating social avoidance and prosocial behavior towards avatars and agents	Anna Felnhofera Johanna X. Kafkab Helmut Hlavacsc Leon Beutlc Ilse Kryspin-Exnerd Oswald D. Kothgassnerbd	2018	Computers in Human Behavior	Prosocial behavior in virtual settings	Dealing with either human controlled avatars or computer controlled agents	N = 95 young adults	Interacting with avatars leads to higher psychological involvement and empathy. Prosocial behavior and social avoidance are more likely with avatars than agents.
The mere presence of an attentive and emotionally responsive virtual character influences focus of attention and perceived stress	Anna Felnhoferab Marlene Kaufmannb Katharina Attenederb Johanna Xenia Kafkac Helmut Hlavacsd Leon Beutld Kristina Hennig-Faste Oswald David Kothgassner	2019	International Journal of Human Computer Studies	Focus of attention and perceived stress in virtual environments	Presence of a virtual other, that is emotionally responsive	Forty eight healthy young adults	The presence of another attentive presence moderated stress, whereas unsupported controls reported more tension and self-consciousne ss
Exploring the Roles of Social Presence and Gender Difference in Online Learning	Chong Woo Park and Dong-gook Kim	2020	Decision Sciences Journal of Innovative Education	Social presence and satisfaction	Interactivity of online learning tools, as well as gender	Group of undergrad students	The results showed that social presence driven by tool interactivity had a significant impact on student satisfaction in online learning. The gender difference moderated the relationship between tool interactivity and social presence in online learning.
Physical and social presence in collaborative virtual environments: Exploring age and gender differences	Anna Felnhofer and Oswald D. Kothgassner	2014	Computers in Human Behavior	Feelings of physical and spatial presence in virtual environments	Age and gender	Group of older (N=62) and younger adults (N=62).	Men experience more spatial presence, involvement, and higher sense

with respect to empathy							of being there than women.

Source: Own elaboration by the authors

POLICY BRIEF

Innovations in the Space of Learning and Social Interaction

Anna Arias-Duart, Chelsea Couture and Britta Rude

Recommendations

Build human connections through hands-on approaches

Recommendation	Do small talk!	Conduct trust-building exercises!	Create small-group-experiences!
Description	Incorporate 5-10 minutes of small talk in the beginning of your meetings to create meaningful social relationships.	When starting new team work or workshops, incorporate trust building exercises, such as "Who is your animal spirit?", virtual sport sessions, or some of the below virtual team building activities	Divide your learners into smaller groups. The smaller, the better! The more often, the better! Make use of breakout rooms.

Utilize rich technologies, but do not overwhelm people

Recommendation	Find the right technology for your purpose!	Reduce the variety of technologies at use!	Opt for familiar tools!
Description	○ **Virtual conferences**: Zoom, Teams, WebEx, Whatsapp Calls ○ **Real Time Communication**: Slack, Yammer, Whatsapp, ChitterChatter ○ **Online Project Management**: Trello, Samepage, Jira ○ **Real-time performance tracking**: Learning Management Systems, Learning applications ○ **Online Events**: Bizzabo, Brella ○ **Coffee Breaks and Lunch**: One Million Cups, LetsLunch, Lunchclub ○ **Networking**: Shapr, Bumble Bizz ○ **Teambuilding**: QuizBreaker, Virtual Escape Room, Virtual Trivial, WorkStyle Personality Tests, Bingo	Do not overwhelm your learners! Find a variety of different tools you want to use in your organization and stick to them.	If possible, try to stick to tools your learners are already familiar with, or combine new tools with well-known ones. Try to find tools, which are easy to use.

Find the right facilitators and "EdTech match"

Recommendation	Train your staff!	Find trust and identify creators!	Introduce facilitators of social interaction between peers!
Description	Make your staff aware of the importance of social interactions for a successful career and learning experience. Provide them with best-practices on how to form and maintain social relations online as well as in learning sessions.	Find the right facilitator for your purpose. Look out for their capacity to create a meaningful virtual learning experience. Find somebody who is familiar with creating social connections in the virtual space.	Facilitators can foster social interactions in the virtual space through checking-in on participants, follow up with them, send them reminders, introduce networking tools and games, and distribute learners into smaller groups.

POLICY BRIEF

Innovations in the Space of Learning and Social Interaction

Anna Arias-Duart, Chelsea Couture and Britta Rude

Introduction

The shift to virtual spaces was accelerated by the COVID-19 pandemic. While this rapid movement to the online environments has many advantages, such as the containment of the COVID-19 outspread, it has also brought along new challenges. There are unanswered questions, especially when thinking about the incorporation of successful social interactions in learning environments. Virtual spaces allow individuals from different geographic locations to interact with each other, but these interactions are often different from the ones observed in the physical space, especially when it comes to body-language and non-verbal communication.

The study at hand attempts to shed light on how social interactions are affected in a specific adult virtual learning environment: the online learning and development programs developed through the Global Learning and Development Centre (GLDC) at UNHCR.

The investigation addresses how social interactions within virtual learning settings, such as online workshops or learning modules, have been affected by its movement to the virtual space. This policy brief provides recommendations for fostering social interactions through facilitation and the development of online learning programs.

Methodology

Our research follows a step-by-step approach to gain a deeper understanding of learning inside and outside of UNHCR. This approach includes a series of interviews conducted with (1) 5 UNHCR learning officers from the GLDC, (2) 4 UNHCR learners who are staff members that participated in a GLDC learning program, and (3) 5 experts in the field of online learning, EdTech, and education. The content collected from the interviews were broken down into 6 categories: (1) methods of learning, (2) technologies utilized, (3) challenges and success, (4) virtual learning compared to face-to-face learning, (5) steps currently taken to facilitate social interaction and (6) current levels of perceived engagement and motivation.

Key Findings

Nearly all participants interviewed mentioned connection as being a major drawback in regards to online learning, along with limited opportunities for organic conversation and small talk, increased distractions and the challenge to maintain a healthy work-life balance. On the other hand, a large number of successes were also identified including the ability to connect people across the globe, reduced expenses, more efficient content delivery, enhanced flexibility, and opportunities for new modes of learning. The study found that online learning cannot be directly compared to traditional face-to-face learning, and rather virtual learning programs need to be designed from the ground up with social interactions in the forefront. Finally, 3 overall recommendations were identified to maximize social interaction when designing online learning programs: (1) Build human connection through hands-on approaches, (2) Utilize rich technologies, but do not overwhelm people and (3) Find the right facilitators and "EdTech match".

Conclusion

It is clear that virtual spaces for learning, working, and connecting are here to stay. The study at hand gives 3 different high-level recommendations on how to create meaningful social interactions in virtual settings and deduces some hands-on approaches for each one of the 3 priority areas. As virtual learning becomes more individually focused, it is important to prioritize social presence through peer interactions, rich technology and well trained facilitators.