

WHITEPAPER

ONLINE LEARNING:

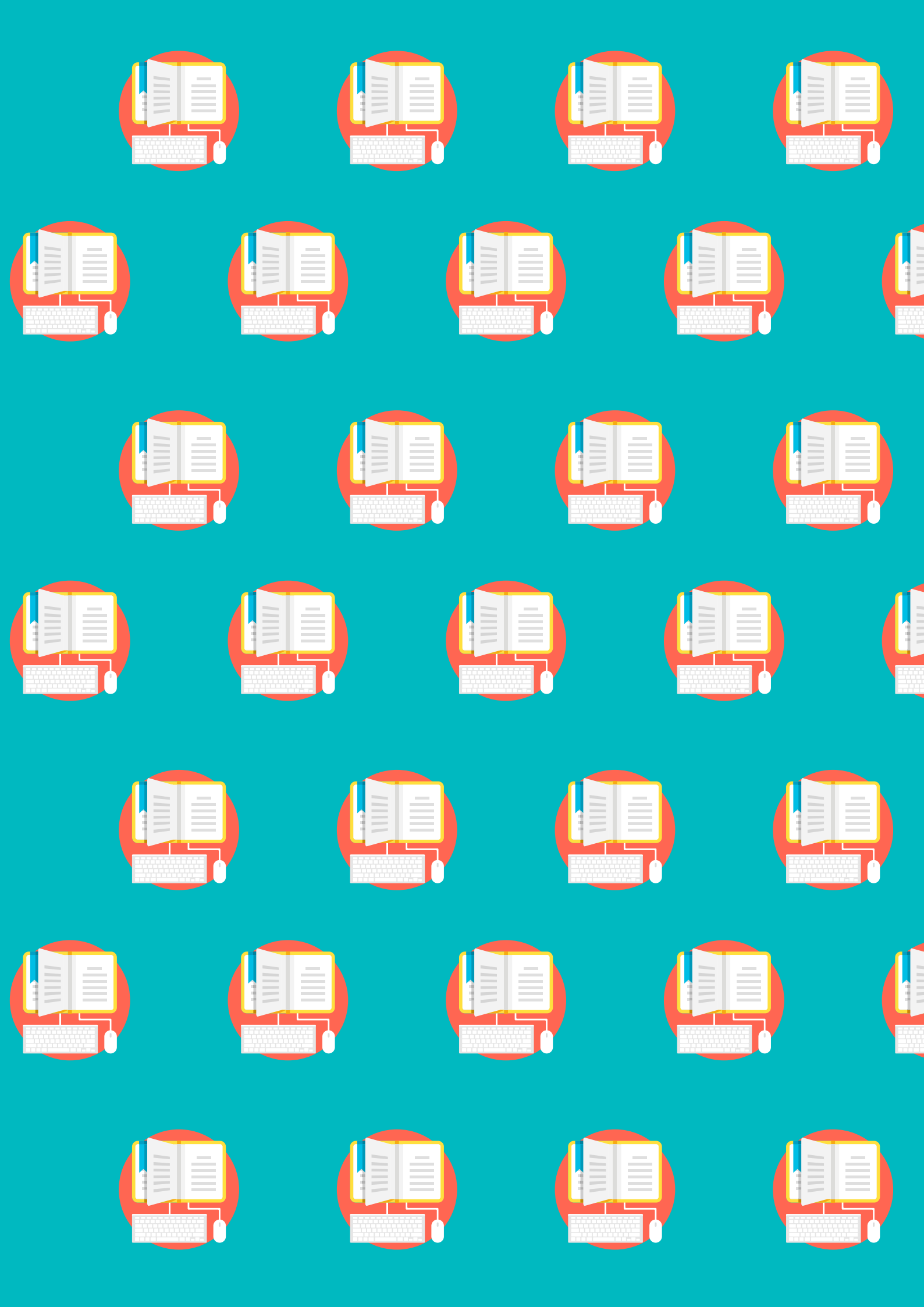
FUNDAMENTALLY PART OF THE 21ST CENTURY
DIGITAL ERA



**Gordon Institute
of Business Science**

University of Pretoria

JUNE 2020





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A special thanks to Nishan Pillay, Executive Director: Open Programmes, for his review.

Keywords

digital era

online learning

e-learning

learner engagement

instructor engagement

interaction

academic achievement

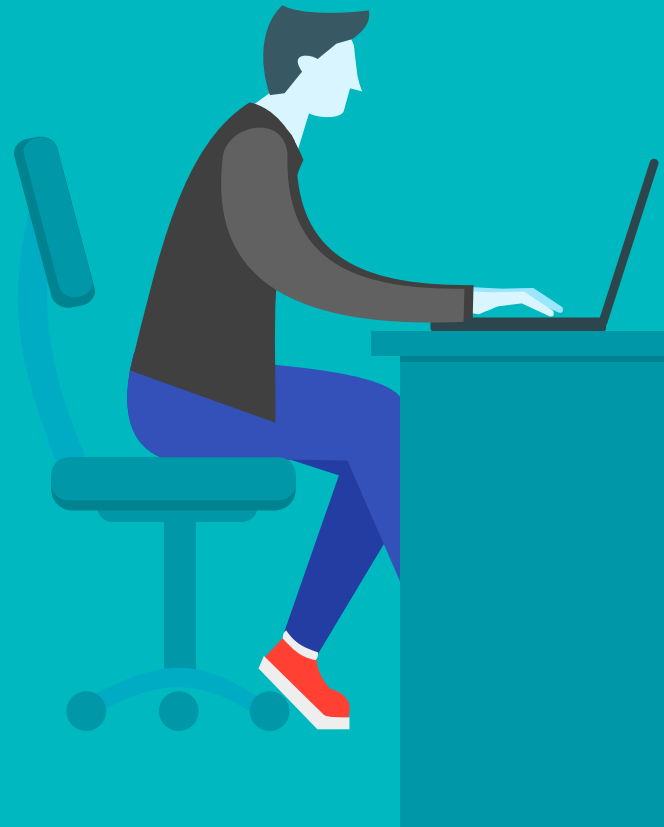
Abstract

In a 21st century digital era, adult learners are mostly acquainted with *blended learning* and *hybrid learning* that refer to the incorporation of varying proportions of *online- or E-learning* as part of educational institutions' pedagogy. Globally, the relevance of online learning has increased over time due to rapid developments in technology, and a wider availability of technological devices to individuals across a broader socio-economic spectrum. An entire transition to online learning, for whatever reason, may however be rather daunting, particularly when learners' expectations were framed in terms of formal contact sessions and shared classroom experiences. It is expected that online learning is bound to become the "new normal" because adult learners find it increasingly difficult to commit to, and devote their attention to study commitments. Online learning is associated with benefits such as independent life-long learning that is highly advantageous in terms of progression in the working environment, as well as the development of confidence and leadership skills. While learner engagement is an important prerequisite for online learners to manage their workload and to succeed, instructor engagement is as important to facilitate instructor-learner interaction, as well as learner-learner interaction. Online programmes include various opportunities for engagement through synchronous and asynchronous online sessions where ample opportunity exists for peers to share and co-create experiences, to network and to expand their views.



Introduction

Discussions concerning a transition from face-to-face learning to virtual classrooms and online learning (also referred to as e-learning) to signify important trends of a new digital era have been ongoing since the turn of the century (Frankfurt, 2020). Arguments in favour of such a transition have included evidence of rapid technological advancement and the increased availability of technological devices among the broader population. Suggestions are that technology could be optimised to the benefit of adult learners for whom external work-related and personal pressures are increasingly complicating attendance of formal classes (Clark & Mayer, 2011). The COVID-19 pandemic that has taken the world by storm has advanced the implementation of online learning at academic institutions as a matter of priority. A realisation that an approach that once seemed impossible could provide a viable, and possibly the only, solution for learner-instructor interaction and to continue with envisaged academic and training activities has paved the way for a new reality in the fields of adult learning and tuition (Frankfurt, 2020). Notwithstanding concern and critique, there is overwhelming evidence that online learning can be as effective as tuition in a traditional classroom if courses are well designed and implemented (Christopher, Thomas, & Tallent-Runnells, 2004; Tallent-Runnells et al., 2006). Furthermore, despite reasons for the implementation of online learning and critique against it, there is a positive relationship between learners' use of learning technology, learner engagement and learning outcomes. Therefore, irrespective of what learners are enrolled for or who they are, their eventual achievement and success will be determined by their engagement in the learning process (Chen, Lambert, & Guidry, 2010).



Online learning: The “new normal” in education



Signifying trends of a 21st century digital era

Online learning is bound to become the “new normal”, because the majority of adult learners do not have the liberty to devote their attention entirely to their study commitments anymore (Chen et al., 2010). Evidently, travel costs, time pressure and external factors like work and family commitments have become primary causes of student attrition (Meyer, 2014; Thompson, Miller, & Pomykal Franz, 2013). As an alternative to face-to-face interaction in a formal classroom set-up, online learning is fundamentally changing the face of education and training as part of trends associated with the 21st century digital era, which promotes the use of technology on various levels of everyday life. With online learning specifically, technology is optimised to facilitate the interaction between instructors and learners. The instructor takes on the responsibility of navigating learners’ academic journeys to find, select, analyse, evaluate and organise specific learning content in predetermined subject areas. Using a suitable electronic device, learners gain access to a combination

of text, pictures, photos and animation in different formats, or video that includes synchronous and asynchronous virtual classroom experiences (Clark & Mayer, 2011).

Online learners benefit from the flexibility of tailoring learning and their course of action according to the pace and conditions they are able to manage considering the availability of time, their location at a specific point in time, and their personal situation. In so doing, these learners become prosumers – individuals who consume what they produce – who direct their own learning (Ossiannilsson, 2017). Along the way, learners are motivated to build and present arguments on their own, within their own frame of reference. Online learning shifts the roles of instructors and learners, since learners take ownership of their progress and achievements that are likely to instil a sense of empowerment as they become less dependent on their instructors (Strong, Silver, & Robinson, 1995).

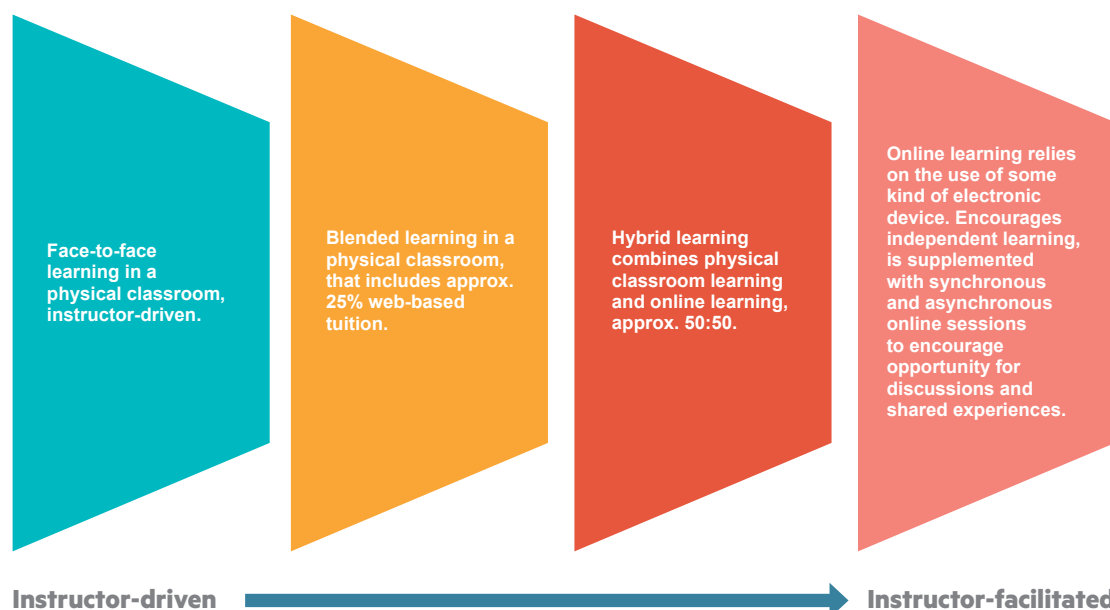


Figure 1: Evolution of the learning process

Online learning is not an unfamiliar phenomenon in education. As part of so-called hybrid and blended learning that constitutes different combinations of physical and online learning, adult learners have most probably already been exposed to and experienced an array of learning formats in their lives. However, an unexpected and total switch to online learning may be understandably daunting and even cause some degree of panic. Notwithstanding, evidence suggests online learning becomes a rewarding experience when the process is facilitated by competent and devoted instructors at an institution with a good reputation (Hoeffner-Shah, 2020).

Expected outcomes of online learning

The education and training sector is constantly challenged to bridge the perceived gap between what students learn and what employers value in terms of individuals' potential contributions in the workplace. Employers are highly aware that it may take up to 10 years for an employee to reach certain levels of proficiency in the work environment through the traditional routes (Ericsson, 2006). Competent employees are described as so-called "T-shaped professionals" who possess some disciplinary specialisation (that is represented by the vertical beam of the T), as well as soft skills that enable them to function effectively across various contexts (portrayed by the horizontal bar of the T) (MacCraith, 2016).

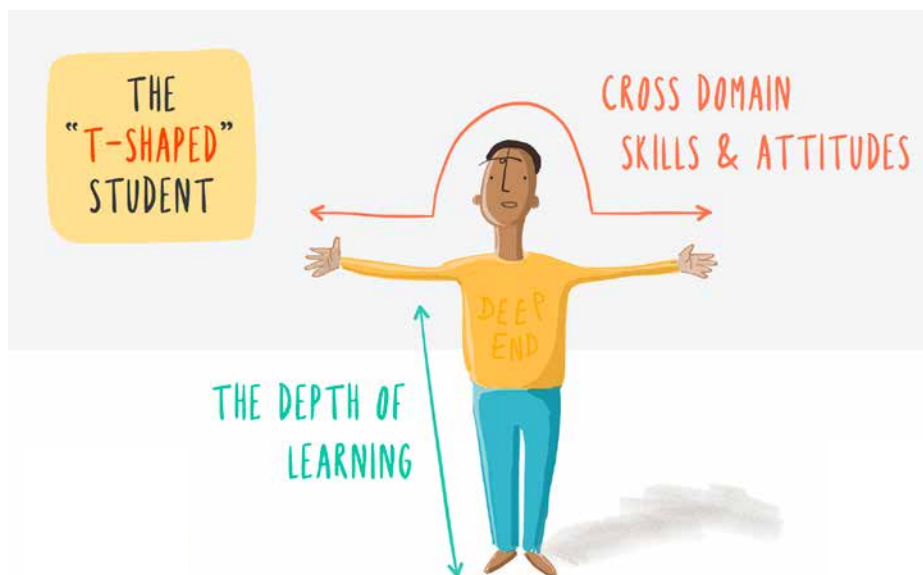


Figure 2: T-shaped professionals
Source: Bryan M. Mathers (as cited in MacCraith, 2016)

Online learning implies noteworthy advantages in terms of learners' careers and potential employment, for example:

- Simulations create the opportunity for unique, individual engagement in highly immersive environments that are generally unachievable or very difficult to replicate outside a digital environment (Clark & Mayer, 2011).
- Invaluable experience of job-realistic environments is gained as learners are expected to solve extraordinary problems or complete job-related tasks at a much faster pace than what is possible in the real world (Clark & Mayer, 2011).
- Online discussion forums allow a more sustained exploration of theoretical content and an equal opportunity for engagement (with instructors and fellow learners), compared to what is possible in a classroom where learners do not always possess enough confidence to share experiences and participate in discussions (Strong, Silver & Robinson, 1995).
- It promotes critical self-reflective lifelong learning that embodies a range of 21st century skills and competencies, such as the ability to use modern technologies, and the curiosity and interest needed to independently explore and utilise novel information as a way of life (MacCraith, 2016; Scully, O'Leary, & Brown, 2018).
 - Because people are not passive recipients of information, online learning eventually makes learners conscious of their competences concerning their strengths and weaknesses that can be addressed to further their chances to progress in the workplace (Butler, 2010).
 - Effective online instruction adopts a knowledge construction view, where instructors are not merely tasked with presenting or conveying information to the learners, but with encouraging them to engage in appropriate cognitive processing during the learning process (Butler, 2010). Hence, online learners become active sensemakers who engage in intentional cognitive processing of information while learning. This entails paying attention to relevant information, mentally organising it into coherent structures, and integrating it with what they already know.
- Online learning enhances learners' technological skills and competencies that are highly sought after in the workplace (Butler, 2010).
- Online learning communities are often encouraged and can create an exceptional learner experience by sharing research, concerns, challenges and solutions. These communities can be equally beneficial for instructors, who can then apply their experiences in other courses (Pearson & Kirby, 2018).

The role and responsibilities of online learners

Learner engagement

A particular advantage of the online learning process is learner engagement. This means that learners are put behind the steering wheel of their own academic destinies, while guided by their instructors who act as coaches, rather than micro-managers (Stanford, 2016). Although it may be an intimidating experience for some, online learning creates the opportunity to work independently and develop an attitude of lifelong learning, as the learning process is no longer associated with and restricted to a formal classroom experience. Along the journey, the stage is set to develop leadership qualities that are essential to advancing in the workplace. Online learning can also encourage civic engagement and global citizenship, shape learners' organisational skills, and enhance empathy from a realisation that other students are experiencing the same thing (MacCraith, 2016; Mupinga, Nora, & Yaw, 2006).

Recommended attributes of an online learner

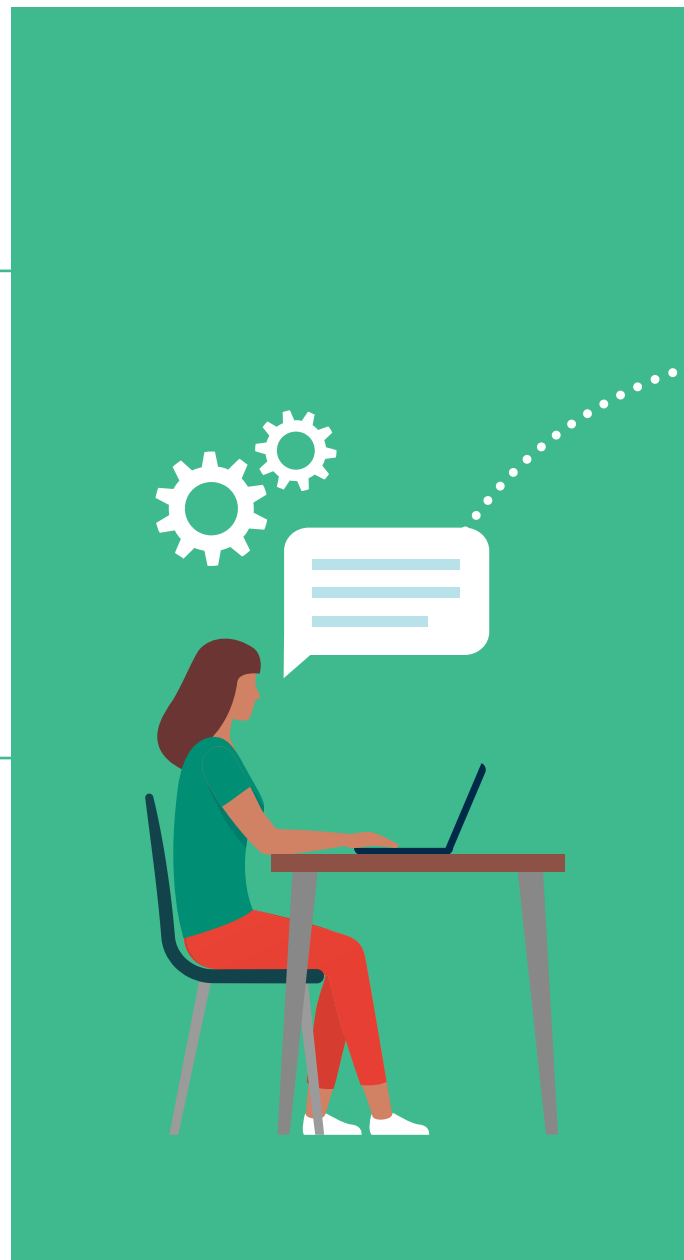
While technology may create pertinent challenges and frustration for online learners, it remains unfortunate that technology often becomes the scapegoat for failure due to other shortcomings and how learners approach and commit to the learning process (Revak, 2020). As discussed below, certain personal attributes will enhance online learners' success with their envisaged academic undertakings. Hence, online learning requires some form of personal inquisition to ensure success.

- The opportunity to succeed is similar for all online learners who are emotionally and intellectually committed (Pittaway & Moss, 2014). Therefore, online learning serves as an equaliser.
- Adult online learners should possess the fundamental skills to reflect and effectively apply electronic feedback that is associated with online tuition without attending formal classes. This entails a commitment to attend instructors' comments as well as apply advice and recommendations correctly. Adults should have acquired these skills through prior learning.
- Furthermore, cognitive psychologists indicate that it is important for online learners to possess the minimum required levels of domain knowledge within their chosen field of interest or specialisation as stipulated for specific courses to support and logically organise higher-order thinking processes (Gerbic, Lewis, & Northover, 2009). A learner who registers for a course with limited or no knowledge of the subject field will find it much more frustrating and difficult to progress.

- Online learners should make themselves available to collaborate with their peers and share their experiences. Online learning sets the scene for positive collaboration and serves as an ideal platform where ideas and experiences can be shared while doing some reflective thinking. Along the way, a learner can set new goals or adapt existing ones without relying on feedback from instructors (Burroughs, 2017; Chen et al., 2010).
- It is important that online learners possess a sense of purpose and understand why and how learning material could be optimised to achieve their goals. They should be willing to make intentional effort and venture beyond their comfort zones (Burroughs, 2017).

Learners' expectations

Instructors are responsible for the design and maintenance of the learning environment in accordance with learners' expectations of the particular module they have signed up for. This needs to be done realising that the thought of independent learning may be intimidating and even discouraging for many learners because of external pressure, including technical and logistical problems (Mupinga et al., 2006). Due to limited opportunity for personal interaction, it is only fair that learners would expect online courses to be comprehensive, with clear aims indicating the expected outcomes, as well as specifications concerning grading and exams, including dates and timelines.





The role and responsibilities of instructors/lecturers

Instructor engagement

Online tuition does not offer an escape route for instructors. Online learning is an interactive process where learning is delivered to the learner through various pedagogical methodologies. This process exerts particular pressure on instructors because a correlation exists between students' achievements and the material they have access to in online environments (Crampton, Ragusa, & Cavanagh, 2012). Therefore, instructor engagement is vital (Pittaway & Moss, 2014) to ensure that course design and instruction method promote learner engagement – that is, how much time, energy and resources learners eventually devote to their studies (Krause, 2005). The instructor manipulates learners' experiences to facilitate learning and change what learners already know by means of multiple instructional methods that are not exclusive to face-to-face learning (Clark & Mayer 2011).

Online learning as an interactive process

Online learning is enhanced by opportunity for interaction on learner-instructor and learner-learner levels (Chen et al., 2010). Consequently, instructors are tasked with purposely allowing a dynamic that promotes individual and group learning that generally entails a combination of synchronous and asynchronous contacts and group discussions (Coates, 2006; Redmond, Abawi, Brown, Henderson, & Heffernan, 2018; Revak, 2020). The various forms of interaction coherently accommodate five elements of engagement, as outlined below.

• Social engagement of learners

Learners' social engagement affirms that social relationships are as important as academic engagement to instil a sense of belonging and trust amongst peers. It is imperative that learners develop some acquaintance with others in the same module or study programme so that they can share experiences and get to know who their peers are and why they are enrolled in a specific programme. This is also useful in terms of a learner's evaluation of personal progress, strengths and weaknesses.



- **Cognitive engagement**

Cognitive engagement: promotes metacognition, which entails a learner’s ability to integrate factual information and ideas concerning a specific phenomenon to develop a deeper understanding of a topic. This may even include an incorporation of related modules in the study programme.

- **Behavioural engagement**

Behavioural engagement encompasses the development of certain academic and multidisciplinary skills, whilst supporting peers. Hereby, learners get the opportunity to share their expertise and experiences with others to enhance learning experiences beyond what is stipulated in the guidelines of a particular module.

- **Collaborative engagement**

Hereby, learners are granted the opportunity to collaborate with peers, connect with faculty members, benefit from institutional opportunities, and develop professional networks. Collaboration will instil an understanding that the world of work relies on and benefits from the joint effort and contribution of those involved in a particular situation due to individuals’ unique contributions, in terms of what they can do best and have access to.

- **Emotional engagement**

Emotional engagement concerns acknowledging learners’ expectations and motivations, and articulating assumptions to prevent distress. The entire learning process should make learners feel like they are at the centre of the academic offering.

Creating conditions for success

An instructor creates the conditions for success, while the learner does the learning. Online learning is not a mere “container for assignments” (Struyven, Blicke, & De Roeck, 2014) that sets instructors free to further their own research. Online tuition poses pertinent challenges that require a particular dedication from instructors to cautiously plan study material that optimises learning through learners’ completion of assignments (Leboff, 2020) and other means of assessments. Measures taken to enhance and optimise online learning include:

- **Good communication.**

Instructors are responsible for prioritising subject content to identify and convey the most important themes so that learners are well informed concerning the knowledge and competences they need to acquire to meet the basic requirements to pass a specific module (Hoeffner-Shah, 2020). With online tuition, less is generally more, as learners are not necessarily impressed by elaborate content or interested in long videos. Information should rather be well organised and posted as brief, specific chunks with closed captions to be equally accessible to learners with hearing impairments (Hoeffner-Shah, 2020). These micro-learning practices also allow for micro-teaching, which enables iteratively better interactions with learners and better-quality teaching (Ni & Hassan, 2020). A particular advantage of online tuition is that it is possible to update academic content and learning assets and to make it immediately accessible to learners, maintaining the relevance of that particular module. Through

a combination of synchronous and asynchronous methods, including virtual meetings at scheduled times, learners can interact with their instructors when needed. Recordings of virtual sessions ensure that learners who are inflexible due to other external responsibilities are kept informed. Regular feedback from instructors via checklists and rubrics provide the opportunity for learners to monitor their performance and progress (Leboff, 2020).

- **Clarity concerning aims and outcomes of study units.**

Clear guidelines concerning submission dates are set to limit the need for additional communication between instructors and learners. Online course content is organised in terms of units with a clear overview of the theme, pertinent objectives, expected outcomes and related activities, reading materials, videos and discussion questions to prevent confusion (Chen et al., 2010).

- **Proper access to resources.**

Resources may be available in an online library or constitute other reputable online sources and even fellow learners. Online discussion forums offer a valuable opportunity for the discussion of study themes and questions to enhance learning (Leboff, 2020).

- **Mutual respect.**

Learner-instructor and learner-learner interactions should demonstrate a mutual understanding of the challenges that the respective parties may be encountering to level the learning field.

- **Student engagement.**

Online learning constitutes a combination of synchronous e-learning that is instructor-led, and asynchronous e-learning that allows for self-paced, individual study. The learning mix

gives learners the opportunity to read and watch visuals when it is convenient for them, and to do so repeatedly to reinforce conceptual familiarity (Brinthaupt, Fisher, Gardner, Raffo, & Woodard, 2011). Due to time pressure, online lectures are generally short, emphasising main topics to retain learners' attention span and prevent a cognitive overload. Learners will always be encouraged to do further research that would hopefully instigate a lifelong learning process. Short exercises are useful to retain learners' interest and involvement.

- **Stimulation of intellectual development.**

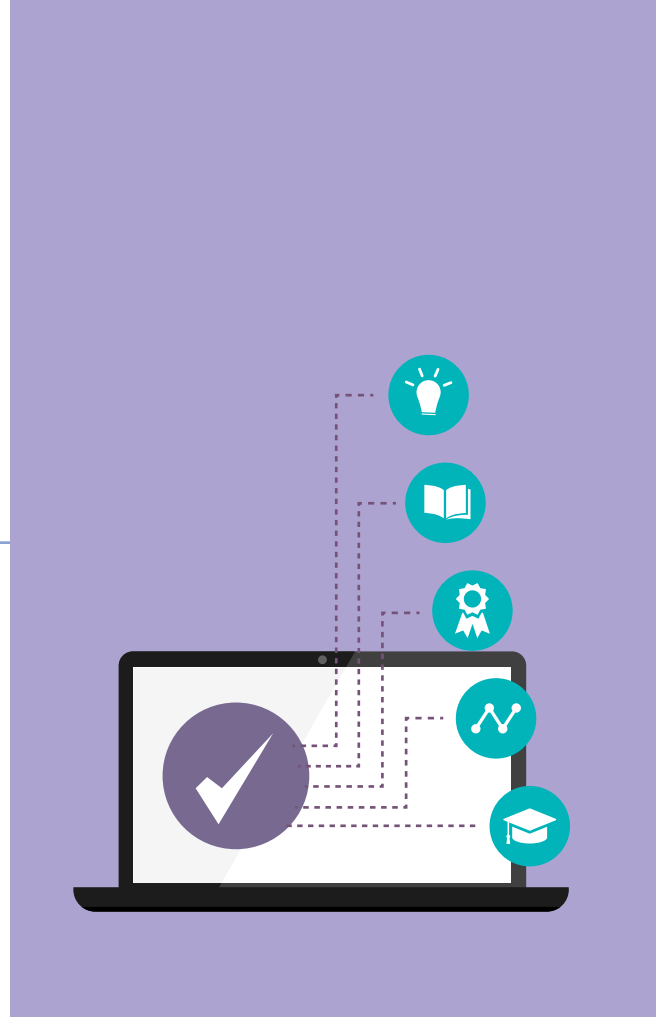
Instructors will design authentic tasks that include ongoing formative assessment (Scully et al., 2018), so as to challenge learners to present original ideas and critically rethink what they consider to be reality (Stanford, 2016).

- **Learner support.**

Study guides that include clear instructions and contact details concerning support structures available to learners during their time of study are meant to ensure student engagement and positive learning outcomes (Chen et al., 2010).

With online learning, instructors also have to prepare themselves for learners' resistance to what may be perceived as a relatively heavy workload. Admittedly, online learning is experienced differently by learners who are all confronted with unique personal and contextual situations. Therefore, online teaching entails effortful design of modules and content, explicit scaffolding of the workload to accommodate modules that are running concurrently, and the coordination of timelines to ensure targets are met. Nevertheless, there are always avenues for the occasional negotiation of the extension of submission dates for assignments (Bates, 2020).

Tips to succeed with online learning



Online learners can benefit from the following advice that is based on years of experience in different specialisation fields (Burroughs, 2017).

- **It is not uncommon for learners to procrastinate.**

Learners should mindfully decide to persevere and remain in control of their studies. Interaction with other learners and the instructors may be very useful to overcome feelings of desperation.

- **Revert to initial reasons for signing up for the study programme.**

Learners should remind themselves of the strength and initial belief in their undertaking to pursue a specific study programme, rather than to dwell on negative feelings. Even though learning conditions may have changed along the way, learners should trust their institution and its good reputation to guide their progress. Learners are not alone and should keep in contact with peers who have a positive attitude, keeping in mind that, in the real world, change is inevitable.

- **The minimum required to pass, is not enough.**

It is not a good idea for learners to limit their inputs and reading to the minimum required to pass a module or assignment. Additional reading will expand a learner's vision and understanding, subsequently creating a stronger sense of control.

- **Seek assistance timeously.**

Learners should seek guidance from instructors or any of the available channels, including their peers, before a problem spirals out of control. Learners will be informed about the avenues they can pursue for assistance to resolve problems.

- **Record and honour submission dates and deadlines.**

Learners should consciously plan their work and review their responsibilities in accordance with submission dates and deadlines. This includes an understanding of what the various assignments entail so that they remain in control of their workload. The snowball effect when work starts piling up can be very stressful.

- **Organise documents effectively.**

Many adult learners are employed and have to simultaneously deal with work-related documents and appointments. Hence, learning material should be organised properly to ensure that there is no confusion or opportunity for unpleasant surprises.

- **Manage time well to balance work, studies and socialisation.**

Learners should devote enough time, on a regular basis, to their studies rather than to function on a "need-to-do-so" basis that does not account for the volume and complexity of different assignments and tests. Intentional study and socialisation times will prevent feelings of guilt and the notion that studying disallows any form of pleasure.

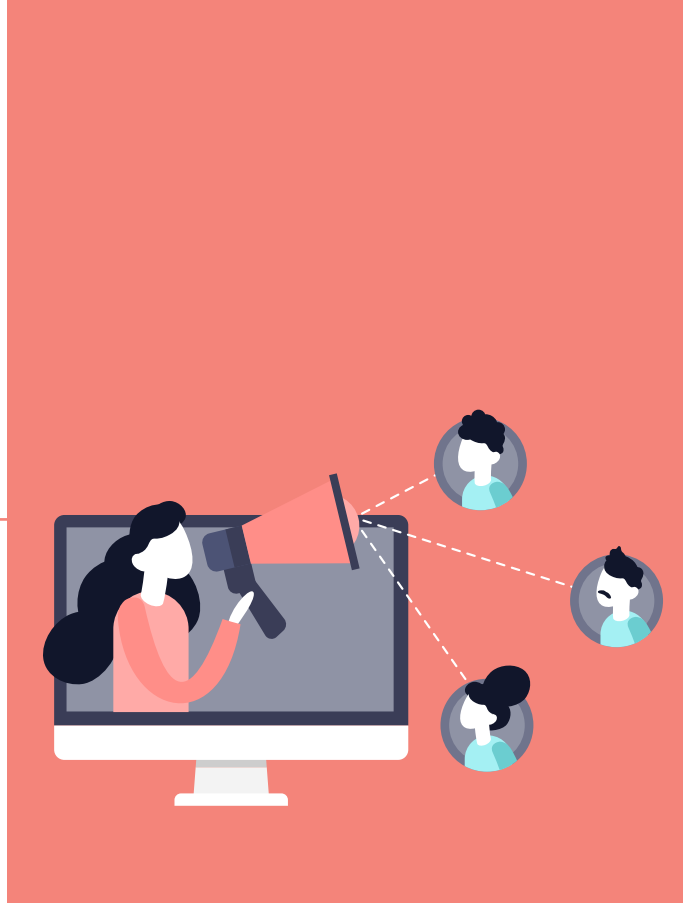
- **Reconsider study techniques.**

It might be necessary to try out different study techniques for separate study modules. Options could be discussed with peers to decide how to best deal with specific subject content.

- **Take instructors' feedback seriously.**

Do not hesitate to contact your instructors when recommendations and comments are unclear. Instructors take pride their students' progress and do not mind enquiries.

Tips for educational institutions



While learners are encouraged to remain motivated and take note of challenges associated with online learning, institutions are also reminded to rethink their teaching approach (Hoeffner-Shah, 2020).

- **Online learning may be intimidating.**
An unexpected switch to virtual courses may cause resistance because students' expectations are affected. Although the challenge could be as intimidating for instructors, institutions should be reminded that learners are their customers and any form of agony and concern from the learners' point of view deserves to be aptly addressed. Because online classes are not ideal for everyone, effort will be required to assist and encourage learners to prevent them from dropping out.
- **Traditional classroom environments cannot simply be converted for online application.**
Because online learners are faced with unique situations, expectations concerning module content, grading, and submission dates should be reconsidered. Learners should also be encouraged to participate in virtual sessions that may be synchronous- or asynchronous-based, while allowing for a recording of virtual sessions to accommodate learners who are unable to participate at a specific point in time.
- **It might be necessary to adjust syllabi.**
To ensure that online learners retain important learning matter and are able to perform well, discussions and assignments should focus on the most important topics, rather than trying to cover the broadest spectrum possible in a limited time frame.
- **Accommodate learners with physical impairments.**
Virtual sessions should make provision for learners with hearing impairments by including written comments.

Sessions should be also recorded so that students can access these when it is convenient and at a pace that suits them.

- **Provide clear means of communication and interaction.**
Learners should not have any doubts about the route to follow when they encounter problems.
- **Allow opportunity to negotiate deadlines.**
Learners who want to negotiate their deadlines should not be rejected right away. Some lenience concerning submission dates might be very encouraging when students feel overwhelmed.
- **Reconsider teaching methods.**
Instructors should be aware that teaching methods for face-to-face learning cannot be duplicated for online learning. Instructors should familiarise themselves with "best practices" of online learning.

The way forward

The development of new technologies will not slow down. Other new technologies will probably emerge in the future, thus educators will continue to be challenged to guide learners through unfamiliar terrain. Starting with on-site lectures and moving to blended and hybrid learning to accommodate opportunities created by novel technologies, students are now fast becoming acquainted with online learning. Although a total switch to online learning may have been unexpected, it is not necessarily a permanent scenario, although it might become a preferred scenario in the foreseeable future. Whatever the prevailing situation, institutions – through the devotion of well qualified instructors – remain committed to the well-being of their learners, their customers, and will ensure that the quality of education is maintained by adapting to a new and ever-changing learning landscape.

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