

# White Paper

## The Changing Landscape of Leadership Development: Integrating e-Learning Wise Practices into Canadian Healthcare Leadership Development Programming

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March 2021



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# Executive Summary

Leadership development is undergoing a paradigm shift as organizations adapt to new ways of working with technology, catalyzed by the COVID-19 global pandemic. Motivating organizations to consider digital transformation of learning and the integration of e-Learning (technology-enabled learning) into leadership development programming.

This paradigm shift has impacted the Canadian Health Leadership Network's (CHLNet) initiative known as Health Leadership Wise Practices (HLWP). HLWP endeavors to gather leadership development practices, tools and resources that are based on empirical, experiential and emerging evidence, known as wise practices; and translate those wise practices into a usable electronic toolkit that will allow healthcare organizations to put this evidence into meaningful practice. Prior to the pandemic, almost all the methodologies being considered as wise practices by the CHLNet project were in the context of face-to-face on-site delivery program designs.<sup>i</sup> As a result, CHLNet has had to entertain a significant shift - driven by necessity - away from focusing solely on on-site face-to-face leadership development, to include interactive approaches to learning through technology.

## e-Learning Integration Challenges

There are two considerable challenges in trying to integrate e-Learning into healthcare leadership development programming. First, there is little evidence published exploring the effectiveness of e-Learning for healthcare leadership, along with a lack of evidence demonstrating how e-Learning can be integrated into healthcare leadership development programming.<sup>ii</sup> Second, a great number of health organizations have been functioning in a face-to-face learning environment, making e-Learning a foreign concept.<sup>iii</sup>

This white paper addresses these challenges by constructing a strong foundation of shared understanding of e-Learning as a first step in taking the mystery out of learning with technology. Then it concludes with a proposed number of practical approaches to integrating e-Learning into leadership development programming.

## A foundational understanding of e-Learning

There are many unfamiliar and seemingly conflicting terms used in the e-Learning literature, technology literature and by technology industry experts. This creates confusion and mystery. To mitigate the terminology confusion, terms are defined in this document with the purpose of creating a shared definition and understanding of learning with technology across the coalition.

e-Learning is the overarching term used to define all learning with technology. e-Learning can be described as a continuum of technology used to deliver learning. The continuum moves from no technology use to all technology use. The continuum can be further categorized by the place and time learning is delivered, known as synchronous and asynchronous learning. Synchronous learning occurs when the learners and instructor meet at the same time and asynchronous learning occurs

when the students and instructor engage with the course content at different times. A combination of synchronous and asynchronous learning can be used, this combination is often referred to as a blended learning. This leads to the question, which approach is best for leadership development?

Unfortunately, there is no one size fits all approach to program delivery. The approach should be determined by considering the needs of the learners, the contextual circumstances and the goals and objectives of the program. In addition, it is necessary to have an understanding of the benefits and challenges of the different e-Learning approaches in order to make informed decisions about program delivery.

## e-Learning Myth Busting: Addressing Ten Common Concerns and Assumptions

There seems to be a stigma around e-Learning in Canadian healthcare where many concerns and assumptions exist regarding the effectiveness of e-Learning in comparison to face-to-face learning. The ten most common assumptions include:

**Assumption #1** e-Learning is inferior in quality in comparison to traditional face-to-face classroom teaching.

**Assumption #2** Face-to-face programs can simply be moved to an online application such as Zoom and delivered in the exact same way they have been delivered in the face-to-face setting.

**Assumption #3** A social environment cannot be created in a technology-based learning environment.

**Assumption #4** Leadership is a relational practice that requires the building of relationships and networks. Relationships and networks cannot be developed through a computer.

**Assumption #5** Feedback will be impacted because of the missing relationship development in e-Learning.

**Assumption #6** Learner engagement cannot be accomplished in a technology-based learning environment.

**Assumption #7** e-Learning will create or add to already occurring virtual fatigue (also known as virtual burnout, Zoom fatigue and computer-mediated communication exhaustion).

**Assumption #8** Expensive software would need to be purchased and IT expertise would need to be hired to support e-Learning.

**Assumption #9** Skilled program designers and facilitators in the face-to-face setting will be as effective in designing and facilitating programs in a technology-based environment.

**Assumption #10** Informal connections cannot be reproduced in an e-Learning program.

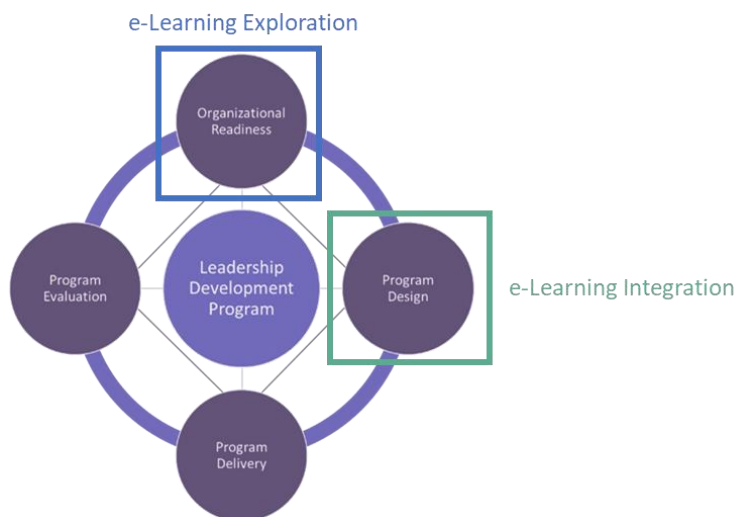
Evidence suggests that these common assumptions about e-Learning are imprecise and come from a place of unfamiliarity with and uncertainty about how e-learning can be used to develop leaders. It is inevitable that efforts to integrate e-Learning into leadership development will create some uncertainty and will disturb the status quo equilibrium of leadership development because this is a new way of doing things.<sup>iv</sup> What will aid in moving to a new way of doing is a change process that includes being open to explore and address assumptions.<sup>v</sup>

## Practical Application of e-Learning Integration

Now that there is some understanding of what e-Learning is, knowing where in the leadership development process e-Learning integration takes place seems the logical next step. The Wise Practices in Leadership Development (WPLD) Flow Map is used to depict where e-Learning exploration and e-Learning integration occur in the leadership development process.

When exploring and using e-Learning approaches to leadership development programming, e-Learning related factors would occur in each phase of the WPLD flow map. This paper will focus on the initial stages of e-Learning exploration and integration into leadership development programming occurring in the first two phases of leadership development. Most of the work done in e-Learning exploration and integration occur at different times in the program development process as is depicted in figure 1. Exploring e-Learning as a potential delivery option begins in the initial stages of the program development process, known as the organizational readiness stage. Whereas decisions related to the integration of e-Learning occur in the latter part of the program design phase.

**Figure 1: e-Learning Exploration and Integration Location on the WPLD Flow Map**



Exploring e-Learning related factors early in the organizational readiness phase of the leadership development process can be accomplished through two different efforts. First, through the inclusion of a learner needs assessment and assessment of learner perceptions of e-Learning in the Needs Gap Analysis. Second, through the act of taking account of resources that will support e-Learning. This includes taking account of the technology available in the organization that could support e-Learning administration and e-Learning delivery; taking account of the people with e-Learning course design and course facilitation skills and abilities; and the consideration of impacts of these resources on budget.

E-Learning integration comes into play in the latter part of the program design phase of the leadership development process, when formulating how the courses and program will be delivered. Unfortunately, there is no one size fits all approach to e-Learning integration; integration decisions are

made based on learner needs, contextual factors, and the goals and objectives of the course. Fortunately, there are several wise practices that can help direct integration decisions. These wise practices include:

- Having an open mindset to explore various delivery options including e-Learning options.
- Designing thoughtful e-Learning experiences starts with a focus on the learners and the context.
- Understanding the perceptions of e-Learning in the organization.
- Using instructional designers trained for e-Learning design and development.
- Providing e-Learning instructional designers with tools that allow them to creatively design learning activities.
- Using facilitators trained for e-Learning environments for synchronous delivery.
- Piloting e-Learning courses to target learners to gain feedback; make adjustments and improvements before opening them up to the larger group.
- Understanding the learner's experience with technology and what resonates for them.
- Making e-Learning usable, accessible, engaging, and relevant as possible.
- Having accessible, functional spaces to make available the space and opportunity for collaboration, knowledge sharing and content generation with e-Learning as well as the infrastructure to use them.
- Making first experiences with e-Learning positive remarkable encounters for learners.
- Having a comprehensive change management plan and e-Learning maintenance plan.
- Exploring and addressing assumptions and biases towards e-Learning as part of the change management process.
- Starting small when trying new ways of program delivery.
- Encouraging a process of experimentation to try new ways of program delivery, to develop new perspectives and challenge existing thinking.

By working through these steps, healthcare organizations will be able to begin to consider using e-Learning approaches in leadership development program delivery, make informed decisions on where and how to integrate e-Learning into leadership development and be able to identify and evaluate the various impacts on the organization and on leadership development itself.

# Introduction

Leadership development is undergoing a paradigm shift as organizations adapt to working more extensively with technology, catalyzed by the COVID-19 global pandemic. Technological advancements have triggered an accelerated digital transformation of learning, where approaches to e-Learning (technology-enabled learning) are quickly evolving and organizations are creatively innovating new and different ways of developing leaders.<sup>vi</sup>

This paradigm shift has impacted the Canadian Health Leadership Network’s (CHLNet) initiative known as Health Leadership Wise Practices (HLWP). HLWP endeavors to gather leadership development practices, tools and resources that are based on empirical, experiential and emerging evidence, known as wise practices, and translate those wise practices into a usable electronic toolkit that will allow healthcare organizations to put this evidence into meaningful practice. The electronic toolkit offers practical advice and guidance to CHLNet partner organizations in wise practices in leadership development, will help create efficiencies for the partner organizations and facilitate wide-spread adoption of the wise practices in leadership development concepts.<sup>vii</sup> Prior to the pandemic, almost all the methodologies being considered as wise practices by the CHLNet project were in the context of face-to-face on-site delivery program designs.<sup>viii</sup> As a result, CHLNet has had to entertain a significant shift - driven by necessity - away from focusing solely on on-site face-to-face leadership development, to include technology-enabled interactive approaches to learning.

Health  
Leadership  
Wise Practices

Leadership  
development  
practices, tools  
and resources  
based on  
empirical,  
experiential and  
emerging evidence

The purpose of this white paper is to generate a foundational understanding of e-Learning that can translate into new approaches to leadership development programming in Canadian healthcare organizations. It is meant to act as a companion document to the CHLNet Wise Practices of Leadership Development Technical Report, further enhancing the recognized wise practices through the inclusion of wise practices in e-Learning.

The paper is organized in three parts. First, the challenge of integrating e-Learning into healthcare leadership development program delivery is discussed, highlighting the scarcity of evidence and the resulting question of where to even begin. Second, a strong foundation of shared understanding of e-Learning is presented and common assumptions are outlined as the first step in addressing misconceptions of e-Learning. Finally, the practical application of e-Learning exploration and integration are addressed, and wise practices are identified that determine where and how to explore e-Learning as a program delivery option, and where and how to integrate e-Learning in the program development process.

# The Challenge

The move to explore and utilize online instructional design and learning models is evident in the primary and advanced education disciplines demonstrated by the sheer number of recent articles written around the move to e-Learning and the challenges that come with it. However, there is little published evidence exploring the effectiveness of e-Learning for health leadership and management capacity building; likely attributable to the nascent nature of the field of study.<sup>ix</sup> This paucity of information coupled with the fact that a great number of health organizations have been functioning in a face-to-face environment creates a challenge in moving to online instructional design and learning models because it is foreign to all those involved.<sup>x</sup> Additionally, this scarceness of information demonstrates the necessity of looking to leadership development in other sectors and in general leadership development practices detached from any particular sector, to inform wise practices in online leadership development.<sup>xi</sup>

How does a healthcare organization move to delivering their programs using technology when that approach is foreign to them?

Constructing a strong foundation of shared understanding is a first step in taking the mystery out of e-Learning

## Where to begin?

The main question being asked by those unfamiliar with e-Learning is '*where do we even begin in our efforts to integrate technology-based learning into leadership development?*'

The analogy of building a house comes to mind in pondering this question. A sturdy house starts with a strong and level foundation. In this case, constructing a foundation of information made up of relevant terminology, definitions, descriptions and contextual factors will portray the strong foundation. The shared understanding this information creates is what makes the strong foundation level.

# Creating a Foundational Understanding

It is necessary to begin by acknowledging that much uncertainty and confusion begins with terminology and meaning. There are various terms used to describe learning with technology, and often the terms are different and have different meanings but may be used interchangeably, creating ambiguity and confusion.<sup>xii</sup> To mitigate the terminology mystification, CHLNet defines terms in this document with the purpose of creating a shared definition and understanding of learning with technology across the coalition.



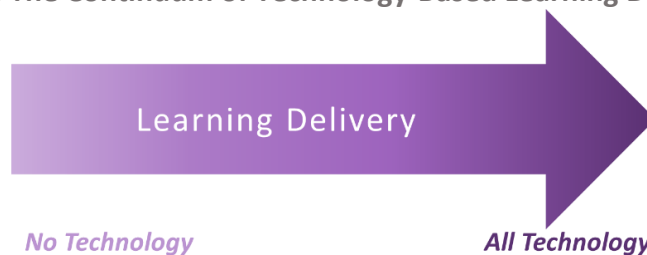
## e-Learning

The overarching term CHLNet will use to describe learning with technology is **e-Learning**. The term e-Learning captures *all learning* with technology and is inclusive of learning through the internet (referred to as online learning) and learning by all other technologies not connected to the internet, such as with digital simulation.

The concept of learning with technology can be delineated by the amount of technology used to deliver learning and can be characterized as a continuum of technology use, from no technology used to deliver learnings to a delivery that is only through technology.<sup>xiii</sup> This continuum is illustrated in figure 2.

e-Learning  
All learning  
carried out  
using  
technology

**Figure 2: The Continuum of Technology-Based Learning Delivery**

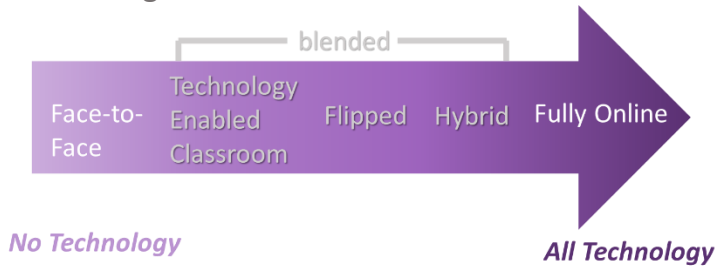


Adapted from "Teaching in a Digital Age - Second Edition", by A.W. Bates, 2019, p. 83 (<https://pressbooks.bccampus.ca/teachinginadigitalagev2/>).  
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Examples of the types of learning delivery methods that could fit along the continuum are shown in figure 3. They include:

- face-to face learning with no technology;
- blended face-to-face learning with technology aids such as the use of smart boards & polling tools;
- flipped classroom where lectures are pre-recorded and watched using technology out of class and then followed with face-to-face classroom time used for discussion or activities related to the recorded lectures;
- hybrid blended models that could have any combination of face-to-face and technology-based learning but with a greater proportion of technology delivery due to its location on the continuum; and
- fully online where all learnings and activities are delivered digitally.

**Figure 3: Learning Delivery Example Mapping on The Continuum of Technology-Based Learning**



Adapted from "Teaching in a Digital Age - Second Edition", by A.W. Bates, 2019, p. 83 (<https://pressbooks.bccampus.ca/teachinginadigitalagev2/>). Copyright 2019 by Tony Bates Associates Ltd.

## Synchronous and Asynchronous Learning

The continuum of technology-based learning can be further categorized by the place and time learning is delivered to the learner by the instructor, known as synchronous and asynchronous learning. **Synchronous learning** occurs when the learners and instructor/facilitator meet at the same time.<sup>xiv</sup> Some examples include a face-to-face setting, virtual classroom, and teleconferencing. **Asynchronous learning** occurs when students and the instructor/facilitator engage with course content at different times.<sup>xv</sup> Some examples include self-paced courses via the internet or learning management system (LMS), pre-recorded classes, and discussion forums. A combination of synchronous and asynchronous learning can be used in courses and across programs. When applying synchronous and asynchronous learning categories to the examples used in figure 2, the following would be true:

Face-to-face	Synchronous
Face-to-Face with technology enabled classroom	Synchronous
Flipped classroom	Combination of asynchronous followed by synchronous
Hybrid	Any combination and sequence of synchronous and asynchronous
Fully online	Could be all synchronous, all asynchronous or any combination

The term **blended** can be used to describe a blend of learning through a combination of no technology and technology use, but it can also refer to any combination of synchronous and asynchronous learning. Therefore, to avoid any confusion or incorrect assumptions, it is important to be clear on the definition of the term and the context in which it is being used.

## Which learning method is the most effective for leadership development?

Unfortunately, because there are so many variables that can affect learning, there is no one size fits all approach to program delivery.<sup>xvi</sup> Whether it be through the use of all technology or lesser amounts of technology, all synchronous, all asynchronous, or some type of blended model, the approach should be determined by considering the needs of the learners, the contextual circumstances and the end result of the program. Contextual circumstances can include factors such as the geography/location of the learners, availability of delivery locations (technology and physical), availability of the learners, and budget. Of course, understanding the benefits and challenges of different approaches will be necessary in order to make informed decisions on the best e-Learning approaches to use to meet the learner needs in the existing contextual environment and meet the objectives of the course. Table 1 has been formed to share some of the common benefits and challenges of synchronous and asynchronous e-Learning.

**Table 1: Benefits and Potential Challenges of Synchronous and Asynchronous e-Learning**

Factor	Synchronous e-Learning		Asynchronous e-Learning	
	Benefits	Potential Challenges	Benefits	Potential Challenges
<b>Learner Location</b>	Learners located across sites & geographies can take part in the learning opportunity. <sup>xvii</sup>	<p>If learners located across multiple time zones, considerations must be contemplated regarding the timing of the learning opportunity to ensure it is being delivered at a reasonable time for all participants (i.e., not occurring in the middle of the night for some).</p> <p>Learners must have access to the technology necessary to take part in the program, including access to the internet and bandwidth necessary to run the learning application.</p>	Learners located across sites & geographies can take part in the learning opportunity. <sup>xviii</sup>	Learner location only limited by availability of technology (i.e., computer with updated software, cell phone with access to necessary apps) and access to the learning delivery mode (i.e., if online learning – available access to the internet).
<b>Timing of Learning</b>	All learners access the learning at the same time, making it possible to conduct real-time learning, co-presence, breakout sessions, live discussion groups, etc.	The learner must be available at the time the program/course is being delivered. Therefore, if learners are located across multiple time zones, considerations must be contemplated regarding the timing of the learning opportunity to ensure it is being delivered at a reasonable time for all participants (i.e., not occurring in the middle of the night for some).	<p>The learner can access the material at their convenience, learning at any time, anywhere that works best for them.<sup>xix</sup></p> <p>Learners can pause and resume their learning as it suits them.</p>	<p>Limitations could arise due to:</p> <p>(1) the learner’s ability to effectively organize and manage their day;</p> <p>(2) the real or perceived availability of time for learning;</p> <p>(3) lacking motivation to engage with the material</p>

<p><b>Learning Pace</b></p>	<p>Learners must learn at the pace set by the instructor.</p> <p>However, it is possible in most cases to record synchronous learning events (through digital recordings and through transcripts) and make them available to the learners for review at any time, if necessary.</p>	<p>The learning sequence and material delivery usually occur at a set pace and order. If a learner does not fully grasp the material at the time of delivery and does not speak up, this may cause a gap in knowledge.</p> <p>If recordings and transcripts will be made available to the learners, consideration must be given to where and how those files will be stored and shared. Digital recordings are large files, therefore, attention to storage size must be taken into account. If you are considering cloud storage options, or streaming from the cloud, explore your organizational technology security policy, the use of cloud storage may be limited or prohibited altogether.</p> <p>Technology needed to play the recordings must be accessible to the learners.</p>	<p>Learning is self-paced meaning participants can access material and learn at their own pace, improving learning.<sup>xx</sup> This allows learners the ability to:</p> <ul style="list-style-type: none"> <li>Engage with the learning at short bursts of time or longer periods, depending on what works best for them and their schedule.</li> <li>Stop the learning, look up any concepts or material that they need to create a better understanding, and then return to the learning.</li> <li>Provide the opportunity of time to ponder the material before moving on in the course.</li> <li>Provide the opportunity to go back through the learning as many times as needed.</li> </ul> <p>Depending on how the program has been set up, the learner could select the sequence and/or be able to skip courses that they already have proficiency in.</p>	<p>The organization must have a learning management system (LMS) that will support self-paced learning delivery.</p> <p>LMS systems have been designed with administration in mind. Therefore, it is important to consider challenges that may be encountered with the learner navigating the LMS successfully. There must also be considerations around the provision of help when the learners need it.</p> <p>For in-house LMS systems, it is important to consider if they work well being accessed from multiple types of systems including Apple computers and cell phones (cross-browser and platform compatible)</p>
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Returning to the analogy of building a house, understanding terminology, definitions, descriptions and contextual factors that begin to characterize e-Learning is only a part of the strong, level foundation. An additional need to address assumptions and biases of e-Learning in Canadian healthcare organizations’ leadership development programming is necessary to conclude the construction of the strong and level foundation.

# e-Learning Myth Busting: Addressing Ten Common Concerns and Assumptions

Moving to incorporate e-Learning into leadership development programming brings with it many concerns based on real or perceived assumptions of moving away from the more familiar face-to-face

learning. Some of the more common concerns and assumptions that have been identified by Canadian healthcare professionals unaccustomed to leadership development course delivery through e-Learning are addressed briefly here.

**Assumption #1** e-Learning is inferior in quality in comparison to traditional face-to-face classroom teaching.

Online learning carries a stigma of being lower quality than face-to-face learning, although research shows otherwise.<sup>xxi</sup> There is no scientifically based evidence to support this opinion. Evidence suggests that learning in an on online environment is as effective as that in a traditional classroom.<sup>xxii</sup> And as a matter of fact, studies suggest blended learning (face-to-face with e-Learning and synchronous with asynchronous) have some advantages over face-to-face learning in terms of learning performance, in boosting self-efficacy, and creating the feeling of a safe environment for learners.<sup>xxiii</sup> As is true with effective face-to-face delivery, learners in a well-designed and well-implemented course delivered through technology will learn significantly more than learners in a poorly designed and implemented course.<sup>xxiv</sup>

**Assumption #2** Face-to-face programs can simply be moved to an online application such as Zoom and delivered in the exact same way they have been delivered in the face-to-face setting.

Research suggests it is impossible to just take a face-to-face class and move it online using technology, making no changes.<sup>xxv</sup> Moving face-to-face courses to an online learning environment requires a great deal of work and an understanding of the different aspects of pedagogical, cultural and technological adaptations required to convert course design and delivery to an online setting.<sup>xxvi</sup> More specifically, a shift in pedagogies, teaching styles, design skills, facilitation skills, and awareness of the challenges and opportunities of online programming are but a few of the requirements in moving learning online.<sup>xxvii</sup> Additionally, there is a need for consideration of the technology available for program delivery, the skill and ability of program designers, facilitators and learners in using the technology available, as well as access to the technology for all involved.<sup>xxviii</sup> Moving face-to-face courses to an online environment can be done; however, multiple considerations and changes would need to be made in order to create an effective learning experience for the course participants and for the course facilitators.

**Assumption #3** A social environment cannot be created in an e-Learning environment.

Research suggests a strong learning community is one of the most integral factors that creates an effective learning environment in e-Learning courses.<sup>xxix</sup> A social environment can be created in an e-Learning setting and as a matter of fact, best practice in e-Learning suggests it should be part of the intentional design of e-Learning courses.<sup>xxx</sup> In addition to an intentional design, research suggests that the role of the instructor/facilitator is key in establishing early course practices that promote a cohesive community and a social environment conducive of connection and learning.<sup>xxxi</sup> The creation of such an environment requires instructional designers and facilitators who are skilled in e-Learning practices and knowledgeable in building community, social cohesion and social presence in e-Learning.

**Assumption #4** Leadership is a relational practice that requires the building of relationships and networks. Relationships and networks cannot be developed through a computer.

Building relationships and networks in leadership development programs has been identified as one of the most declared valuable impactful outcomes by leadership development program participants and organizational development experts in three large Canadian healthcare organizations.<sup>xxxii</sup> As is true with face-to-face programs, creating an environment conducive to relationship development and network formulation starts with good program design and follows with good program facilitation, structured around multiple activities that create opportunities for participant interactivity and participant collaboration. This can include activities such as break out discussions, small group work around the particular course material, peer coaching and group action learning projects.<sup>xxxiii</sup> With the advancement of e-Learning technology, these wise practice activities can be accomplished successfully in an e-Learning setting by program design and facilitation professionals with knowledge and expertise in technology-enabled learning.<sup>xxxiv</sup> As a matter of fact, technology and e-Learning activities have been shown to benefit learners in relationship and network development. Through expertly designed and facilitated e-Learning program delivery, learners have been shown to benefit from interconnected learning spaces, the use of a variety of media and the use of web tools to develop professional and social networks more successfully than in traditional face-to-face learning environments.<sup>xxxv</sup>

**Assumption #5** Feedback will be impacted because of the missing relationship development in e-Learning.

As suggested in assumption #4, relationships can be developed successfully in e-Learning environments and are dependent on expertly designed and facilitated programs. Therefore, personalised feedback dependent upon relationships can still occur in technological learning environments, however, the manner in which feedback is provided and received will differ.<sup>xxxvi</sup> As is true with face-to-face programs, the success of the provision of feedback is dependent upon strong program design and facilitation in the delivery method being used that takes into account the types and timing of feedback, the type of learning environment, the needs of the learner, and expected program and learner outcomes.<sup>xxxvii</sup>

**Assumption #6** Learner engagement cannot be accomplished in a technology-based learning environment.

Learner engagement is said to be an important indicator of the quality of the learner experience and can have a significant influence on learning and outcomes.<sup>xxxviii</sup> As a result, with the increasing use of technology-enabled learning, especially in higher education, learner engagement in e-Learning is a recent focus of formal research studies and practices. Engagement has been shown to be possible in multiple forms of e-Learning delivery, however, a one size fits all approach is not a reality. Engagement methods in e-Learning should be multiple <sup>xxxix</sup>, and are dependent on several factors including the context of the program, the learning, learner needs, learning approach and learning delivery method.<sup>xl</sup> Therefore, in order to create learner engagement in an e-Learning environment, it is necessary for instructional designers and course facilitators to be knowledgeable in engagement formation studies and proven practices in e-Learning course design and delivery.

**Assumption #7** e-Learning will create or add to already occurring virtual fatigue (also known as virtual burnout, Zoom fatigue and computer-mediated communication exhaustion).

The COVID-19 global pandemic has given rise to social distancing protocols that have resulted in a transition to virtual meetings. With that transition came the birth of some new negative psychological and behavioural experiences emerging as a result of prolonged use of computer-mediated communication platforms for virtual meetings such as Zoom, Skype and Google Meets to name only a few.<sup>xli</sup> These experiences include a feeling of exhaustion at the end of a workday that was never felt before. Due to social distancing virtual meetings have replaced formal in-person meetings and in addition, what once used to be a quick stop by your desk chat has turned into a 30-minute virtual meeting.<sup>xlii</sup> What is tiring us out has been identified as multiple factors including more focus required when on a video call, difficulty processing non-verbal cues like facial expression, voice tone, voice pitch and body language, challenges with technology, delays in people responding or in hearing people's responses, connection and bandwidth challenges.<sup>xliii</sup> As a result, it is imperative that program designers and facilitators have extensive knowledge and skill in designing e-Learning programs, and are able to design to learner needs and to include the context when developing programs. The context can include things such as the amount of time participants spend in virtual meetings, access to technology, connectivity and bandwidth availability. There are proven factors to consider and creatively innovative methods for delivering programs through e-Learning that will not create or add to the virtual fatigue being experienced by so many.<sup>xliv</sup> That is where the skilled and knowledgeable e-Learning program designer and program facilitator can make a valuable and impactful difference.

**Assumption #8** Expensive software would need to be purchased and IT expertise would need to be hired to support e-Learning.

Before purchasing software to support e-Learning, it is important to establish leadership development program outcomes, have planned the program and the curriculum, conducted an organizational assessment of e-Learning readiness, have a budget in mind and the support of the executive.<sup>xlv</sup> The biggest learning management system (LMS) with the most bells and whistles is not necessarily the right LMS for the organization or for your leadership development program.<sup>xlvi</sup> As a matter of fact, depending on your program and your needs, there could be technologies already in use in the organization that could support e-Learning program administration and/or delivery.<sup>xlvii</sup> Therefore, it is prudent to conduct an audit or account of all formal infrastructure and software licenses being utilized across the organization.<sup>xlviii</sup> A final consideration in a shift to e-Learning and supporting technology is cloud-based e-Learning systems. Cloud-based, also known as cloud computing is the delivery of computing services over the internet ("the cloud"); computing services can encompass servers, storage, databases, networking, software, analytics and intelligence.<sup>xlix</sup> Using cloud-based systems provides a way to enhance IT capabilities without a large investment, will reduce the need for inhouse IT expertise and infrastructure, can be more cost-effective, can be flexible in scalability, and can keep e-Learning delivery up to date with industry changes and developments.<sup>l</sup>

**Assumption #9** Skilled program designers and facilitators in the face-to-face setting will be as effective in designing and facilitating programs in a technology-based environment.

When it comes to teaching and learning with technology, teaching pedagogy, construction of learning experiences and other technological adaptations are necessary.<sup>li</sup> The knowledge, skills and abilities needed to design and to facilitate e-Learning programs are significantly different than those needed for designing and facilitating face-to-face programs.<sup>lii</sup> By reading through the short assumption section of this white paper, it is evident that e-Learning program designers and program facilitators must have a different knowledge and skillset to design and facilitate effective and impactful technology-enabled programs. As a result, it is imperative to ensure you have program designers and facilitators skilled in the delivery method being used. And if the organization has skilled designers and facilitators for face-to-face learning, it is necessary to ensure those resources expand their knowledge and skills through formal education programs structured to develop the needed knowledge and skills to effectively design an e-Learning program or to effectively facilitate an e-Learning program. If designers and facilitators unskilled in e-Learning are left to move face-to-face learning to e-Learning delivery, this will create an unsuccessful e-Learning program, frustrated program designers and facilitators, frustrated learners, increased program-related costs, potential purchase of learning delivery and administration software that is not what is needed by the organization, creating further constraints and challenges, as well as the creation of an organizational culture that will not support the adoption of leadership development using e-Learning methods.<sup>liii</sup>

**Assumption #10** Informal connections cannot be reproduced in an e-Learning program.

Informal connections in leadership development are those made at times when not being engaged in formal learning. Connections such as having a quick chat as you wait in the coffee line during break or sitting down and having lunch together. In e-Learning program delivery, traditional ways of connecting informally may not exist, therefore, deliberate effort to create innovative opportunities for informal connections must be built into the program design. Fortunately, there are innovative technologies available that are developed to create those informal connections, including informal virtual meeting spaces where people can connect in online gatherings, able to move from person to person or group to group to have casual conversations over a virtual coffee or cocktail.<sup>liv</sup>

## The challenge of moving past assumptions to new ways of developing leaders

Moving to a new way of developing leaders involves being open to explore and address assumptions as part of the change management plan

These common assumptions have been addressed from an evidence-based approach. What is suggested by studying the evidence is that the assumptions are inaccurate. Leading one to ask where these assumptions come from and what effect they could have on the success of e-Learning integration? Further, what effects could they have on long-term change in the practice of leadership development?

Moving away from the tried-and-true 100 percent face-to-face learning delivery model that has been an effective way to develop leaders in the past will not be easy. This has been a useful and successful practice; however, it is important to note that the world has changed as a result of the COVID-19 global pandemic and



the accelerated digital transformation of e-Learning. The world is a different place today and that difference will translate into a different future. It is necessary to move with the changing times, letting go of, moving away from and reframing the once useful leadership development delivery approach. Reframing in the sense of not abandoning face-to-face delivery entirely, but by artistically combining e-Learning and face-to-face delivery approaches to leadership development programming.

It is inevitable that these efforts will create some uncertainty and will disturb the status quo equilibrium of leadership development because this is a new way of doing things.<sup>lv</sup> This change can be affected by personal biases, assumptions, experiences and openness to change.<sup>lvi</sup> This new way of doing things will create challenges in moving from a place of comfort and expertise to a space with unfamiliar uncertainties. To add to this uncertainty, because there is no one-size-fits-all approach to e-Learning program delivery, a process of experimentation to try new ways of doing, to develop new perspectives, and challenge existing thinking is required.<sup>lvii</sup> What will aid in moving to a new way of doing is a change process that includes being open to explore and address assumptions.<sup>lviii</sup>

## The Practical Application of e-Learning

A foundational understanding of e-Learning provides a base upon which to begin to think through how this knowledge can be put into practice and be integrated into leadership development program delivery. However, this basic understanding is only the first step in the practical application of e-Learning. The next steps include knowing where and how to explore e-Learning as a program delivery option and where and how to integrate e-Learning in the program development process.

This section of the white paper will begin by labelling the leadership development program process and will follow by focusing on the parts of that process where e-Learning exploration takes place, where e-Learning integration occurs and the accompanying wise practices.

For the purposes of this illustration, the CHLNet Wise Practices in Leadership Development (WPLD) Flow Map will be used as the program development process, illustrated in figure 4. The flow map shows the phases of leadership development circling the leadership development program at the centre, all linked by continuous lines with no directional arrows to illustrate the continuous flow and interconnection of all the parts. The continuous flow and interconnection depicts that leadership development programming is not a linear step-by-step progression but is a continuous interconnected process that one constantly moves through.

Understanding where and how to explore and integrate e-Learning in the leadership development program delivery process creates a basis for practical application

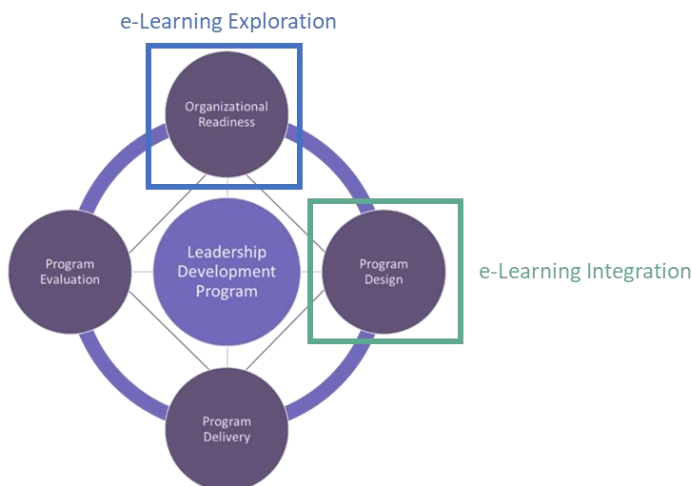
**Figure 4: CHLNet Wise Practices in Leadership Development (WPLD) Flow Map**



To simplify the illustration of e-Learning exploration and integration using the CHLNet WPLD Flow Map, the continuous flow and interconnection will be set aside, and the program phases will be discussed using a linear step approach. As mentioned, this approach is being used to illustrate a simple static point in time, however, it is important to remember that in reality, the process is not static but is continuous and interconnected, which is more art than science.

When exploring and using e-Learning approaches to leadership development programming, e-Learning related factors would occur in each phase of the WPLD flow map. This paper will focus on the initial stages of e-Learning exploration and integration into leadership development programming occurring in the first two phases of leadership development. Most of the work done in e-Learning exploration and integration occur at different times in the program development process as is depicted in figure 5. Exploring e-Learning as a potential delivery option begins in the initial stages of the program development process, known as the organizational readiness stage. Whereas decisions related to the integration of e-Learning occur in the latter part of the program design phase.

**Figure 5: e-Learning Exploration and Integration Location on the WPLD Flow Map**



## e-Learning exploration in the organizational readiness phase of program development

Determining an organization's readiness for, and commitment to leadership development is an essential initial step when creating a new leadership development program or when re-evaluating and affirming an existing program.<sup>lix</sup> During this phase organizational commitment to leadership development is confirmed/reaffirmed, alignment with a foundational leadership capability framework is identified (LEADS or a compatible framework), a needs gap analysis is conducted and specific resources (technology, people and budget) need to be identified and considered.

e-Learning exploration actions occur in the Needs Gap Analysis and in the identification and consideration of resources

Active e-Learning integration does not come into play at this early stage in leadership development, however, there are exploratory actions related to e-Learning that should be conducted at this stage. These actions occur during the Needs Gap Analysis activity and when considering technology, people and funding resources.

### e-Learning exploratory actions in the needs gap analysis

The **Needs Gap Analysis** identifies where the organization is in comparison to where it needs to be. Normally, the organizational strategic plan informs the future state of the needs gap analysis, with the additional consideration of the organization's vision, values, and contextual circumstances. The gaps identified between where the organization is now to where it needs to be are used to inform the knowledge, skills and capabilities that leadership at different levels need to develop to meet the organization's future state.<sup>lx</sup> Part of this analysis should include a learning assessment along with an assessment of the perceptions of e-Learning in the organization.<sup>lxi</sup> The results will aid in making informed decisions about learner needs, program delivery options as well as the approach, and communications needed in creating and supporting e-Learning opportunities in the leadership development program.<sup>lxii</sup>

A learning assessment and an assessment of the perceptions of e-Learning in the organization will inform future program decisions

### Resource considerations and necessary e-learning reflections

**Important resource considerations** come into play when planning, developing and designing a leadership development program. These resources will be drawn into the program development at different points in the process; however, it is important to think about these factors early in the program plan. Approaching leadership development program planning with forethought is an element of good preparation. It will allow the organization to be more prepared, aid in making a thoughtful and thorough case for the leadership development program, and ultimately lead to a well thought out impactful and workable program. Some of the more essential resources to consider include technology, people and budget.

e-Learning reflections are necessary when taking account of available technology, identifying expertise of available people and thinking about budget

In the early stages of leadership development programming, taking an inventory of what **technology** is available within the organization that could support program administration and program delivery is prudent.<sup>lxiii</sup> When thinking about e-Learning care should be taken to include thoughts on technology that could support both synchronous and asynchronous learning as well as ability to support fully self paced learning. Once the technology is identified, a review of what software is compatible, what works well, what does not work well with the technology would be practical and can help inform technology needs and program delivery option decisions later in the program development process. At this point, it is also helpful to become aware of organizational policies around technology use, purchase policies and processes, IT security policies, and the use of cloud-based technology and services. This knowledge will help inform future

technology-related decisions in the program development, delivery and evaluation stages; decisions that could impact budget.

As with technology, taking an early inventory of the **people and expertise** in program design, development, delivery and evaluation is prudent, and should include e-Learning expertise. Skillsets in the use of technology, program and course design, program and course development, and course facilitation with e-Learning are specialized. Taking account of expertise early will aid in identifying additional resources and/or training needed to move through the program development stages and to inform potential budget impacts.

Having knowledge of the learner needs, the perceptions of e-Learning in the organization, the program supportive resources available and program supportive resources needed to deliver a leadership development program fully or partially through technology is a wise practice. This practice will inform budget and significant decisions that need to be made throughout the whole leadership development process, including decisions in e-Learning use and integration.

Having knowledge of learner needs, the perceptions of e-Learning, resources available and resources needed to deliver e-Learning is a **Wise Practice**

## e-Learning integration in the program design phase of program development

Designing an impactful leadership development program takes a substantial amount of effort. This includes formal program planning followed by curriculum development and completed by formulating the program delivery methods and the program evaluation and accountability design. Active e-Learning integration occurs within this phase, more specifically within the point of formulating how the program will be delivered. This means, once the program has been planned, the curriculum has been designed, courses have been established, course objectives have been set and content has been identified, only then do e-Learning integration actions and decisions become a focus.<sup>lxiv</sup> It is at this point that decisions are made around the best ways to deliver the material to create impactful learning, meet the context

needs and meet the objectives of the course. Questions that can guide this process and required decisions include:

1. What did the learning assessment and e-Learning perception assessment, conducted in the Needs Gap Analysis show?
2. What are the delivery approaches (face-to-face and e-Learning; synchronous, asynchronous, and blended) that could produce an enhanced realization of the program goals and objectives? How will they enhance learning and the realization of program goals and objectives? Do they align with learner needs? How will they impact budget?
3. Focusing on learner needs, context, program goals and course objectives, what are the benefits of synchronous learning (both face-to-face and e-Learning)? What are the benefits of asynchronous learning? What are the benefits of using synchronous (face-to-face and/or e-Learning) and asynchronous blended learning approaches? What are the challenges with using synchronous and asynchronous learning?
4. What technology do we have access to that could be used to deliver learnings? What technology do we need to purchase? What amount of technology use would be most appropriate? What timing and sequence of technology use would be most beneficial?

## Wise Practices in e-Learning Integration

What makes e-Learning integration challenging is that there is no one-size fits all approach to e-Learning integration, however, there are wise practices that can act to inform decisions and to identify where those decisions need to be made. Wise practices that have been shown to enable successful e-Learning integration include the following:

- Having an open mindset to explore various delivery options including e-Learning options will enable more informed decision making, encourage creativity and innovation in leadership development, create a foundation that explores efficiencies, identify cost-effective approaches to leadership development, and can lead to a contribution to research in healthcare leadership development.
- Designing thoughtful e-Learning experiences should start with a focus on the learners and the context. Viewing learners as active agents of learning not passive consumers of knowledge will enable a learning design that creates experiences to meet the needs of the learners and lead to impactful outcomes.<sup>lxv</sup> Taking into account the contextual factors such as the geographic location of the learners, the leadership levels of learners, access to and comfort with technology will aid in thoughtful functional and ultimately successful learning design.
- When using any e-Learning delivery options, understanding the perceptions of e-Learning in the organization will aid in approach, communications, and decisions about e-Learning.<sup>lxvi</sup>
- When using e-Learning delivery options, use instructional designers trained for e-Learning course development and provide them with the tools that allow them to creatively design the courses.<sup>lxvii</sup>

There is no one-size fits all approach to e-Learning integration, however, there are wise practices that can act to inform decisions

- When using e-Learning delivery options, use facilitators trained for e-Learning environments. Using facilitators with the right skillset will result in impactful supported course delivery, optimal learning, and satisfied participants. These successful outcomes will help generate the acceptance of e-Learning across the organization.<sup>lxviii</sup>
- Pilot e-Learning courses to gain feedback and make adjustments and improvements before opening them up to the larger group. First pilot the course with a group of subject matter experts (SMEs), implement their feedback and then pilot the updated course with a group of participants, solicit feedback and make adjustments and improvements based on their input. This will create impactful courses developed around learner experiences that create positive attitudes towards e-Learning.
- Understanding the learner's experience with technology and what resonates for them (through the needs assessment and through pilot testing) will lead to well designed and impactful courses.<sup>lxix</sup>
- Making e-Learning easily accessible, engaging, and as simple to use as possible will result in learners accessing learning regularly, leading to developed learners with greater impactful outcomes.<sup>lxx</sup>
- Social learning is a key component of organizational development using technology. Having accessible, functional spaces available to create space and opportunity for collaboration, knowledge sharing and content development, as well as the infrastructure to use them (for example cameras and headsets that work, accessible stable applications) will create the foundation for social learning, relationship development and satisfied participants.<sup>lxxi</sup>
- Making first experiences with e-Learning positive remarkable encounters for learners will set a positive precedent for e-Learning in the organization.<sup>lxxii</sup>
- Adopting e-Learning approaches to leadership development will change the processes and ways of working for many in the organization including those involved in developing, designing, implementing and evaluating the program, those supporting the e-Learning technology, those participating in the development program, and those supporting the program. Having a comprehensive change management plan is imperative to creating a successful change in the way leadership development programming is delivered and leaders are developed across the organization.<sup>lxxiii</sup>
- Explore and address assumptions and biases towards e-Learning as part of the change management process for the integration and adoption of e-Learning approaches to leadership development.<sup>lxxiv</sup>
- The change management process for adopting e-Learning approaches to leadership development should encourage a process of experimentation to try new ways of doing, to develop new perspectives and challenge existing thinking.<sup>lxxv</sup> Start small when trying new ways of doing, use those small trials to develop new perspectives and processes<sup>lxxvi</sup> in the integration of e-Learning. This approach will aid in successful long-term integration of e-Learning in leadership development.

# Summary

Integrating e-Learning into healthcare leadership development has been driven out of necessity as a result of COVID-19, forcing healthcare organizations to change the approach to and delivery of leadership development. This necessitated change has resulted in the discovery of enhanced leadership development through the use of modern learning technologies and an opportunity to think differently about how healthcare leaders can be developed. Opening the door to new creative and innovative ways to accelerate leadership practices and capabilities through the advancement of leadership development. Canadian healthcare organizations recognize the opportunities that e-Learning can bring to leadership development and the advancement of healthcare delivery. However, the reality is that integrating e-Learning into leadership development is not easy, it is a new way of working that requires new knowledge, skills, awareness and substantial effort to come to fruition.<sup>lxxvii</sup>

This white paper serves as an initial guide on how to start to bring e-Learning into Canadian healthcare leadership development practice based on wise practices from the literature, subject matter experts, and the e-Learning industry. The initial elements introduced to guide the integration of e-Learning begin with attempting to take the mystery out of e-Learning through the creation of a shared understanding of what e-Learning is, its benefits and challenges, and addressing some of the more common concerns and assumptions held by Canadian healthcare professionals. This is followed by addressing the exploration and integration of e-Learning actions which include:

1. Explore e-Learning related factors early in the organizational readiness phase of the leadership development process. This can be accomplished through two different efforts. First, through the inclusion of a learner needs assessment and assessment of learner perceptions of e-Learning in the Needs Gap Analysis. Second, through the act of taking account of resources that will support e-Learning. This includes taking account of the technology available in the organization that could support e-Learning administration and e-Learning delivery; taking account of the people with e-Learning course design and course facilitation skills and abilities; and the consideration of impacts of these resources on budget.
2. e-Learning integration comes into play in the latter part of the program design phase of the leadership development process, when formulating how the courses and program will be delivered. Unfortunately, there is no one size fits all approach to e-Learning integration, integration decisions are made based on learner needs, contextual factors, and the goals and objectives of the course. Fortunately, there are several wise practices shared in this paper that can help direct integration decisions.

By working through these steps, healthcare organizations will be able to begin to consider using e-Learning approaches in leadership development program delivery, make informed decisions on where and how to integrate e-Learning into leadership development and be able to identify and evaluate the various impacts on the organization and on leadership development itself.



# References

- Accenture Technology. *What Is Cloud Computing?* | Accenture, 2020.  
[https://www.youtube.com/watch?v=MhdGrZHKJ3o&feature=emb\\_logo&ab\\_channel=AccentureTechnology](https://www.youtube.com/watch?v=MhdGrZHKJ3o&feature=emb_logo&ab_channel=AccentureTechnology).
- Bates, A. W. (Tony). *Teaching in a Digital Age*. Second Edition. Tony Bates Associates Ltd., 2019.  
<https://pressbooks.bccampus.ca/teachinginadigitalagev2/>.
- The Peper Perspective. "Beyond Zoom Fatigue: Re-Energize Yourself and Improve Learning," November 24, 2020. <https://peperperspective.com/2020/11/24/beyond-zoom-fatigue-re-energize-yourself-and-improve-learning/>.
- Canadian Health Leadership Network. "CHLNet Proposal and Workplan: Health Leadership Wise Practices Guide and Toolkit." Proposal and workplan. Canadian Health Leadership Network, August 2019.
- Center for Creative Leadership. "The Leadership Gap: What You Need, and Still Don't Have, When It Comes to Leadership Talent." 2nd ed. Center for Creative Leadership, September 2015.  
<https://doi.org/10.35613/ccl.2015.1014>.
- Clark, R. C., and Mayer, R. E. *E-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*. Hoboken, UNITED STATES: Center for Creative Leadership, 2016. <http://ebookcentral.proquest.com/lib/royalroads-ebooks/detail.action?docID=4418752>.
- Cranford, Steve. "Zoom Fatigue, Hyperfocus, and Entropy of Thought." *Matter* 3, no. 3 (September 2020): 587–89. <https://doi.org/10.1016/j.matt.2020.08.004>.
- Davis, D., Chen, G., Hauff, C. and Houben, G. "Activating Learning at Scale: A Review of Innovations in Online Learning Strategies." *Computers & Education* 125 (October 1, 2018): 327–44.  
<https://doi.org/10.1016/j.compedu.2018.05.019>.
- Epstein, H. "Virtual Meeting Fatigue." *Journal of Hospital Librarianship* 20, no. 4 (October 1, 2020): 356–60. <https://doi.org/10.1080/15323269.2020.1819758>.
- Fosslien, L. & Duffy, M. "How to Combat Zoom Fatigue." *Harvard Business Review*, April 29, 2020.  
<https://hbr.org/2020/04/how-to-combat-zoom-fatigue>.
- Garcia, J., Maples, G., and Park, M. "Closing the Capability Gap in the Time of COVID-19." *McKinsey Accelerate*, November 2020.
- Geerts, J. "Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report." Technical Report. Canadian Health Leadership Network, May 2020.
- Gillett-Swan, J. "The Challenges of Online Learning: Supporting and Engaging the Isolated Learner." *Journal of Learning Design* 10, no. 1 (2017): 20–30.
- Gupta, D., Boland, R., and Aron, D. "The Physician's Experience of Changing Clinical Practice: A Struggle to Unlearn." *Implementation Science* 12, no. 1 (February 28, 2017): 28.  
<https://doi.org/10.1186/s13012-017-0555-2>.
- Hodges, A. "Corporate E-Learning: How Three Healthcare Companies Implement and Measure the Effectiveness of e-Learning." Doctor of Philosophy Dissertation, The University of Alabama, 2009.
- Hodges, C., Moore, S., Locke, B., Trust, T., and Bond, A. "The Difference between Emergency Remote Teaching and Online Learning," 2020, 12.
- Kumar, P. "Impact of Pandemic COVID-19 on Education in India." *International Journal of Current Research* 12 (2020): 5.



- Kebritchi, M., Lipschuetz, A., and Santiago, L. "Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review." *Journal of Educational Technology Systems* 46, no. 1 (September 1, 2017): 4–29. <https://doi.org/10.1177/0047239516661713>.
- Keengwe, J. and Kidd, T. "Towards Best Practices in Online Learning and Teaching in Higher Education" 6, no. 2 (2010): 9.
- Khalili, H. "Online Interprofessional Education during and Post the COVID-19 Pandemic: A Commentary." *Journal of Interprofessional Care* 0, no. 0 (July 16, 2020): 1–4. <https://doi.org/10.1080/13561820.2020.1792424>.
- Kirkwood, A. and Price, L. *Technology- Enabled Learning Implementation Handbook*. Commonwealth of Learning, 2016. [http://oasis.col.org/bitstream/handle/11599/2363/2016\\_TELI-Handbook.pdf?sequence=1&isAllowed=y](http://oasis.col.org/bitstream/handle/11599/2363/2016_TELI-Handbook.pdf?sequence=1&isAllowed=y).
- "Kumospace - The World's Most Immersive Video Chat," 2020. <https://www.kumospace.com/>.
- Lee, S. "E-Learning Takes Center Stage: How L&D Can Impact Change." *Training Industry Magazine*, no. November/December 2020 (December 2020). [https://www.nxtbook.com/nxtbooks/trainingindustry/tiq\\_20201112/index.php#/p/12](https://www.nxtbook.com/nxtbooks/trainingindustry/tiq_20201112/index.php#/p/12).
- Lee, S. and McIntosh, D. "A Set of Tools to Help You Choose the Best LMS for Your Organization." Paradox Learning, Inc. and Trimeritus eLearning Solutions, 2020. [https://paradoxlearning.com/wp-content/uploads/2020/02/LMS-toolkit\\_Feb-2020.pdf](https://paradoxlearning.com/wp-content/uploads/2020/02/LMS-toolkit_Feb-2020.pdf).
- López-Pérez, V., Pérez-López, C., and Rodríguez-Ariza, L. "Blended Learning in Higher Education: Students' Perceptions and Their Relation to Outcomes." *Computers & Education* 56, no. 3 (April 1, 2011): 818–26. <https://doi.org/10.1016/j.compedu.2010.10.023>.
- Martin, F. and Bolliger, D. "Engagement Matters: Student Perceptions on the Importance of Engagement Strategies in the Online Learning Environment." *Online Learning* 22, no. 1 (March 2018): 205–22.
- Martin, F., Budhrani, K., Kumar, S., and Ritzhaupt, A. "Award-Winning Faculty Online Teaching Practices: Roles and Competencies" 23, no. 1 (2019): 22.
- Microsoft. "What Is Cloud Computing? A Beginner's Guide." Accessed February 19, 2021. <https://azure.microsoft.com/en-ca/overview/what-is-cloud-computing/>.
- Mikhaylov, N. "Development of Personal Learning and Social Networks: Strategies for Knowledge Creation and Sharing in Online Learning Environments." In *On the Line: Business Education in the Digital Age*, edited by Anshuman Khare and Deborah Hurst, 127–39. Cham: Springer International Publishing, 2018. [https://doi.org/10.1007/978-3-319-62776-2\\_11](https://doi.org/10.1007/978-3-319-62776-2_11).
- Nadler, R. "Understanding 'Zoom Fatigue': Theorizing Spatial Dynamics as Third Skins in Computer-Mediated Communication." *Computers and Composition* 58 (December 1, 2020): 102613. <https://doi.org/10.1016/j.compcom.2020.102613>.
- Nilson, L. and Goodson, L. *Online Teaching at Its Best: Merging Instructional Design with Teaching and Learning Research*. Newark, UNITED STATES: John Wiley & Sons, Incorporated, 2017. <http://ebookcentral.proquest.com/lib/royalroads-ebooks/detail.action?docID=5144407>.
- NovoEd. "Online Collaborative Learning for the Enterprise - The Complete Guide." NovoEd, Inc., 2021. <https://f.hubspotusercontent10.net/hubfs/559363/Online%20Collaborative%20Learning%20for%20the%20Enterprise%20-%20The%20Complete%20Guide.pdf>.
- O'Reilly, B. *Unlearn: Let Go of Past Success to Achieve Extraordinary Results*. McGraw-Hill, 2019. [https://royalroads.skillport.com/skillportfe/assetSummaryPage.action?assetid=RW\\$2190:\\_ss\\_book:144069#summary/BOOKS/RW\\$2190:\\_ss\\_book:144069](https://royalroads.skillport.com/skillportfe/assetSummaryPage.action?assetid=RW$2190:_ss_book:144069#summary/BOOKS/RW$2190:_ss_book:144069).
- Panigrahi, R., Srivastava, P., and Sharma, D. "Online Learning: Adoption, Continuance, and Learning Outcome—A Review of Literature." *International Journal of Information Management* 43 (December 1, 2018): 1–14. <https://doi.org/10.1016/j.ijinfomgt.2018.05.005>.
- Pather, N., Blyth, P., Chapman, J., Dayal, M., Flack, N., Fogg, Q., Green, R., et al. "Forced Disruption of Anatomy Education in Australia and New Zealand: An Acute Response to the COVID-19

- Pandemic." *Anatomical Sciences Education* 13, no. 3 (2020): 284–300. <https://doi.org/10.1002/ase.1968>.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., and Koole, M. "Online University Teaching during and after the Covid-19 Crisis: Refocusing Teacher Presence and Learning Activity." *Postdigital Science and Education*, July 7, 2020. <https://doi.org/10.1007/s42438-020-00155-y>.
- Redmond, P., Abawi, L., Brown, A., Henderson, R., and Heffernan, A. "An Online Engagement Framework for Higher Education." *Online Learning* 22, no. 1 (March 2018): 183–204.
- Richardson, J., Maeda, Y., Lv, J., and Caskurlu, S. "Social Presence in Relation to Students' Satisfaction and Learning in the Online Environment: A Meta-Analysis." *Computers in Human Behavior* 71 (June 1, 2017): 402–17. <https://doi.org/10.1016/j.chb.2017.02.001>.
- Ryman, S., Burrell, L., Hardham, G., Richardson, B., and Ross, J. "Creating and Sustaining Online Learning Communities: Designing for Transformative Learning." *International Journal of Pedagogies & Learning* 5, no. 3 (March 2010): 32–45.
- Sandars, J., Correia, R., Dankbaar, M., de Jong, P., Sun Goh, P., Hege, I., Masters, K., et al. "Twelve Tips for Rapidly Migrating to Online Learning during the COVID-19 Pandemic." *MedEdPublish* 9 (April 29, 2020). <https://doi.org/10.15694/mep.2020.000082.1>.
- Schmaltz, K. Personal conversation on leadership development practices, February 2021.
- Schmaltz, K. "Healthcare Leadership Development Program Transformation: A Naturalistic Inquiry into a Canadian Healthcare Coalition's Response to Changes in Leadership Development Sparked by a Global Pandemic [Research Proposal]," December 15, 2020.
- Singh, V. and Thurman, A. "How Many Ways Can We Define Online Learning? A Systematic Literature Review of Definitions of Online Learning (1988-2018)." *American Journal of Distance Education* 33, no. 4 (October 2, 2019): 289–306. <https://doi.org/10.1080/08923647.2019.1663082>.
- Stephenson, S. "Creating a Sense of Community in Distance Education." *International Journal of Academic Research in Education* 5, no. 1–2 (December 1, 2019): 1–8. <https://doi.org/10.17985/ijare.524225>.
- Tallent-Runnels, M., Thomas, J., Lan, W., Cooper, S., Ahern, T., Shaw, S., and Liu, X. "Teaching Courses Online: A Review of the Research." *Review of Educational Research* 76, no. 1 (2006): 93–135.
- Thai, N., De Wever, B., and Valcke, M. "Face-to-Face, Blended, Flipped, or Online Learning Environment? Impact on Learning Performance and Student Cognitions." *Journal of Computer Assisted Learning* 36, no. 3 (2020): 397–411. <https://doi.org/10.1111/jcal.12423>.
- Tudor Car, L. and Atun, R. "ELearning for Health System Leadership and Management Capacity Building: A Protocol for a Systematic Review." *BMJ Open* 7, no. 8 (August 1, 2017): e017050. <https://doi.org/10.1136/bmjopen-2017-017050>.
- Tudor Car, L., Kyaw, B., and Atun, R. "The Role of ELearning in Health Management and Leadership Capacity Building in Health System: A Systematic Review." *Human Resources for Health* 16, no. 1 (September 3, 2018): 44. <https://doi.org/10.1186/s12960-018-0305-9>.
- Wiederhold, B. "Connecting Through Technology During the Coronavirus Disease 2019 Pandemic: Avoiding 'Zoom Fatigue.'" *Cyberpsychology, Behavior, and Social Networking* 23, no. 7 (July 1, 2020): 437–38. <https://doi.org/10.1089/cyber.2020.29188.bkw>.
- Wolski, S. "The Best of Both Worlds: Bridging in-Person Training into a Virtual Space." *Training Industry Magazine*, February 2021. [https://www.nxtbook.com/nxtbooks/trainingindustry/tiq\\_20210102/index.php#/p/32](https://www.nxtbook.com/nxtbooks/trainingindustry/tiq_20210102/index.php#/p/32).
- "Wonder – Online Events That Are Fun," 2020. <https://www.wonder.me/>.

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<sup>i</sup> Geerts, "Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report."

- 
- ii Tudor Car and Atun, “ELearning for Health System Leadership and Management Capacity Building”; Geerts, “Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report.”
- iii Khalili, “Online Interprofessional Education during and Post the COVID-19 Pandemic”; Sandars et al., “Twelve Tips for Rapidly Migrating to Online Learning during the COVID-19 Pandemic.”
- iv Gupta, Boland, and Aron, “The Physician’s Experience of Changing Clinical Practice.”
- v O’Reilly, *Unlearn: Let Go of Past Success to Achieve Extraordinary Results*.
- vi Schmaltz, “Healthcare Leadership Development Program Transformation: A Naturalistic Inquiry into a Canadian Healthcare Coalition’s Response to Changes in Leadership Development Sparked by a Global Pandemic[Research Proposal].”
- vii Canadian Health Leadership Network, “CHLNet Proposal and Workplan: Health Leadership Wise Practices Guide and Toolkit.”
- viii Geerts, “Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report.”
- ix Tudor Car, Kyaw, and Atun, “The Role of ELearning in Health Management and Leadership Capacity Building in Health System”; Tudor Car and Atun, “ELearning for Health System Leadership and Management Capacity Building”; Geerts, “Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report.”
- x Khalili, “Online Interprofessional Education during and Post the COVID-19 Pandemic”; Sandars et al., “Twelve Tips for Rapidly Migrating to Online Learning during the COVID-19 Pandemic.”
- xi Schmaltz, “Healthcare Leadership Development Program Transformation: A Naturalistic Inquiry into a Canadian Healthcare Coalition’s Response to Changes in Leadership Development Sparked by a Global Pandemic[Research Proposal].”
- xii Bates, *Teaching in a Digital Age*; Singh and Thurman, “How Many Ways Can We Define Online Learning?”
- xiii Bates, *Teaching in a Digital Age*.
- xiv Bates; Hodges, “Corporate E-Learning: How Three Healthcare Companies Implement and Measure the Effectiveness of e-Learning.”
- xv Bates, *Teaching in a Digital Age*; Hodges, “Corporate E-Learning: How Three Healthcare Companies Implement and Measure the Effectiveness of e-Learning.”
- xvi Bates, *Teaching in a Digital Age*; Gillett-Swan, “The Challenges of Online Learning.”
- xvii Bates, *Teaching in a Digital Age*.
- xviii Bates.
- xix Bates; Thai, Wever, and Valcke, “Face-to-Face, Blended, Flipped, or Online Learning Environment?”
- xx Thai, Wever, and Valcke, “Face-to-Face, Blended, Flipped, or Online Learning Environment?”; Davis et al., “Activating Learning at Scale.”
- xxi Hodges et al., “The Difference between Emergency Remote Teaching and Online Learning.”
- xxii Clark and Mayer, *E-Learning and the Science of Instruction*; Tallent-Runnels et al., “Teaching Courses Online”; Bates, *Teaching in a Digital Age*; Hodges et al., “The Difference between Emergency Remote Teaching and Online Learning.”
- xxiii Bates, *Teaching in a Digital Age*; Thai, Wever, and Valcke, “Face-to-Face, Blended, Flipped, or Online Learning Environment?”; López-Pérez, Pérez-López, and Rodríguez-Ariza, “Blended Learning in Higher Education.”
- xxiv Tallent-Runnels et al., “Teaching Courses Online.”
- xxv Hodges et al., “The Difference between Emergency Remote Teaching and Online Learning.”
- xxvi Keengwe and Kidd, “Towards Best Practices in Online Learning and Teaching in Higher Education”; Bates, *Teaching in a Digital Age*; Wolski, “The Best of Both Worlds: Bridging in-Person Training into a Virtual Space”; Pather et al., “Forced Disruption of Anatomy Education in Australia and New Zealand”; Sandars et al., “Twelve Tips for Rapidly Migrating to Online Learning during the COVID-19 Pandemic.”
- xxvii Keengwe and Kidd, “Towards Best Practices in Online Learning and Teaching in Higher Education”; Davis et al., “Activating Learning at Scale”; Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*; Garcia, Maples, and Park, “Closing the Capability Gap in the Time of COVID-19”; Jena, “Impact of Pandemic COVID-19 on Education in India”; Rapanta et al., “Online University Teaching During and After the Covid-19 Crisis.”
- xxviii Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*; Bates, *Teaching in a Digital Age*.
- xxix Keengwe and Kidd, “Towards Best Practices in Online Learning and Teaching in Higher Education”; Stephenson, “Creating a Sense of Community in Distance Education.”

- 
- xxx Ryman et al., "Creating and Sustaining Online Learning Communities"; Keengwe and Kidd, "Towards Best Practices in Online Learning and Teaching in Higher Education"; Bates, *Teaching in a Digital Age*.
- xxxix Stephenson, "Creating a Sense of Community in Distance Education."
- xxxii Schmaltz, Personal conversation on leadership development practices.
- xxxiii Geerts, "Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report."
- xxxiv Ryman et al., "Creating and Sustaining Online Learning Communities."
- xxxv Mikhaylov, "Development of Personal Learning and Social Networks."
- xxxvi Davis et al., "Activating Learning at Scale"; Mikhaylov, "Development of Personal Learning and Social Networks"; Panigrahi, Srivastava, and Sharma, "Online Learning."
- xxxvii Geerts, "Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report."
- xxxviii Redmond et al., "An Online Engagement Framework for Higher Education"; Martin and Bolliger, "Engagement Matters"; Richardson et al., "Social Presence in Relation to Students' Satisfaction and Learning in the Online Environment."
- xxxix Martin and Bolliger, "Engagement Matters."
- xl Panigrahi, Srivastava, and Sharma, "Online Learning."
- xli Nadler, "Understanding 'Zoom Fatigue.'"
- xlii Cranford, "Zoom Fatigue, Hyperfocus, and Entropy of Thought"; Epstein, "Virtual Meeting Fatigue"; Wiederhold, "Connecting Through Technology During the Coronavirus Disease 2019 Pandemic"; Fosslien, L. & Duffy, M., "How to Combat Zoom Fatigue."
- xliiii Nadler, "Understanding 'Zoom Fatigue'"; Epstein, "Virtual Meeting Fatigue"; Fosslien, L. & Duffy, M., "How to Combat Zoom Fatigue."
- xliiv Nadler, "Understanding 'Zoom Fatigue'"; Bates, *Teaching in a Digital Age*; "Beyond Zoom Fatigue."
- xlv Lee and McIntosh, "A Set of Tools to Help You Choose the Best LMS for Your Organization"; Geerts, "Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report."
- xlvi Lee and McIntosh, "A Set of Tools to Help You Choose the Best LMS for Your Organization."
- xlvii Lee, "E-Learning Takes Center Stage: How L&d Can Impact Change."
- xlviii Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.
- lix Accenture Technology, *What Is Cloud Computing?*; Microsoft, "What Is Cloud Computing?"
- l Lee, "E-Learning Takes Center Stage: How L&d Can Impact Change"; Panigrahi, Srivastava, and Sharma, "Online Learning."
- li Pather et al., "Forced Disruption of Anatomy Education in Australia and New Zealand"; Sandars et al., "Twelve Tips for Rapidly Migrating to Online Learning during the COVID-19 Pandemic."
- lii Bates, *Teaching in a Digital Age*; Wolski, "The Best of Both Worlds: Bridging in-Person Training into a Virtual Space"; Martin et al., "Award-Winning Faculty Online Teaching Practices: Roles and Competencies."
- liii Panigrahi, Srivastava, and Sharma, "Online Learning"; Bates, *Teaching in a Digital Age*.
- liiv "Wonder – Online Events That Are Fun"; "Kumospace - The World's Most Immersive Video Chat."
- lv Gupta, Boland, and Aron, "The Physician's Experience of Changing Clinical Practice."
- lvi Gupta, Boland, and Aron; O'Reilly, *Unlearn: Let Go of Past Success to Achieve Extraordinary Results*.
- lvii O'Reilly, *Unlearn: Let Go of Past Success to Achieve Extraordinary Results*.
- lviii O'Reilly.
- lix Geerts, "Canadian Health Leadership Network: Wise Practices of Leadership Development Technical Report."
- lx Center for Creative Leadership, "The Leadership Gap."
- lxi Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.
- lxii Bates, *Teaching in a Digital Age*; Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.
- lxiii Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.
- lxiv Nilson and Goodson, *Online Teaching at Its Best*; Bates, *Teaching in a Digital Age*; Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.
- lxv NovoEd, "Online Collaborative Learning for the Enterprise - The Complete Guide"; Kebritchi, Lipschuetz, and Santiago, "Issues and Challenges for Teaching Successful Online Courses in Higher Education."
- lxvi Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.
- lxvii Nilson and Goodson, *Online Teaching at Its Best*; Bates, *Teaching in a Digital Age*; Wolski, "The Best of Both Worlds: Bridging in-Person Training into a Virtual Space"; Martin et al., "Award-Winning Faculty Online Teaching

---

Practices: Roles and Competencies”; Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.

<sup>lxviii</sup> Bates, *Teaching in a Digital Age*; Martin et al., “Award-Winning Faculty Online Teaching Practices: Roles and Competencies”; Wolski, “The Best of Both Worlds: Bridging in-Person Training into a Virtual Space”; Kebritchi, Lipschuetz, and Santiago, “Issues and Challenges for Teaching Successful Online Courses in Higher Education”; Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.

<sup>lxix</sup> Bates, *Teaching in a Digital Age*; Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.

<sup>lxx</sup> Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.

<sup>lxxi</sup> Keengwe and Kidd, “Towards Best Practices in Online Learning and Teaching in Higher Education”; Stephenson, “Creating a Sense of Community in Distance Education”; Ryman et al., “Creating and Sustaining Online Learning Communities”; Bates, *Teaching in a Digital Age*.

<sup>lxxii</sup> Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*.

<sup>lxxiii</sup> Kirkwood and Price, *Technology- Enabled Learning Implementation Handbook*; Panigrahi, Srivastava, and Sharma, “Online Learning.”

<sup>lxxiv</sup> O’Reilly, *Unlearn: Let Go of Past Success to Achieve Extraordinary Results*.

<sup>lxxv</sup> O’Reilly.

<sup>lxxvi</sup> O’Reilly.

<sup>lxxvii</sup> Panigrahi, Srivastava, and Sharma, “Online Learning.”