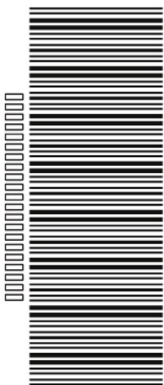


# EDTECH

What makes distance education effective?

VOL 01



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# ABOUT THIS VOLUME



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ETEC 681 - Fundamentals  
of Distance Education  
Learning Synthesis

After the extensive course on Distance Education (ETEC 681), I was faced to answer the “million dollars” question: **How do we design effective distance education?** In order to answer it, I’ll describe my learning journey in this course using a series of articles. This learning journey is similar to a train route, in which we visited several stations full of aha moments, in which the lesson learned in each one contributes to the question.

We started at the train station “Welcome”, where we had the chance to greet our fellow colleagues. It was nice to see familiar faces and meet new ones. Then, the train engineer (Dr. Corrigan) warmly received us aboard the train “ETEC 681 Fundamentals of Distance Education”. Here is when I started to feel in my stomach the butterflies of excitement as the journey began.





# Getting to know Distance Education

We initially learned about the identity crisis that distance education faces because the term is commonly interchanged with eLearning and online learning. For that, the article by Moore, Dockson-Deane, and Galyen (2010) clearly distinguishes the terms by their definition and characteristics. We proceeded with the history of distance education (DE). Yes, history. I never thought there would be a section on history in DE, but as the professor mentioned “in order to understand where DE is going, it is helpful to understand where it came from” (Corrigan, 2022). It’s remarkable how DE has evolved due to the emerging technologies of each generation and the desire of the people to learn. As DE continues to evolve, we (instructional designers) have to be aware that today’s learning is based on tomorrow’s technologies and needs.

Continuing with the fact that DE has evolved throughout time, the communication medium

is the element that has changed the most.

For that reason, Dr. Corrigan questioned us “Does the medium matter?”, which caused a worthwhile discussion among the colleagues. I decided to use the pizza cooking analogy (‘cause pizza is true love) to answer the question. I do believe that “no matter what type of oven is used, in the end, the pizza is cooked; the recipe is what makes a great pizza. It is the same in learning, the method used in a learning program will have a major impact, but it can be improved with the proper media. Therefore, I somewhat agree that media influences learning.” (Balderas, 2022).

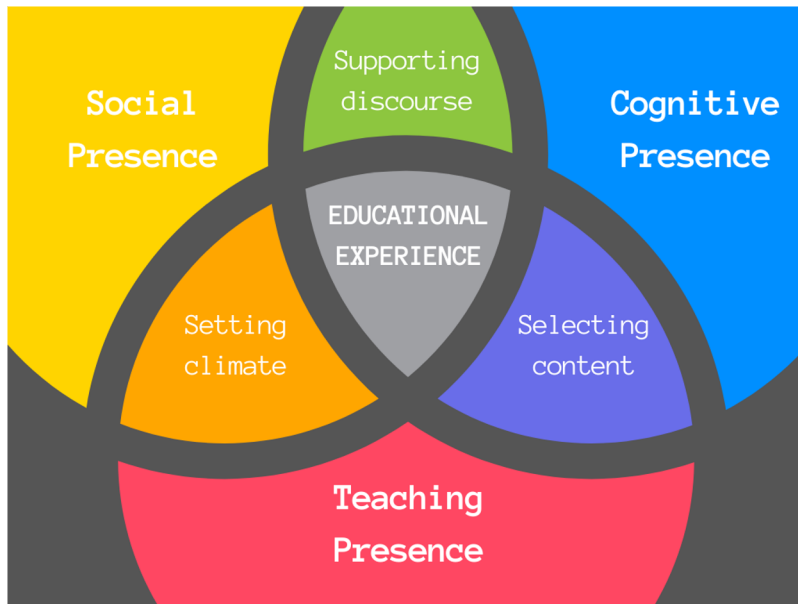
**On the final note, one of the elements that make DE effective is understanding the evolution of DE, especially where it is going in order to select the most appropriate medium to potentialize the learning experience.**

# Theories behind DE

There is a sufficient amount of theories involved in Education as learned in ETEC 631 Learning Theories. Yet, ETEC 681 introduced one of the most prominent frameworks in DE: Community of Inquiry. This framework considers the social, cognitive, and teaching presence and its impact on online learning.

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Social presence refers to the ability of the learners to express socially and emotionally as themselves.



Cognitive presence refers to the extent to which learners are able to reach a higher order of thinking and learning.

Teaching presence refers to the design, facilitation, and direction of cognitive and social presence in order to reach worthy learning outcomes.

(Garrison, Randy, & Anderson, (2003); Vaughan, Cleveland-Innes, & Garrison, 2013)

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This framework is similar to a three-leg table, in which all of them should be in complete balance in order to reach their maximum capacity and/or utility. Yet, it seems like cognitive presence has a heavier duty than the other two as there are major instructional approaches and technologies that support it.

As there are a variety of instructional strategies that support cognitive presence, there is not a specific one for distance education. This doesn't mean that the instructor should ditch them, but rather adapt an instructional approach to the circumstances and supplement it with technologies. Some of these technologies can be comics, virtual, augmented, and mixed reality. It is up to the instructor to explore the diversity of technologies and select the most appropriate one and consider the social and teaching presence.

**In short, another element that makes DE effective is selecting an instructional strategy and its supplemental technology that will support a community of inquiry.**

# Motivation is not enough

I lost track of the number of times I have abandoned an online course. But before quitting a course, I told myself that discipline should keep me going as motivation is just momentary. Nonetheless, I wanted to rip my eyes and squeeze my brain when I forced myself to continue. I had to quit when reaching this point. I'm embarrassed to admit it. But at the same time, I feel relief as I'm not the only one.

It is difficult to continue with an online course that lacks diversity, activities, purpose, structure, multimedia... I could go on and on with the list. But let's face it, it's not only the poor design that makes users quit; it is also the learner and the engagement factor.

We were assigned to examine an article about engagement in online professional

learning, and oh boy! It blew my mind away when I understood the interconnection between the influence and dimensions of engagement, as seen in the following figure.

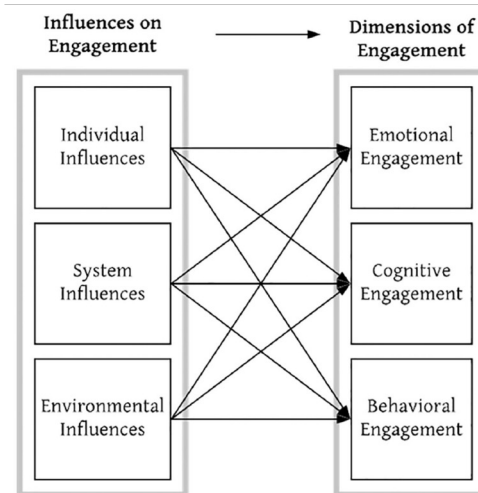


Figure from Lee et al. (2021).

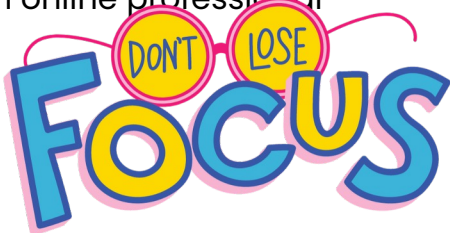
There are many factors to consider when designing online training/instruction. It's overwhelming but an exciting challenge. But how do we (instructional designers) foster engagement when designing online courses? That's when the teaching presence of the Community of Inquiry comes in.

Fostering engagement is part of the teaching presence, which is also present in the synergistic model of online teaching effectiveness (OTE). "OTE involves instructors facilitating student learning and construction of

knowledge by presence, expertise, facilitation, and engagement." (Reyes et al., 2020). The synergy of these elements would potentialize the teaching presence of a course no matter the format, asynchronous or synchronous.

It looks like an easy job when we have enough time to plan and know the expectations of the audience, but it gets to be an impossible mission when a worldwide event, such as a pandemic, arrives. As the COVID-19 pandemic struck our beloved lifestyle, it also forced students (youngsters or adults) to experience emergency remote teaching. No one was ready for an abrupt transition. Yet, institutions and the government did their best to sustain the educational system. Let's not forget the teachers who were the real rockstars during the times of COVID-19 teaching, even though their motivation almost vanished. They persisted against all adversity.

Teachers were able to keep students motivated by



setting goals and a purpose to the everyday lesson, adding diversity with challenging activities, encouraging a safe social community, and customized learning. This last motivating factor (customize learning) can be done by implementing different approaches to design instruction; something that instructional designers can learn from teachers. As routine can be the safety and comfort zone, diversity and spontaneously is/was needed to keep learners engage.



Nonetheless, adult learners have different needs and capacities. As learned in the article by Jones (2013), there are three factors to increase motivation to adult learners in an eLearning environment: (1) encourage motivation by considering users' expectations matching

organizational support, (2) reduce the cognitive load, (3) apply design strategies by considering the self-determination theory and the ARCS model. Besides the previous element, keeping adults motivated consists of adding a purpose to the course, in other words, how it is going to help professionally. These additional elements should also be considered when designing or assigning online courses because the initial motivation is not enough to keep adults going. Discipline and reward are bigger than motivation. This is when motivation is not enough.

There is one more factor that adult learners, as well as youngster learners, face and can't be considered in the design of instruction, which is zoom fatigue. Zoom fatigue is defined as experiencing exhaustion from spending a considerable amount of time on video calls. This term emerged during the pandemic because work was done remotely; consequently, employees held daily Zoom meetings. Additionally, employees had to continue with their daily tasks on the



computer. This meant being, approximately, eight hours behind the computer. Zoom fatigue caused visual problems, such as redness or dryness, mood changes, adjustments in social life, and a lack of motivation to do something else.

I wore the hat of teacher, employee, and student during the pandemic, I'm familiar with Zoom fatigue and the lack of motivation. So it was nice to learn new tips on how to handle Zoom fatigue thanks to the lecture given by Lailaa Pienkos.

**In a nutshell, It is necessary to encourage and develop a teaching presence that promotes engagement that assists cognitive presence. This is another contribution to making online learning effective.**

# The best learning platform (for whom?)

One of the most popular forms for delivering learning and/or training in a distance education environment is via learning platforms. These include learning management systems (LMS), learning experience platforms (LXP), and integrated learning platforms (ILP). Although they sound similar and might be confused with one another, they have different definitions, affordances, and disadvantages.

A list of the affordances and disadvantages of each learning platform, either LMS, LXP, or ILP, can determine the best platform. After studying the diversity of platforms, I was able to find the best option for all cases, which is: there is no best option. I'm not saying that none of them are good enough, instead, the best option depends on the features and parameters that you need in a platform. There are plenty of platforms available, so using a comparison tool like Capterra will help make a decision. Additionally there are two things to consider: what it needs to have and what will be nice to have.

In the choice board activity of this module, I needed a platform that could be integrated with the content of Labster, which was my project for the Resource Bank Contribution, and is mobile accessible. Therefore, I chose Google Classroom. It was a lucky coincidence that the platform that I prefer the most was the perfect option for me. Not only Labster can be integrated with Google Classroom, but the projects can be graded automatically and scheduled activities. Additionally, other websites, like Kahoot!, can be integrated into Google Classroom, which incorporates diversity into the learning experience.

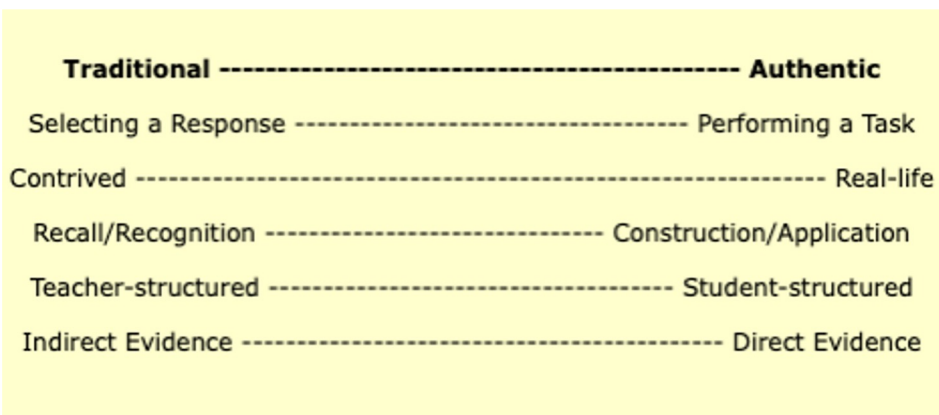
**In essence, select the best learning platform according to the LEARNING NEEDS. This will contribute to making distance education more effective.**



# Assessing the assessment

I finished my undergraduate studies six years ago and was a teacher for the last five, so it was nerve-racking returning to school in order to pursue my dream of obtaining a master's degree. What make me nervous about this return were the formative evaluations, which I'm not a fan of because I immediately forget the studied content. Nonetheless, the absence of traditional evaluations in the curriculum gave me a pleasant and relieving surprise. I'm glad that professors include project-based learning and meaningful assignments for our professional growth. This significant experience made me reflect on the type of assessments I applied as a Math teacher. Even though the quality of my evaluations improved with time, I wasn't able to pass over the analysis level of Bloom's taxonomy. My inexperience and inexistent academic background in Education might be the possible causes. After all, I'm here to learn and improve.

This module and ETEC 636 changed my perspective on assessment and its impact on learning. For that, I wanted to apply an authentic and valuable assessment for the course project. In this case, the course project was a collaboration with Deploy Solution's Climate Change Impact Portal (CCIP) whose purpose is to give citizen scientists personalized help preparing and recovering data on climate change impact so trusted authorities can analyze it. Thereon, the three video tutorials explained how to become a citizen scientist on flood observations. That said, it was complicated to create an authentic assessment because we were dealing with risking people's safety, unforeseen genre expectations, and a diversified audience. We discussed our options for traditional and authentic assessment and possible assessment apps. Either option meant a risk to the citizen scientist's safety or affected the validity and reliability of the assessment. Additionally, using an assessment app would confuse the users because they had to leave Deploy Solution's prototype to another app. Consequently, users might get frustrated and leave the citizen science project. So we ended up with a traditional assessment in Google Forms for each video tutorial. It wasn't as expected, but it worked for the circumstances.



**In order to make distance education more effective, select the type of assessment that is best for the learning and/or circumstances. It won't always be an authentic one.**

# Are we reaching everyone?

The Universal Design of Learning (UDL) guidelines is a “framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn.” (CAST, 2018). As seen in the image on the right, UDL guidelines focus on three networks: (1) the affective network is the why of learning (2) the recognition network is the what of learning,, and (3) the strategic network, as known as the how of learning.

After learning about the UDL guidelines, I performed a small evaluation of accessibility standards for the three video tutorials. They failed. Therefore, I searched about video accessibility in order to make the video tutorials inclusive and accessible to a broader audience. I learned that video accessibility included a close captioning option, audio description, language preference, and (an interactive) transcript. It was an odyssey achieving video accessibility for this project. I started by getting the transcripts as SRT files, then looked for a server that would allow the open closed-caption (CC) option instead of the burn CC option. This was the major obstacle because the open CC option depends on the server, and there is not much to choose from. So I decided to work on Klynt as adding subtitles was available. Yet, it is a beta version and it didn't work. Then the guest speaker of the class lecture, Charles Altman, suggested Yuja, which is available for Concordia students. It was my hallelujah moment. Unfortunately, it only works for video calls. Finally, I decided to upload the video on YouTube in a private list, where users can enable CC and view the transcript. If I had the time and resources, I would include subtitles in French and Spanish.

**On the short note, accessibility is one the most important elements that make distance education effective. Try to make the learning the most inclusive and accessible as possible.**

## AFFECTIVE NETWORKS: THE **WHY** OF LEARNING



### Engagement

For purposeful, motivated learners, stimulate interest and motivation for learning.

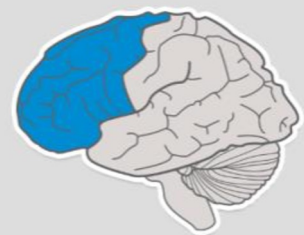
## RECOGNITION NETWORKS: THE **WHAT** OF LEARNING



### Representation

For resourceful, knowledgeable learners, present information and content in different ways.

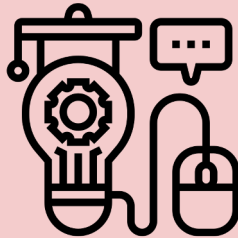
## STRATEGIC NETWORKS: THE **HOW** OF LEARNING



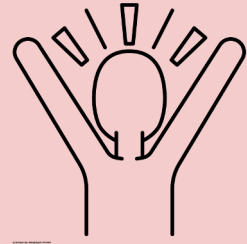
### Action & Expression

For strategic, goal-directed learners, differentiate the ways that students can express what they know.

# So, what makes Distance Education Effective?



Created by Eucalyp



Understand the evolution of DE to select the most appropriate medium to potentialize the learning experience.

Select an instructional strategy and a technology that will support a community of inquiry.

Develop a teaching presence that promotes engagement that assists cognitive presence.



Created by Symbolon  
from the Noun Project



Created by Eko Purnomo  
from the Noun Project



Created by Zach Bogart  
from the Noun Project

Select the best learning platform according to the **LEARNING NEEDS**.

Select the type of assessment that is best for the learning and/or circumstances.

Try to make the learning the most inclusive and accessible as possible.

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