



Ollscoil Chathair  
Bhaile Átha Cliath  
Dublin City University

# Teaching online is different: Critical perspectives from the literature

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An Institiúid Náisiúnta um  
Fhoghlaim Dhigiteach  
National Institute for  
Digital Learning



#OpenTeach

PROFESSIONAL DEVELOPMENT FOR  
OPEN ONLINE EDUCATORS



**Rialtas na hÉireann**  
Government of Ireland

The #Openteach Professional Development for Online Educators project is funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education.

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# Teaching online is different: Critical perspectives from the literature

Teaching online is different. In this report we attempt to explain why. This report arises from the [#Openteach: Professional Development for Open Online Educators](#) project, which is funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education. In this project we plan to uncover and promote the keys to effective online teaching practice, while recognising that effective teaching is an art, craft and science. We aim to harness this knowledge to support the professional learning of online educators. Ultimately we want to support online students to learn online by helping and inspiring their educators. This report was developed to help lay a foundation for the project through a critical analysis of relevant literature.

## Report overview

This report is presented in five sections:

**Section one** presents the background, context and methodology for the analysis of the literature on teaching online and professional development for those who teach online.

**Section two** introduces the literature analysis findings and considers the roles of online educators in the context of teaching and learning online.

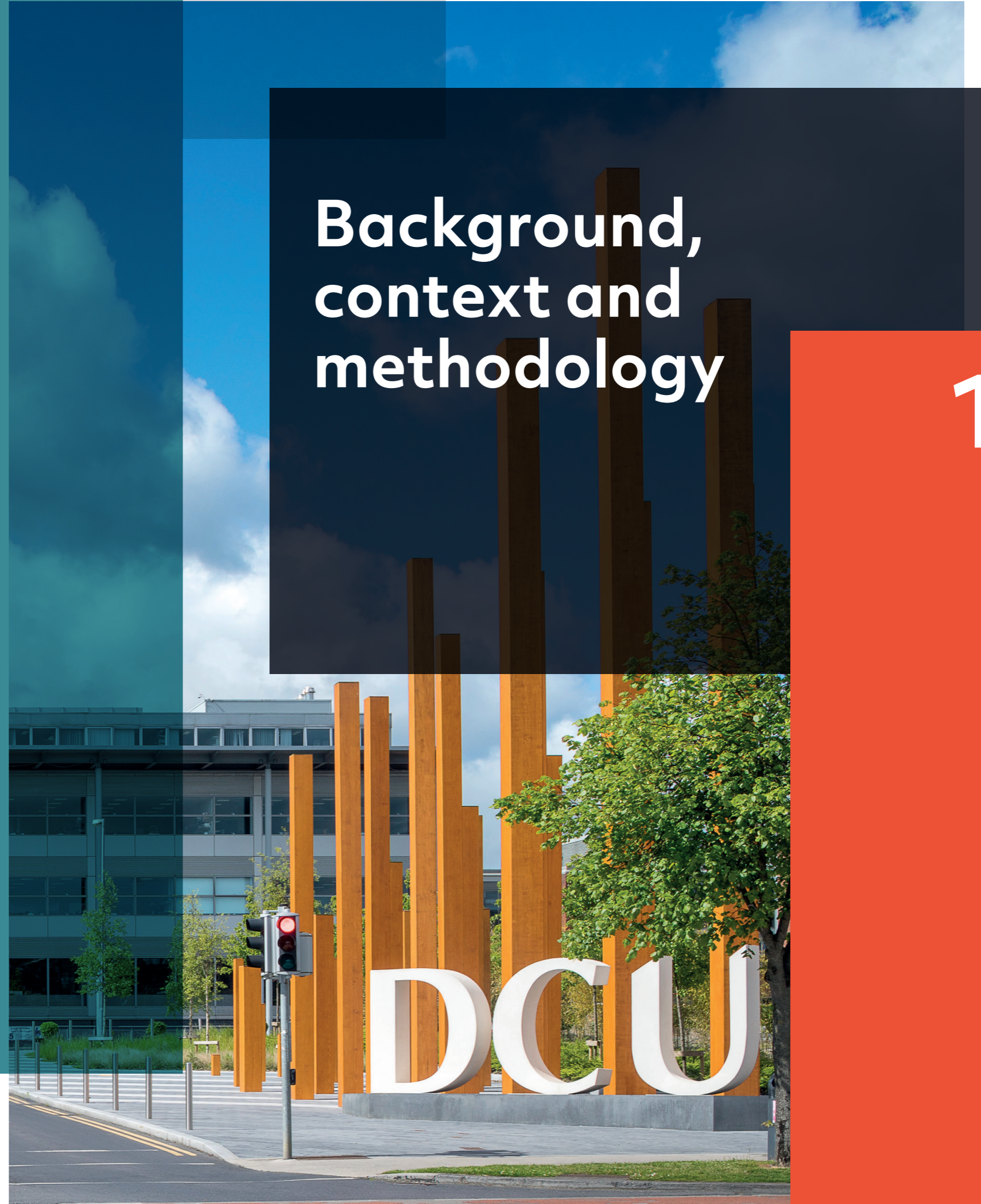
**Section three** continues the literature analysis findings and examines the competencies which characterise effective teaching online.

**Section four** examines the literature on professional development for part-time and online educators.

**Section five** presents the conclusions of the report.

# Background, context and methodology

1



# Section one: Background, context and methodology

## Background

This report arises from the [#Openteach: Professional Development for Open Online Educators](#) project, which is funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education. In this project we plan to uncover and promote the keys to effective online teaching practice. We aim to harness this knowledge to support the professional learning of online educators. The #Openteach project team are based in the Open Education Unit at Dublin City University (DCU). The Open Education Unit is a provider of online, off-campus programmes through the DCU Connected platform. It has as its core mission the provision of programmes that help students attain their educational goals without needing to be regularly on campus. Following an open and online learning philosophy, it aims to afford educational opportunities to students who have not managed to access more traditional entry routes into higher education.

The National Distance Education Centre, later called Oscail and now Open Education was founded in 1982 with the aim of providing undergraduate and postgraduate degrees to Irish adult learners through the mode of distance learning. In 2006, the unit began evolving from a distance learning model to blended online delivery, by using the Virtual Learning Environment (VLE) Web CT in combination with the previous mode of printed self-study course content and a small number of face to face tutorials. In 2011, the mode of delivery further evolved from distance to online by introducing synchronous live online tutorials and by delivering the course content electronically (Delaney & Farren, 2016; Farrell & Seery, 2019).

## Introduction

The role of educators in higher education is changing, particularly when moving from the traditional face to face classroom to online learning. These changes are occurring continuously as new theories of teaching and learning are being validated and as new technologies become available to support and/or transform teaching and learning in higher education. Reflecting this change, distance education, where students are physically distant from the place of education, is now more often referred to as online education. The particular educational roles of those involved in distance and online education have been changing since the introduction of technology into higher education. Indeed, educational theorists have been investigating where and how educational theories, such as social constructivism, connectivism, situated learning and communities of practice, can be used to scaffold learning in the online environment. Frameworks and models, such as Technological, Pedagogical, Content Knowledge (TPCK) and the Community of Inquiry model, have emerged that map the part technology, and the online environment, play in teaching and learning. These models help identify new or modified roles, skills and competencies that are required by educators. Traditionally distance education providers, such as universities, employed educators, often part time, to support distance

education students. There is no doubt that new skills and competencies are required of this educator as they move to the online environment. Universities, along with all online education providers, need to examine how those changing roles and associated competencies can be developed through the provision of training, amongst other supports. There is an onus on institutions, such as DCU, to research what is now required of their educators and to provide the necessary training for them to teach effectively online. In this report we examine the literature in order to identify effective online teaching practice and approaches to support the professional development for those who teach online.

## Purpose of this report

The main aim of this report is: to establish the roles and competencies of online educators and how best to provide professional development to support educators in understanding, enacting and achieving these roles and competencies. The principal focus is on educators in online higher education, many of whom work in a part time capacity. To that end there are three main research questions:

1. What is the role of the online educator?
2. What competencies characterise effective online teaching?
3. What is the most effective way of delivering professional development to part-time online educators?

## Methodology

This report adopted a systematic approach to reviewing the literature. Systematic literature reviews are a method of meticulously conducting a study of prior research on a specific subject. The aim is that the methodology used to complete the study is rigorous and follows a clear path from, the setting of research objectives, through documenting the methods used, to the final selection of relevant literature. Included are the critical analysis processes that are used to synthesize and analyse the selected materials. Steps are taken to minimise error and bias along the way (Littell & Corcoran, 2010).

The steps required for a systematic literature review include:

1. Problem formation (research questions) and planning
2. Sampling (study selection)
3. Data collection
4. Data analysis
5. Interpretation and presentation of results

An outline of the first four steps as taken in this literature review follows in this section. The final step is contained in the findings sections.

## Problem formation

This literature review stems from a project funded by the National Forum for the Enhancement of Teaching and Learning in Ireland. The aim of the project is to develop evidence based professional development for part-time online educators. There are two broad aims of this literature review. The first is to identify the roles and associated competencies required of online educators and the second is to establish what types of professional development have proved effective for this group. An initial set of 16 research questions were devised which after consultation with the team were narrowed to the three questions outlined previously:

1. What is the role of the online educator?
2. What competencies characterise effective online teaching?
3. What is the most effective way of delivering professional development to part-time online educators?

In order to devise a research strategy that would enable the identification of the literature in this area, a member of the project team met with a DCU librarian, whose advice informed the next two stages of this literature review.

## Sampling (study selection) and data collection

These two steps were combined as the study selection and data collection was an iterative process, see Figure 1 below for the process flow.

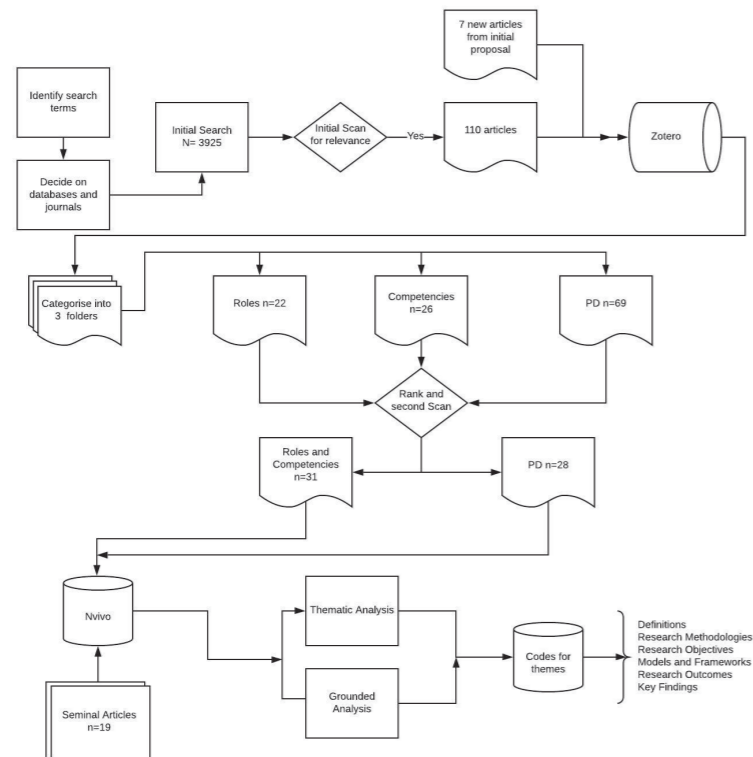


Figure 1. Literature review methodology.

Once the problem was formulated the project team determined the inclusion and exclusion criteria, based on the expertise of the team in this discipline and that of the DCU librarian. Table 1 below illustrates the criteria used.

Table 1. Inclusion and exclusion criteria.

Literature to include	Literature to exclude	Databases to include	Journals to include
2010 onwards, Peer reviewed, Higher education, Published in English, Full text available in library or online	Reports, Grey literature Non-higher education	Education Research Complete, British Education Index, ERIC and Academic Search Complete (all available via EBSCO), Web of Science, Scopus	IRRODL, AJET, Open Praxis, OLC journal, Open Learn, Distance Education

The field of online education is a relatively new discipline, and definitions relating to the role(s) of online educators are fragmented and frequently unclear. It is difficult to search the literature for the less well defined terms used in this discipline. For example, one may not be able to search for 'skills required by e-tutor' as the term e-tutor is not well defined, it may have other names (i.e. online tutor), and there is no consensus as to what particular role this term is describing. The process therefore involved a number of broad searches to begin with in one database, and once relevant articles were established, by scanning the abstracts, the search terms and keywords were established. EBSCO was used initially as it is well established and uses extensive indexing and identification of keywords. These search terms were used to search all the relevant databases and journals and all searches were saved. A sample of the research terms used, along with the databases and journals searched and the number of articles initially found is shown in 2 below.

Table 2. Literature search terms.

Research Question	Search Term 1 (EBSCO)	Search Term 2 (Web of Science)	Limiters (samples)	Number of articles (number after initial scan)
RQ1	"online teaching" AND (roles or responsibilities or duties or jobs) AND ("higher education" OR "college" OR "university")	TOPIC: ("online teaching" AND (higher education or college or universities) AND ((best practices) OR (effectiveness)))	Full Text; Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231; Publication Type: Academic Journal; Language: English	1786
RQ2	(competencies or skills) AND effective online teaching	TOPIC: ((characteristics or traits or qualities or attribute) AND effective AND "online teaching")	Timespan: 2010-2019. Indexes: SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC.	1725
RQ3	professional development AND (part-time faculty OR educators) AND (higher education or college or university) AND (effects or impact or consequences) AND online	TOPIC:(professional development AND (higher education or college or university) AND (effects or impact or consequences) AND online teaching)	Full Text; Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231; Publication Type: Academic Journal; Document Type: Article; Language: English; Educational Level: Higher Education; Journal or Document: Journal Article (EJ); Publication Type: Journal Articles; Language: English	414

There were four stages to the scanning process, see Table 3:

Table 3. The four stages of the scanning process.

Research Question	Initial Search	Initial Scan	Rank Scan	Final Scan
RQ1	1786	22	16	12
RQ2	1725	26	20	19
RQ3	414	69	66	28
Seminal Added				19

#### Initial scan

Some duplicate articles were found between the different databases and removed.

Subsequently, an initial scan of the articles was completed within search results using the titles and/or abstracts to decide if they should be included based on their relevance to the research questions. After this scan seven articles that had been identified as part of the initial proposal were added to the collection.

#### Rank scan

All articles were then checked to see if they are ranked in the Scopus abstract and citation database.

#### Final scan

The articles abstract, introduction, methodology and conclusions were read and screened for relevance and rigor.

#### Seminal articles

Finally, seminal articles that emerged as the literature was being analysed were added throughout the data collection and data analysis phases.

## Data analysis

Once the articles were selected they were imported into Nvivo 12 for analysis. Initially a systematic approach to identifying the themes from the literature, both in methodologies and topics, was used to identify particular aspects of the studies that would answer our research questions. Learning theories and models used for professional development were also identified. However, as the analysis continued it became apparent that there were other unexpected items of interest, such as the theme of presence or the value of shared experiences in professional development, so a more grounded inductive approach was applied. Finally, these themes were grouped according to the patterns observed in the selected literature. Using this analysis of the literature we returned to our research questions and selected references from the different identified themes that corresponded to the research questions.

## Our sample of studies

There were 59 studies in total, 28 of which were classified as being related to professional development and 31 relating to roles and competencies.

### Research methodologies used in the studies

A wide range of research methodologies were employed in the studies, some studies used more than one methodology, see Table 4.

Table 4. Type and number of different research methodologies in the studies.

Methodology Types Used	Total number of studies
Conceptual or theoretical	11
Crowdsourcing or workshop	2
Design based research	3
Experts as participants	1
Integration scholarship	1
Message analysis	8
Mixed methods	10
Online interview - email and web	5
Online observation	1
Phenomenology - narrative and ethnographic	7
Qualitative	14
Quantitative	13
Student surveys of teachers work	8

See Appendix A for table of methodologies used in individual studies.

### Countries where studies originated

The studies that were selected were either conducted, or the authors were located, in a wide range of countries. Figure 2 indicates the number of studies per country. The label multiple experts was used to represent those studies where research participants were sourced from a number of different locations.

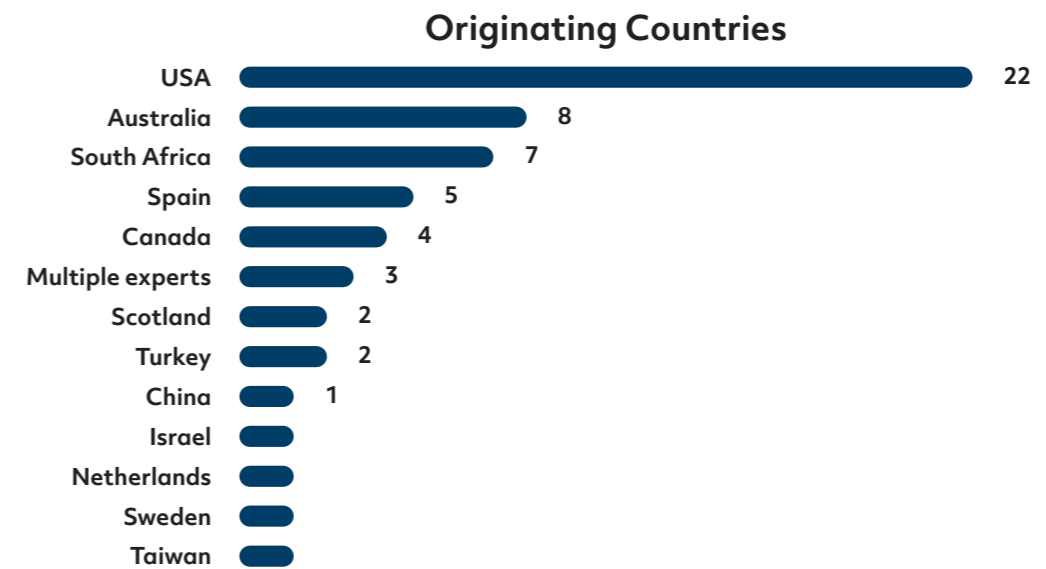


Figure 2: Number of studies per country.





# Online educator roles

2

## Section Two: Online educator roles

The report findings begin with an examination of key terms such as online learning, online educator and part-time educator. Then, the findings from the literature review are presented in three parts in response to each of the three research questions:

1. Online educator roles
2. Online teaching competencies
3. Professional development for online educators

### Key definitions

This section outlines three key definitions from the relevant literature which are used throughout this report: online learning, online educator and part-time educator.

#### Online learning

This report is concerned with educators involved in online learning in the higher education context. Online learning has its origins in what was traditionally known as distance education. Distance education has been defined as “the practical subset of education that deals with instruction in which distance and time are the criterial attributes; that is, student and teacher (and other students) are separated by distance and/or time” (Yacci, 2000, p. 1). Today many providers of distance education have become fully online where all teaching and learning materials are made available to students online, generally via the institutions Virtual Learning Environment (VLE). Contact between the student, the educators, and the university is mainly electronic, educators provide asynchronous communication via VLE’s, emails and other messaging systems, and teaching is provided synchronously over the web, perhaps with recordings available for those students unable to attend. Additionally, technology is often used to enhance teaching through the provision of interactive tasks and technology supported learning materials such as videos and screencasts. Online learning is still distant, in that the student and teacher are separated, however what the term means can depend on both the institution involved and the course being pursued by the student, in other words the context. One such example is “... online teaching and learning to mean teaching and learning that takes place over a computer network of some kind ... and in which interaction between people is an important form of support for the learning process. .... It includes both synchronous and asynchronous forms of interaction as well as interaction through text, video, audio, and in shared virtual worlds” (Goodyear, Salmon, Spector, Steeples, & Tickner, 2001, p. 68). This report focuses on fully online courses, where “all course activity is done online; there are no required face-to-face sessions within the course and no requirements for on-campus activity” (Sener, 2015).

#### Online educator

The facilitator of an online course may provide many different functions such as, supporting students learning, delivering online teaching, student assessment and preparing learning materials. Denis et al (2004) refer to the educator in an online course as one “who interacts directly with learners to support their learning process when they are separated from the tutor in time and place for some or all of these direct interactions” (Denis et al., 2004, p. 3). There are many different names given for an educator in an online course. For example, the educator may be referred to as a facilitator, online facilitator, online teacher, e-moderator, e-tutor, online tutor, online instructor, online trainer, distance education tutor or teaching assistant (Adnan, 2018; Baran, Correia, & Thompson, 2011; Goodyear et al., 2001; Goold, Coldwell, & Craig, 2010; Setlhako, 2014). Some of the different names may signify different roles or different role characteristics, depending on the context. However, for the purposes of this paper we will use the term online educator as it is a broad term which encompasses the different names outlined above (Goodyear et al., 2001).

#### Part-time educator

Online educators are often contracted on a part-time basis and are not necessarily full-time members of the university faculty. Our focus in this report is on these part-time educators, sometimes referred to as adjunct, casual staff, sessional staff, casual academics, teaching assistants, graduate teaching assistants and adjunct faculty, and may also include demonstrators, lecturers or clinical tutors from industry or the public services (Bell & Morris, 2009; Hitch, Mahoney, & Macfarlane, 2018; Setlhako, 2014). It has been recognised that the use of part-time educators in higher education is on the increase and that they are not always adequately supported with professional development opportunities and administrative functions (Dean, Harden-Thew, & Thomas, 2017; Goold et al., 2010; Hitch et al., 2018; Metz & Bezuidenhout, 2018; Shattuck, Dubins, & Zilderman, 2011; Vaill & Testori, 2012).

### What is the role of the online educator?

#### Transition to online teaching

Tramell and LaForge (2017) liken the difference between face-to-face teaching and online teaching to taking a trip across the USA by car or train. In the face-to-face version, the car journey, the driver has a map and a general route planned, the actual route and the stops along the way can be easily adjusted. On the other hand, the online journey, by train, involves a lot of pre-planning with little room to manoeuvre along the way. In online teaching there is a requirement to have most, if not all, of the online course materials available from the beginning of the course, which is not required for face-to-face teaching (Trammell & LaForge, 2017). Carril, Gonzalez Sanmamed, & Hernandez Selles (2013) report that the necessity of using Information and Communications Technology (ICT) in online teaching changes both the nature of the teaching and learning processes as well as the need to develop ICT and other pedagogical skills (Carril et al, 2013). As the online environment changes and new technologies become available the nature of the online educator role will change.

There are a number of references to the changing nature of the role of the online educator in the literature (Adnan, Kalelioglu, & Gulbahar, 2017; Baran et al., 2011; Bezuidenhout, 2018; Vaill & Testori, 2012). For example, the view of university teachers on their changing roles was investigated by Coppola, Hiltz and Rotter (2002). They identified three roles requiring change; (1) the cognitive role, because a deeper level of understanding may be required when teaching online, (2) the affective role, which is required to maintain relationships with students in the online environment and (3) the managerial role, as class management will change. A significant outcome of Coppola's research is the fact that teachers themselves view the change as a move from being a knowledge expert to a facilitator (Alvarez, Guasch, & Espasa, 2009) or a move from 'the sage on the stage' to the 'guide on the side' (King, 1993). One impact of these changes is that online faculty start to bring the innovative pedagogical practices they learn for online teaching back into their face-to-face teaching, thus also enhancing their face-to-face teaching (Coppola et al., 2002). Chang et al. (2014) point to a body of literature that acknowledges a "paradigm shift in perceptions of instructional time and space, virtual management techniques, and ways of engaging students" (O'Neil cited in Chang et al., 2014, p. 74). This shift in perceptions results in new roles for the online educator as they move from the traditional distance education and/or face-to-face teaching to online learning environments. These roles are discussed in more depth in the next section.

## Definitions of the roles of online educators

During the process of reviewing the literature, it became clear that a key body of literature predated our inclusion criteria. One of the earliest attempts to define the roles and competencies of online educators was by Paulsen (1995), who drew from earlier work on the moderation of computer mediated communication. Three roles were defined; organisational, social and intellectual (Abdous, 2011). One of the articles most referenced within our search on roles was Berge's "Facilitating Computer Conferencing: Recommendations from the Field" (1995) who defined four roles. The first three, managerial, social and pedagogical, are similar to those defined by Paulsen (1995) and the fourth is the technical role. Twenty-three of the articles reviewed refer to one or other of Berge's studies. Goodyear and colleagues used a form of 'crowdsourcing' to investigate the competencies required for online teaching (Goodyear et al., 2001). During a practitioners' workshop in the UK in June 2000 participants were initially asked to identify and describe what they considered as the main roles of online teachers. Eight roles were identified: process facilitator; adviser-counsellor; assessor; researcher; content facilitator; technologist; designer; manager-administrator. Coppola et al. (2002) examined the changing roles of educators and focussed their discussion around the three main roles of managerial, affective and cognitive. A number of online educator experts participated in a research study conducted by Williams (2003) to identify the roles and competencies of the online educator and to rate the importance of these competencies. Thirteen roles were identified, though a number of these may be performed by other staff such as a librarian (Williams, 2003). Bawane and Spector (2009) looked at the roles from the point of view of prioritisation and drew on the literature to define the eight roles they use in their study. Table 5 contains a synopsis of the definitions of the main roles as found in these six articles that predated our investigation.

Table 5. A synopsis of online educator role descriptions from pre 2010 literature.

Role	Definition
Managerial/ Organisational/ Administrator	Sets the objectives of the discussion, the timetable, procedural rules and decision-making norms. Deals with issues of learner registration, security, record keeping and so on.
Social/ Process facilitator/ Affective	Aims to ensure a friendly environment with plenty of constructive interaction and feedback. Facilitates a range of online activities that support student learning as well as establishing ground rules. Influences student's relationships with the instructor and with other students and maintains a positive virtual classroom atmosphere.
Pedagogical/ Content/ Cognitive/ Intellectual	Facilitates the learners growing understanding of course content. Keeps discussions focussed and summarises ideas to encourage further student interaction. Deals with the mental processes pertaining to perception, learning, information storage, memory, thinking, and problem solving. Designs and implements instructional strategies.
Technical/ Technologist	Makes participants comfortable with the systems and the software, to ensure the technology is transparent. Selects, develops and suggests appropriate resources for learning.
Assessor/ Evaluator	Provides grades, feedback and validates learners work. Monitors individual and group progress and performance. Evaluates the course programme.
Designer/ Instructional design	Designs worthwhile online learning tasks. Provides instructional design for interactive technologies. Knowledge of media and technology attributes and functions is necessary.
Adviser/ Counsellor	Works with students individually to provide advice on how to get the most out of their course and suggests measures to enhance performance and provides pastoral care.
Researcher	Engages with the development of new knowledge that is relevant to the content of the course. Conducts research on teaching and interprets and integrates teaching research findings from the class
Professional	Complies with ethics and standards, communicates effectively, updates knowledge and is committed to the learning process.

Appendix B contains a more detailed list of the different role definitions in the reviewed literature. Figure 3 illustrates which authors referred to each of the roles listed in 5. For example, the Researcher role was referenced by both Goodyear et al., (2001) and Bawane and Spector (2009).

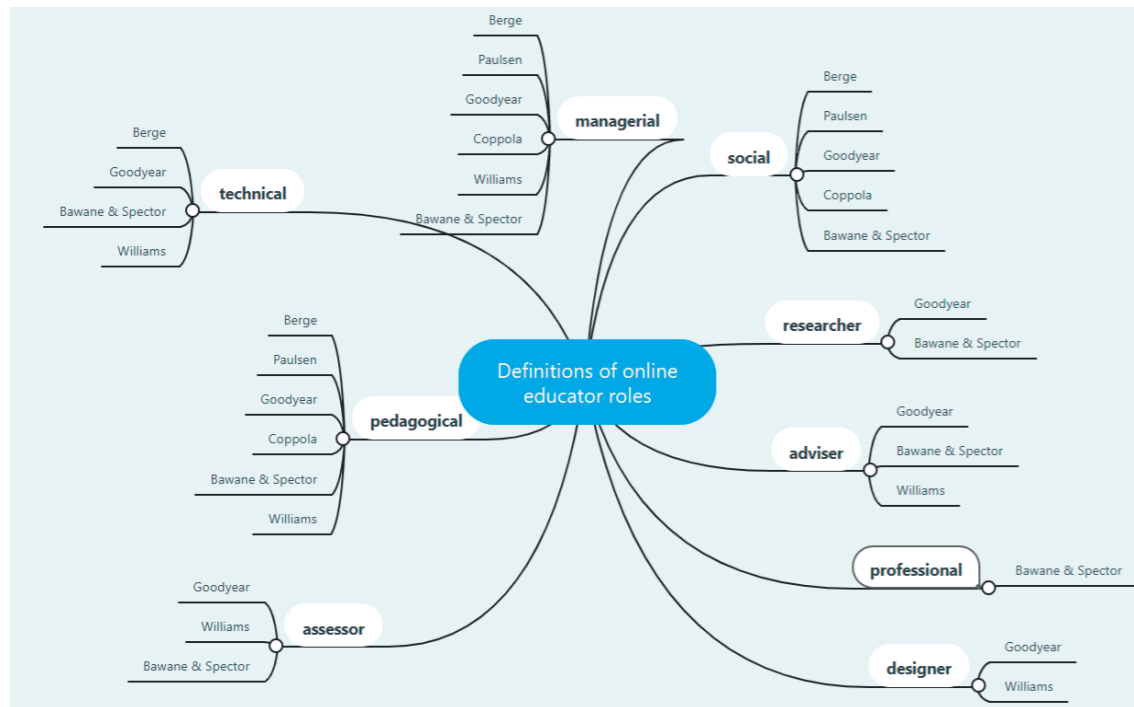


Figure 3. Definitions of online educator roles.

The six most commonly cited articles containing early definitions of online educator roles share three common roles: managerial, intellectual/content and social. Table 6 shows how many of the articles we selected cited the particular authors who developed these early role definitions.

Table 6. Citation of the six most commonly cited articles containing early definitions of online educator roles.

Reference	No. of citations within literature search
Paulsen (1995)	2
Berge (1995)	23
Goodyear et al. (2001)	14
Coppola et al. (2003)	10
Williams (2003)	6
Bawane & Spector (2009)	20

As can be seen the most cited author is Berge (1995), who did the early work on defining roles. Bawane and Spector (2009) follows closely. In their study they examined roles from the point of view the associated tasks and competencies and asked a group of 30 experts to rank the importance of each role.

## Key literature reviews about online educator roles

There were three key studies that conducted literature reviews with similar objectives to our own:

1. "University Teacher Roles and Competencies in Online Learning Environments: A Theoretical Analysis of Teaching and Learning Practices" in the European Journal of Teacher Education (Alvarez et al., 2009)
2. "Transforming Online Teaching Practice: A Critical Analysis of the Literature on the Roles and Competencies of Online Teachers" in Distance Education (Baran et al., 2011)
3. "Pedagogical Roles and Competencies of University Teachers Practicing in the E-Learning Environment" in the International Review of Research in Open and Distributed Learning (Carril et al., 2013).

Alvarez et al. (2009) focused on using the roles of the online educator to help identify the competencies and the associated tasks that are required to fulfil the roles. They examined both the literature in the area, and recent professional development activities that had been available in the universities associated with their project. They concluded that there are three roles unique to the online environment; (1) a designer/planning role, which includes course planning, organising, leading and controlling; (2) a social role which is concerned with influencing students' relationships with their peers and educator(s) and (3) a cognitive role which "deals with mental processes pertaining to perception, learning, information storage, memory, thinking and problem-solving" (Alvarez et al., 2009, p. 332). They also deduce that there are transversal skills brought from the face-to-face domain such as managerial and technical skills.

Barran et al. (2011) used a search strategy that was similar to this report, looking back at a twenty year span. They used three principles of transformative learning, as defined by Mezirow (1991) as a lens to critically select and analyse the final 11 articles for their review, six of which are also included in this study (Cited in Baran et al., 2011 pg. 242). They also identified Berge's (1995) four roles and further examined the social role in the context of Anderson, Garrison and Archer's (2001) and Salmon's (as cited in Baran et al, 2010) work. Thus they include the facilitator, instructional and technical as distinct roles that may precipitate the requirement to have other specialised professionals, such as instructional designers, media developers and technology experts involved in a collaborative team-based approach to online learning (Abdous, 2011; Baran et al., 2011).

Carril et al. (2013) conducted a literature review in order to frame a questionnaire that would determine the proficiency level, and willingness to engage in training, of their online educators. They reported 13 roles from 14 different studies, six of which are included in this review. They amalgamated the competencies they identified into eight roles, broadly based on those eight identified by Bawane and Spector (2009), and used these as a basis for their questionnaire.

## Online educator roles

In this section we build on the previous, to encompass the new roles and competencies that have emerged since 2010. At the end, we present our synthesis of those role descriptions. There have been many different roles considered for the online educator. Appendix C contains a list of the roles identified in the reviewed literature. In addition, there have been many different approaches to defining those roles. For example, Gómez-Rey, Barbera, and Fernández-Navarro (2018) used a 69 item Likert scale survey, administered to students, to complete a bottom up approach to compiling the online educator role descriptions. A new role, the life skills promoter role was identified by the students in this study. This role requires transversal skills such as teaching values and empathy. Badia et al., (2017), examined the roles of online educators with respect to different approaches to teaching in a survey of part-time online educators. They identified a new role, the learning support role. When acting in the learning support or the social role online educators often use a collaborative learning approach. The main roles identified since 2010 in the literature are defined in Table 7.

Table 7: Online educator roles identified in the literature since 2010.

Role	Definition
Life skills promoter role	Life skills can be defined as personal management and social skills that are necessary for adequate functioning on an independent basis (Gómez-Rey et al., 2018).
Designer/Planning pole	Includes instructor behaviour related to course planning, organising, leading and controlling (Alvarez, Guasch, & Espasa, 2009).
Learning support role	Corresponds to different teaching tasks, such as monitoring, guidance and evaluation of student participation in social interaction activities, orientation of individual study processes, control and monitoring of the learning pace, explanation of the methodology and the organization of study time, and the presentation and sequencing of learning activities (Badia et al., 2017).
Facilitator	(Baran, Correia, & Thompson, 2011) gave no definition
Content expert	No clear definition given but relates to four items on the questionnaire used in the study: (1) I can prepare my instructional material (handouts, presentation, etc.) in advance in order to delivery content to participants; (2) I always update online learning resources to participants; (3) I can enhance my professional knowledge and skills about e-learning; (4) In order to reinforce my professional development, I am willing to join scholarship communities (Chang et al., 2014, p. 92).
Personal	Complies with ethical and legal standards, adopts a positive attitude and commitment to e-learning, shows sensitivity during the communication process and in online contacts (Carril et al., 2013).

A number of studies also examined the roles from the point of view of central and peripheral (Carril et al., 2013; González-Sanmamed, Muñoz-Carril, & Sangra, 2014; Metz & Bezuidenhout, 2018). Carril et al. (2013) considered the pedagogical role as central and all seven others as peripheral. According to Metz & Bezuidenhout (2018) the content facilitator, metacognition facilitator, technologist, process facilitator, assessor, advisor and resource provider are all central roles and manager/administrator, designer, co-learner, and researcher are peripheral.

The difficulty of assimilating the roles and competencies of the online educator was acknowledged in the literature (Carril et al., 2013; Goold et al., 2011). In addition, Baran et al. (2011) point to a problem with separating the technologist role from that of the pedagogical one, as integrating technology with pedagogy is essential for online teaching.

Goold et al (2010) reported on a tutor model put forward by the European Union eTutor project which illustrates how the various roles interrelate to the four Berge's (1995) roles and is reproduced in Figure 4 below.

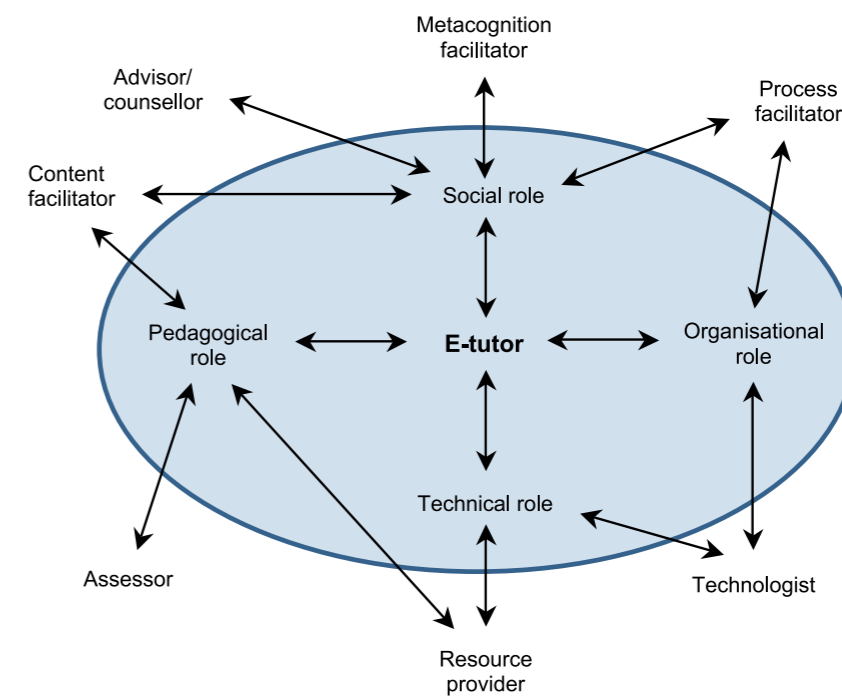


Figure 4. E-Tutor Roles. Reproduced from Goold et al (2010, p. 707).

## #Openteach model of online educator roles

In answer to the first research question of this report: *What is the role of the online educator?* we revisited the roles as defined in Table 5 and compared them with the new roles we found in the literature, as outlined in Table 7 and Appendix C. While we acknowledge the difficulties associated with assimilating these roles, there is a need to have a limited number of roles when using them as a basis for further research or to determine professional development needs. Therefore, we provide a synthesis of the role definitions provided in the literature using the following seven roles: facilitator; content expert; managerial; pedagogical; social; technical; and assessor (see Figure 5 below). In addition, there are three roles that may be taken on by other staff involved in the provision of the online course: instructional designer; researcher and evaluator. Table 8 contains a definition for each of these roles.



Figure 5. #Openteach model of online educator roles.

Table 8. The #Openteach model of online educator roles: Definitions.

Role	Definition
Managerial	This encompasses all managerial, administration and organisational functions that an online educator must perform.
Pedagogical	This role relates both to the interactive pedagogies used by the educator and the cognitive support given to the students.
Social	The social role includes providing a friendly environment, mentoring and supporting students pastorally.
Technical	This role covers all aspects of technology, including that of supporting students use of technology and using technology both pedagogically and administratively.
Assessor	This role includes both the assessment and feedback that is given to students.
Facilitator	In this role the online educator creates a student centred learning environment and encourages students to take ownership of their learning. The facilitator monitors and guides student interaction.
Content expert	The educator must take on the role of a knowledge expert
Instructional designer*	In this role the educator designs the course for the online environment.
Researcher*	In this role the educator researches the course content and ensures it is up to date.
Evaluator*	In this role the online educator evaluates their actions and the course material and content to suggest improvements

\* May be provided by other personnel within a team



# Online teaching competencies

3

## Section three: Online teaching competencies

In section three, we first examine what is considered to be effective online teaching. We then outline the related competencies as found in the literature. Finally, we synthesise the competencies we found with what is considered effective online teaching and outline some of the necessary skills required of online educators. In this report, competency is defined as “more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context” (OECD, 2005).

### What is effective online teaching?

Thirteen of the articles reviewed discuss characteristics that are required from an effective online educator. Three of these refer to the work of Chickering and Gammon (1987) on the seven principles for good practice in undergraduate education and their implementation in technology enhanced education (Chickering & Ehrmann, 1996). These principles are: (1) encourage student-faculty contact; (2) encourage cooperation among students; (3) encourage active learning; (4) give prompt feedback; (5) emphasise time on task; (6) communicate high expectations; (7) respect diverse talents and ways of learning (Gorsky & Blau, 2009).

These principles are also found in the literature on characteristics of effective online educators. For example, when examining the literature in this area Edwards, Perry and Janzenl (2011) found that exemplary online educators ensure interaction, build communities and have ‘persistent presence’, which encompass principles (1) and (2) above, and that they give prompt feedback, which aligns with principle (4). In addition, Edwards et al (2011) discussed studies that referred to the necessity of online educators remaining enthusiastic and organized during the course and developing novel or creative activities (Edwards et al., 2011). When students, in the Edwards et al. (2011) study, were asked for their opinions on effective online educators they said that those educators who were challengers, affirmers and influencers were most effective. Challengers are those who set high standards, which aligns with principle (6) above. Affirmers acknowledge when students are succeeding in their work and treat them with respect, identifying and rectifying problems. This aligns well with principle (7). Finally, influencers are teachers who through being content experts and having a strong online presence have a positive impact on students resulting in significant “learning moments” (Edwards et al., 2011, p. 111). This final characteristic is reflected in principles (1) and (2) above. To some extent these characteristics are summarised in the quote from Gorsky and Blau (2009), “teaching effectiveness may be defined as how an instructor can best direct, facilitate and support students toward certain academic ends, such as achievement and satisfaction” (p. 1). In their study, Gorsky and Blau (2009) compared two instructors’ facilitation of an online course using the community of inquiry (CoI) model as a research framework. They found that the instructor who was most highly rated by the students had a greater teaching and social presence and a faster response time. Timely responses by educators in all aspects of the teaching and learning process leads to better outcomes (Martin, Ritzhaupt, Kumar, & Budhrani, 2019). According to Coker (2018) student engagement and interaction needs to be supported to ensure effective facilitation of online courses. Felix (2003) likened the role of the online instructor to that of a “a good conductor facilitating, guiding and sharing the control and ownership of the music with

the players” (as cited in Adnan, 2018, p. 90). In the broader context of the online educator role as an instructional designer, Martin et al. (2019) consider that there are three components to effective online courses: design; assessment and evaluation; and facilitation.

### What are the competencies of an online educator?

In this section we first document the online teaching competencies that emerged from the literature. We then focus on the necessity of enacting teacher presence to ensure effective online teaching.

Much of the literature on the competencies required by an online educator refers to the functions or skills required to complete a specific role. Abdous (2011, 2011, p. 64) used the definition of competency as being the “knowledge, skills, ability, and attitudes required to effectively perform roles”. Competencies are intrinsically linked to roles. Goodyear et al. (2001) documented roles, the main tasks associated with each role and the competencies required to carry out those tasks. One of the early studies, Williams (2003), used a panel of experts to discuss and critically examine the roles and competencies of the distance educator. They identified 30 competencies and then classified what they considered the most important ones into 13 different roles (Williams, 2003). However the literature on roles and competencies considers that competencies are context specific or socially situated (Alvarez et al., 2009; Baran et al., 2011; González-Sanmamed et al., 2014). In addition, educators may share responsibility for the delivery of the online course with other staff such as instructional designers, and thus need not necessarily be skilled in the associated competencies (Alvarez et al., 2009; Baran et al., 2011). There is no consensus in the literature regarding competencies associated with the roles, some studies created specific roles for competencies that others allocated to one of the more generalised roles as in Berge’s (1995) original four roles (Alvarez et al., 2009; Baran et al., 2011). Examples where studies aligned competencies to roles include Bawane and Spector (2009) who compiled a list of eight roles with the associated competencies which they then used to develop a survey instrument asking experts to rank the importance of each role. Carril et al. (2013) also reviewed the roles and competencies of online educators and categorised them into eight roles and their associated competencies (Carril et al., 2013).

Table 9 contains a list of the roles we identified and aligns them with the associated competencies. For a more complete list of the competencies of the online educator as identified in the literature see Appendix D.



Table 9. Online Educator Roles and Competencies.

Role	Competencies
Managerial	Manage time and course; demonstrate leadership qualities, establish rules and regulations; follow efficient management and administrative procedures; maintain contact with the rest of the teaching and administrative team.
Pedagogical	Use appropriate pedagogical approach to match the technology; organize and promote different tutorial modalities; organize and facilitate student participation; link the subject with scientific, social and cultural phenomena; validation of student knowledge acquired; use a virtual classroom to facilitate learning; apply aspects of collaborative, active, constructive, reflective and authentic learning.
Social	Maintain a cordial learning environment; resolve conflict in an amicable manner; refrain from undesirable behaviours; act as an information facilitator; improve the learning environments; send messages to support students; give feedback and encouragement to student interactions and communications; keep the classroom/course/ university degree coordinator informed about the progress and the possible problems that may arise.
Technical	Ability in technical procedures to develop multimedia content and to adapt them to e-learning environments and to use features of the main platforms, resources and virtual tools; support students with technology.
Assessor	Assess students' work according to established criteria; monitor individual and group progress; assess individual and group performance.
Facilitator	Personalize the learning for individual learners; encourage creativity; respect different learner types and adapt to the learner.
Content expert	Keep current in the content area to facilitate learning; selection and use of appropriate resources to match content and learning outcomes.
Instructional designer*	Draft and develop digital materials, learning and assessment activities and course contents. Have associated technical skills.
Researcher*	Conduct research on classroom teaching; interpret and integrate research findings in teaching.
Evaluator*	Evaluate the course/programme.

\* May be provided by other personnel within a team

The final three roles; instructional designer, researcher, evaluator in Table 9 are context dependent.

## Importance of teaching presence

A key finding of the literature review was the emphasis on the importance of teacher presence in online environments, with 16 of the articles reviewed making reference to teaching presence. In a study that crowdsourced experienced online educators' recommendations for online teaching, Dunlap and Lowenthal, (2018) found that "...the highest number of recommendations shared by experienced online educators fell into the 'presence' theme..." (p. 84). Anderson et al. (2001) defined teaching presence as "the design, facilitation and direct instruction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (p. 5). The use of the community of inquiry model has made the concept of teaching presence ubiquitous in the literature.

### Community of inquiry (CoI) model

While research into specific roles for online educators began with Berge (1995), the work of Garrison, Anderson and Archer (1999) sparked discussion on the idea of online educator presence. In the community of inquiry model Garrison et al. (1999) consider that learning occurs within the intersection of cognitive, social and teaching presence. Cognitive presence is concerned with making meaning through continued conversation, social presence is the projection of oneself as a real person within the online environment and teaching presence is achieved through the design of the learning environment and its activities and the facilitation of the interactions between the three presences. Both the student and the educator have roles within the three elements of the CoI model (Garrison et al., 1999).

Establishing a sense of a learning community within online courses is key and can help overcome some of the isolation felt by students in online teaching (Abdous, 2011; Dunlap & Lowenthal, 2018). Students are known to be more satisfied with their course when they get to 'know' the instructor (Gorsky & Blau, 2009; Trammell & LaForge, 2017). Gorsky and Blau (2009) used the community of inquiry model to analyse and compare how two educators had facilitated their respective subject-matter forums in an online course. They found high levels of both social and teaching presence in one of the forums, where students actively participated, and these students rated their educator higher than those students in the other forum. One of the factors that influence student satisfaction was that the highly rated educator's response time was short (Gorsky & Blau, 2009). Dunlap and Lowenthal (2018) used a crowdsourcing method to gather online educators' recommendations on how best to teach online. Four main themes emerged, each one resonating well with at least one of the three presences defined in the community of inquiry model (Dunlap & Lowenthal, 2018). Feng Xie and Liu (2017) used the community of inquiry model to develop strategies that educators can use to scaffold student learning. They found evidence in the online interactions that varying scaffolding levels at different stages in the course was beneficial to the students. While examining the individual expertise and dispositions that educators bring to online courses, Coker (2018) stated that the community of inquiry model's focus on the learning experience may obscure the "diversity of experience that lecturers bring to their teaching" (Coker, 2018, p. 137). Coker (2018) found that educator presence, which is positioned at the intersection of social and teaching presence (Richardson et al., 2015, as cited in Coker, 2018, p. 137), significantly affects the dialogic activity within the online course and that the educator's social and cultural outlook impacts the nature and patterns of the activity on course discussion boards.

Social presence, which focuses on the building of student and teacher relationships, has been found to be an important aspect of online teaching (Baran et al., 2011; Dunlap & Lowenthal, 2018; Guasch, Alvarez, & Espasa, 2010; Smits & Voogt, 2017; Trammell & LaForge, 2017). When online educators model good social presence online discussions improve (Corfman & Beck, 2019). One of the expert educators interviewed by Coker (2018) said “social presence is really important ... they’re (students) looking for that level of reassurance ...” (Coker, 2018, p. 134). Getting social presence right from the beginning of the online course is important. Feng et al (2017) found that effective scaffolds for social presence at the beginning of the course ensured students social presence was maintained throughout the course (Feng et al., 2017).

Some authors believe that there are more than three presences involved in online teaching (Coker, 2018; Martins & Ungerer, 2017). Martins and Ungerer (2017) examined educators dispositions to teaching in an online environment using a previously validated “Virtual Teaching Disposition Scale” (VTDS) which was developed based on the three presences of the community of inquiry model and the addition of a fourth, the virtual/technological presence. This virtual/ technological presence sought to measure whether the educator was motivated to improve their online presence and their ability to incorporate new technologies. Martin and Ungerer (2017) found that staff were confident in their social, pedagogical and technical presence but less so in their virtual/technological presence. This lack of confidence is as a result of “IT problems, lack of support and insufficient time allowed for academics to design online material and resources, linked with a lack of assistance/ support and mentorship” (Martins & Ungerer, 2017, p. 169). The results of their study indicated the existence a fifth presence, that of academic presence. Academic presence is concerned with the educators ability to communicate effectively in writing and being committed to academic expertise, which may be attributed to the requirement, in online environments, to communicate in writing rather than verbally (Martins & Ungerer, 2017). Building on the community of inquiry approach, Shea and Bidjerano (2010) propose an enhancement of the model through a fuller articulation of the role of online learners in the form of learning presence.

## Competencies for effective online teaching

We have aligned the competencies required for effective online teaching, as found in our literature review, with an adaptation of Chickering and Gamson’s (1987) seven principles for effective teaching with technology in Table 10 below. We have excluded competencies related to instructional design intentionally as these are context dependent and may not be required of the online educator. The different features of effective online teaching have been grouped into three key elements: Presence, Facilitation and Supporting Students.

Table 10. Competencies for effective online teaching.

Key Elements	Effective online teaching	Competencies
Social Presence	Encourages student-faculty contact which establishes presence that will encourage a supportive learning community (Chickering & Gamson, 1987; Dunlap & Lowenthal, 2018; Edwards et al., 2011).	Communication skills, written and oral; modelling of good online behaviour; maintain a cordial learning environment.
Facilitation	Encourage cooperation among students.	Promoting interactivity within the group; facilitation of interaction; managing group work and building communities; advising/ counselling skills; facilitating participation among students; resolving conflict in an amicable manner.
Supporting students	Encourage active learning which supports students success and becoming a more agile educator (Chickering & Gamson, 1987; Dunlap & Lowenthal, 2018).	Creates and facilitates novel reflective pedagogically sound activities; utilises teaching strategies/models and general education theory; Uses internet tools for instruction; accesses various technological resources; selects the appropriate resource for learning; suggest resources to the students.
Supporting students	Gives prompt feedback and timely responses which supports students success (Chickering & Gamson, 1987; Dunlap & Lowenthal, 2018; Martin et al., 2019).	Provides opportunities to perform and receive feedback; monitors individual and group progress; assesses individual and group performance; Suggests measures to enhance performance.
Teaching Presence	Emphasise time on task.	Time manage activities to provide student time efficiencies; Manages the time and course; Establish rules and regulations.
Facilitation	Challengers, communicates high expectations, which will provide clarity and relevance (Chickering & Gamson, 1987; Dunlap & Lowenthal, 2018; Edwards et al., 2011).	Creates significant real life problems with rubrics for guidance; demonstrates commitment and favourable attitude; sustains students’ motivation, demonstrates leadership qualities; establishes rules and regulations.

Feature	Effective online teaching	Competencies
Supporting students	Affirmers, respects diverse talents and ways of learning and provides clarity and relevance through course structure and presentation (Chickering & Gamson, 1987; Dunlap & Lowenthal, 2018; Edwards et al., 2011).	Acknowledges when students are succeeding in their work and treat them with respect; provides different types of learning activities; addresses Universal Design for Learning (UDL) principles in all created materials; comply with ethical and legal standards; suggests measures to enhance performance; provide guidance based on student needs.
Teaching Presence	Administering the online learning environment (Metz & Bezuidenhout, 2018).	Managerial skills; structures online learning resources so materials are one click away.
Cognitive presence	Content expert which provides clarity (Dunlap & Lowenthal, 2018).	Content knowledge; library research skills; undertakes efforts to update knowledge; suggests resources to the students; conducts research on classroom teaching; interprets and integrates research findings in teaching.

## How to facilitate an online course

In the following sections we discuss themes that emerge from the literature with respect to the effective facilitation of online courses.

One of the first theories with respect to distance education was the theory of transactional distance put forward by Moore (1991) which highlighted the importance of the dialogue and interaction to mitigate against the separation of the student and the educator. Promoting interactions between students and educators has positive impact on student outcomes (Walters, Grover, Turner, & Alexander, 2017). Facilitating online courses is mainly concerned with supporting these interactions. Martin et al. (2019) put forward an interpretation of online course facilitation, in which it “.. broadly refers to how, what, when, and why an online faculty member makes decisions and takes actions to help students meet the learning outcomes” (Martin et al., 2019, p. 36). However, the pedagogical approaches to online teaching may differ between online educators as they bring different perspectives, personal beliefs, attitudes and dispositions to online teaching and the use of technology (Borup & Evmenova, 2019; Coker, 2018; Englund, Olofsson, & Price, 2017; Martins & Ungerer, 2017). In a comprehensive mixed methods study on threshold concepts associated with online pedagogies Kilgour, Reynaud, Northcote, McLaughlin and Gosselin (2018) found that novice online educators’ perceptions of the barriers to facilitating online courses is itself a threshold concept. This is backed up by Carril et al (2013) who found that educators with more online teaching experience rated their levels of pedagogical competence higher (Carril et al., 2013).

Cultural difference may also impact. Feng et al. (2017) posit that the educational context in China which supports transmission of knowledge as a pedagogy is not conducive to a collaborative peer approach (Feng et al., 2017). They proposed a number of scaffolding strategies that online educators can use to better facilitate online teaching (Feng et al., 2017).

## Online course structure and consistency

The importance of course structure and the need for a systematic approach to content design was highlighted in the literature (Martin et al., 2019; Meyer & McNeal, 2011; Peacock & Cowan, 2019; Trammell & LaForge, 2017). Organising the course into weekly topics or assignments, chunking content and providing clear signposting are elements of course design that facilitate student learning (Martin et al., 2019; Meyer & McNeal, 2011; Peacock & Cowan, 2019). Consistency in structure from week to week allows students to know where they are within the learning process (Martin et al., 2019; Trammell & LaForge, 2017).

## Getting started

One of the important aspects to emerge from the literature is the requirement for the online educator to present the nature of the interaction required in the online course to students. Clarification of expected participation, standards of contributions and interactions and deadlines need to be explicit. (Abdous, 2011; Peacock & Cowan, 2019; Trammell & LaForge, 2017). Using an introductory video, getting in early in discussions and having icebreaker activities are all key to success (Coker, 2018; Peacock & Cowan, 2019). Award winning online educators use weekly announcements with reminders of the learning activities for the coming week (Martin et al., 2019).

## Facilitating discussions

When defining the roles of online educators, Berge (1995) considered that the most important role is to enact effective teaching and quoted Rohfeld & Hiemstra as saying this entails “the responsibility of keeping discussions on track, contributing special knowledge and insights, weaving together various discussion threads and course components, and maintaining group harmony” (Rohfeld & Hiemstra 1995 as cited in Berge, 1995, p.10).

When considering how online educators experience the facilitation of online discussions, Coker (2018) proposed a model with three foci: knowledge; affect; and dialogue. A focus on knowledge is used for “confirming, challenging, or consolidating the students’ answers” (Coker, 2018, p. 138). Affect is concerned with students awareness of their own competencies and “each student is supported with a response that focuses on encouraging and valuing their participation” (Coker, 2018, p. 138). Dialogue is centered around a collaborative constructivist approach to teaching by adding new thoughts, or introducing a new concept and inviting responses (Coker, 2018). Online educators may emphasise one of these foci, but all three will always be present. The job of the online educator in facilitating discussions is to “take it outwards, to bring in a new idea, to ask a question and in some cases to share opinions” in order to avoid the early termination of a discussion (Coker, 2018, p. 136).

According to Abdous (2011) online educators "... need to share, listen, answer questions, and show enthusiasm, while paying careful attention to students' needs, providing direction, and drawing students toward active engagement and participation in the discussion" (p. 66). As well as encouraging student contributions Berge (2008) suggests that online educators need to manage the 'overly outspoken' student by asking them to wait for others to contribute. While considering creativity in online discussions, Corfman and Beck (2019) quoted studies that found requiring participation and providing grades in discussion activities promoted better discussions. One of the challenges faced by online educators is the difficulty in getting students to post online. Kibaru (2018) interviewed online educators about challenges they faced in online teaching and they found that educators claimed that even when students had clear questions they were sometimes afraid to post this to a discussion forum. One way to overcome this difficulty may be to make sure that the online educator themselves posts early in the class as well as responding individually to students when they post (Peacock & Cowan, 2019; Smits & Voogt, 2017). Peacock and Cowan (2019) quoted a student who said "you cared enough to come to meet us (online) before we arrived. That set the tone for my course experience" (p. 72). It is important for students to receive considered responses to their discussion postings and Mbatl and Minnaar (2015) quote an experienced online educator "... I am able to refer to prior postings...I am also able to refer my students to these prior postings ... I have found this to be very helpful to the students learning and my teaching is made easier" (p. 278).

Smits and Voogt (2017) recommend that online educators post regularly, at least three times a week, acknowledge individual contributions and include pedagogical feedback. Martin et al. (2019) quoted award winning educators who said they check their discussion boards every day. Responding to all discussion forums posting may become onerous, particularly in large classes (Kibaru, 2018; Setlhako, 2014). Trammel and LaForge (2017) suggest that "encouraging peer-to-peer interaction will help manage an instructor's workload in a large class while also meeting student's preferences". Additionally, dividing large classes into groups and using grading rubrics will contribute to reducing the load. However, many online educators recognise the value of their work in responding to the forums. "Although this is more work for me I still find this very rewarding as the students are the ones who excel and I feel motivated to further assist them" (Mbatl & Minnaar, 2015, p. 280).

## Feedback to students

One of the issues of discussion forums is around their use for managerial rather than cognitive purposes. Goold et al. (2010) found that most of the discussion postings in a third year module at Deakin university were managerial in nature and that it was the experienced online educators who posted cognitive type messages. Students are motivated to learn by receiving timely and quality feedback. Quality feedback includes constructive criticism, reassurance, correcting misunderstandings and providing more information (Abdous, 2011; Corfman & Beck, 2019). Berge (2008) highlights that technology provides new ways of providing feedback. Using video feedback in a professional development module for online educators was 'transformative' and "changed the way [online educators] looked at providing feedback to students" (as cited in Borup & Evmenova, 2019, p. 13). Video and audio responses were also found to be very effective in discussion forum contexts (Peacock & Cowan, 2019).

Providing automatic feedback and repeat opportunities using online quizzes helps students learn through diagnosing their own mistakes (Meyer & McNeal, 2011). The very nature of the online course provides more opportunities to provide feedback, Meyer and McNeal (2011) report from a study of experienced online educators who "felt that that online learning definitely increased students' access to them. ... increased their one-on-one time with students; ... allowed them to tailor instruction to an individual, troubleshoot learning problems, or just provide a more personal touch to the course"(p.43). Smits and Voogt (2017) examined the content of messages posted by highly rated online educators and found that their messages provide specific positive feedback.

## Content and context

Many of the expert or award winning online educators that were referred to in the literature, emphasised the importance of content knowledge and the need to provide real world examples (Coker, 2018; Dunlap & Lowenthal, 2018; Edwards et al., 2011; Goold et al., 2010; Meyer & McNeal, 2011; Smits & Voogt, 2017). The context of the student is also noted with reference to part time students who are also busy with work and caring responsibilities., "so it depends on your student population, if they're undergrad, if they're resident, not working full-time then you may you know design it or lay it out for them a little bit differently" (Martin et al., 2019, p. 39). Some modules may be subject-orientated and there is a need for the online educators to respond to students with further insights and with context for the principles being discussed (Coker, 2018; Corfman & Beck, 2019). Edwards et al., (2011) extend this idea further by suggesting that students like when online educators learn with them "perhaps in meaningful discourse there is a responsibility on the part of both the teacher and the learner to contribute knowledge in the form of examples, quotations, references, and insights to the conference exchange. In doing so, sustained discussion that is rich in quality as well as duration, is more likely to result" (p. 113).

## Reflection

The value of reflection in education stems from the work of Dewey and Schon in this area. Dewey highlighted the importance of reflection on the integration of teaching experiences in the theories of practice and Schon promoted both reflection in action and reflection on action (Harford & MacRuairc, 2008). While considering the transformational learning required by educators moving from face to face to online environments, Baran et al. (2011) and Meyer (2013) emphasised the need for critical reflection on their perspectives of the changing roles and competencies required for online teaching. Reflection on shared experiences was required of online educators in a professional development programme developed for online educators in Australia and while they actively engaged in this process the researchers were not convinced that this reflection contributed to their subsequent practice (Bell & Morris, 2009). Online educators should also encourage their students to reflect on their learning as they progress through the course, this will support metacognition and maybe particularly valuable when enacted as a discourse through group discussions (Abdous, 2011; Coker, 2018; Farrell & Seery, 2019; Peacock & Cowan, 2019).

## Learning activities

In order to engage students, and “make the materials alive” (Martin et al., 2019, p. 39) in the online environment it is recommended that consideration is given to the type and variety of the learning activities and to include experiential learning, real word or job related experiences, and online scenarios (Gómez-Rey et al., 2018; Martin et al., 2019; Meyer & McNeal, 2011; Shattuck et al., 2011; Trammell & LaForge, 2017). Award winning faculty stressed the need to align learning activities with assessment and to ensure that only what is needed to know is assessed (Martin et al., 2019). The selection and different use of the tools to be used, such as providing audio and visual resources or using discussion forums, blogs or wikis for discourse will also influence how effective the learning activities are (Gómez-Rey et al., 2018; Mbatl & Minnaar, 2015; Meyer & McNeal, 2011).

## Collaboration and group work

Group work in an online environment is not the same as in the face-to-face classroom. It requires careful consideration and needs to be contrived, highlighting the importance of the educator in a mediating role (Coker, 2018). Students need clear and practical guidelines to support successful collaboration and larger groups than normal are required as absences can be greater in the online environment (Gómez-Rey et al., 2018; Trammell & LaForge, 2017). The use of collaborative activities will increase student interaction which promotes social presence in the online course and allow an opportunity for students to share experiences (Martin et al., 2019; Meyer & McNeal, 2011; Trammell & LaForge, 2017). The focus needs to be on collaborative rather than cooperative to ensure the students interact (Trammell & LaForge, 2017).

## #Openteach competencies for effective online teaching

Drawing on the literature discussed above, this report emphasizes three key elements for effective teaching online:

1. Presence
2. Facilitation
3. Supporting students

Using Table 10 we mapped presence, facilitation and supporting students to the associated competencies drawn from the literature, see Table 11.

Table 11. Effective online teaching and competencies.

Effective online teaching	Competencies
Presence	Communication Modelling online behaviours Cordial learning environment Expectations Listen to students
Facilitation	Facilitate interaction Promote interactivity Encourage cooperation Resolve conflict Encourage active learning Implement instructional strategies
Supporting students	Feedback Monitor student progress Time management Manage learning environment Content knowledge Responsiveness



# Professional development for online educators

# 4



## Section four: Professional development for online educators

In section four, we explore the literature on professional development for online educators. First we consider the transition to online learning and then we consider the content and structure of professional development. The final section outlines the online learning theories in relation to professional development. There were 22 articles reviewed for this section.

### What is the most effective way of delivering professional development to part-time online educators?

The quality of online learning is firmly linked to the professional development and support received by educators for teaching in the online environment (Adnan, 2018; Englund et al., 2017; Kibaru, 2018; Vaill & Testori, 2012). Resistance by educators to online teaching is often attributed to the lack of understanding of pedagogies and learning theories in online education, professional development is essential in helping educators engage in online pedagogies (Adnan, 2018; Kibaru, 2018; Kilgour, 2018). Bawane & Spector (2009) proposed that professional development opportunities should be focussed on the competencies required for the most important roles of the online educator. Alvarez et al. (2009) suggested that both transversal skills, i.e. those brought by the educator from their face to face environment to online teaching, and skills specifically needed in the online environment are essential for online teaching. They emphasised the particular importance of the provision of professional development in the changing nature of the social role and in the new skills required for the designer/planning role. Gomez et al. (2018) support this idea of transversal skills when they discuss the need for the life skills promoter role. The use of roles and competencies as a basis for professional development programmes has been criticised by Baran et al. (2011) who suggest that there should be a focus on professional development that supports transformational learning which promotes critical reflection, supports integration of technology and pedagogical inquiry and empowers online teachers. Moreover, they point to the fact that competency based teacher education has been criticised and that there is a move towards a reflective and constructive approach.

### Transitioning from face to face to online teaching

Educators who move from traditional teaching to the online environment often bring their traditional pedagogies with them, which may not be as effective in the online environment; they need professional development on using online pedagogies (Baran, et al., 2011; Bezuidenhout, 2018; Meyer, 2013). Moreover, teachers have traditionally been subject experts rather than pedagogical experts (Bezuidenhout, 2018). In addition, educators who are confident in their abilities in face to face teaching may not bring this confidence with them to online teaching (Northcote, Gosselin, Reynaud, Kilgour, & Anderson, 2015). Online educators recognise that their role is continuously changing and that training gaps should be identified at regular intervals and timely ongoing professional development made available (Bezuidenhout, 2018; Ostaszewski, Moisey, & Reid, 2011). González-Sanmamed et al. (2014) found differences in the professional development requirements between the "Socio-legal and Humanities disciplines, and ... the Science, Health and Engineering' disciplines". The humanities educators called for more online educator training than their engineering counterparts, a finding consistent with the notion that the former belong to a concrete reflexive intellectual cluster and the latter to an abstract active intellectual cluster (González-Sanmamed et al., 2014). Similarly educators in the Bell & Morris (2009) study recommends that pedagogical knowledge is best developed within their own discipline (Bell & Morris, 2009, p. 702).

Kilgour et al., (2018) carried out a multiphase research study in the US and Australia that identified a number of threshold concepts experienced by novice online educators relating to three themes: (1) preparation and course design; (2) online presence; (3) interactions and relationships. Reporting from the same study Northcote et al. (2015) developed a set of recommendations for the implementation of effective professional development. Recommendations were to: (1) place pedagogy above technology; (2) cater for diverse levels of development; (3) allow teachers to take the lead; and (4) recognise emotional issues.

### Focus on part time educators

To ensure quality online teaching part-time educators should be provided with appropriate professional development opportunities approached in a systematic way (Bell & Morris, 2009; Rogers, McIntyre, & Jazzar, 2010). In addition, there is a need to integrate the part-time educator into the fabric of the institution and Rogers et al. (2010) recommend four measures for ensuring this:

1. Professional development programmes
2. Effective communication
3. Fostering balance in the adjunct's life
4. Forming interpersonal relationships

Part-time educators, who are sometimes excluded from the mainstream institutional supports, require training for their roles which can be critical to their success as online educators (Hitch et al., 2018; Rogers et al., 2010; Shattuck et al., 2011; Vaill & Testori, 2012). Evidence exists that part-time educators are keen to improve their teaching and some prioritise professional development for “marking assignments, providing feedback and managing difficult classes” (Hitch et al., 2018, p. 292). There are many different approaches to the training and support provided for part-time educators. Examples include online universities that provide professional development specifically designed for their part-time educators and mentoring programmes that keep connection between full and part-time educators (Vaill & Testori, 2012). The University of Wollongong in Australia has offered professional development for part-time educators to address the perceived imbalance between support provided to full-time and part-time educators (Dean et al., 2017). Also in Australia, the Benchmarking Leadership and Advancement of Standards for Sessional Staff (BLASST) project defined a framework, the Sessional Staff Standards Framework, that set criteria to promote good practice in implementing quality learning and teaching for these staff (Hitch et al., 2018). In the US, Shattuck and Anderson (2013) report on MarylandOnline’s “Certificate for Online Adjunct Teaching” (COAT) course which was aimed at providing quality, accessible training for part-time educators. Rogers et al. (2010) state that professional development of part-time educators must be aligned to the mission of the institution in order that they feel valued and part of that institution.

In summary, for educators employed on a part time basis, professional development should be flexibly designed to meet their specific needs and include mechanisms such as mentoring to maintain the connections between full-time and part-time educators.

## Novice vs. expert

The literature revealed that more experienced educators had different requirements than novices (Chang et al., 2014; González-Sanmamed et al., 2014; Walters et al., 2017). Walters et al., (2017) found that more experienced educators were more confident “in their ability to teach online, provide quick feedback to students, build relationships with students...” (p.15) than novice educators. Chang et al. (2014) found that experienced educators were more interested in training on instructional design than on facilitation skills, they were confident with their facilitation skills as they had been facilitating online courses for some time. In a study comparing self-efficacy of novice and experienced online educators, Northcote et al (2015) found differences in attitudes and requirements for three ‘generations’ of online educators:

1. The ‘first generation’, with little or no training, are wary of online learning;
2. The ‘second generation’, who have some experience in online teaching, have moved from why questions to technical questions;
3. The ‘third generation’, with plenty of experience are looking for more information on “creative delivery and learn (ing) through experimentation” (Northcote et al., 2015, p. 330).

Goold et al. (2010), categorised online postings of educators as either content, managerial, social or technical. They found that the more experienced educators posted more content type messages than the novice educators. The experienced educators encouraged students to engage in the learning activities and promoted deep learning, whereas the novice educators were more concerned with clarifying assignment details and ensuring students completed them on time.

## Barriers to professional development

Borup and Evmenova (2019) outline two sets of barriers to achieving effective online teaching: the first is concerned with issues that are external to the educator, such as the professional development available; and the second are internal such as teacher beliefs and attitudes. In this section we will look at two barriers:

1. Time and availability
2. Technological readiness

### Time and availability

The literature has pointed to the fact that developing materials for online courses is time consuming and that institutions need to support this process both in the allocation of scheduled time and provision of professional development (Baran & Correia, 2014). Educators, in a large multi-campus university in the US, identified lack of time and fixed schedules as a challenge to the uptake of online teaching as they were unable to attend professional development. They recommended that such professional development be given locally at a college level (Kibaru, 2018). Bezuidenhout (2018) refer to the lack of time as the ‘silent barrier’ and suggests that educators and their institutions have to manage time efficiently. Institutions need to be able to provide short flexible sessions, at times and places that suit the tutors (Baran & Correia, 2014). Educators’ perceptions of their roles may also impact on their willingness to engage in professional development, “...persons who saw their role as guides to learning were more likely to complete all of the faculty development modules than faculty who saw their role as providers of content” (Meyer, 2013, p. 11).

### Technological readiness

Baran and Correia, (2014) highlighted that the lack of technology skills can impact educator’s ability to engage with aspects of online teaching such as student engagement. They suggest that technology support is required, particularly when they are transitioning from face-to-face to online. Educators with experience in using technology ‘due to past experiences’ had no difficulty in creating digital artefacts (Adnan, 2018). This was also reflected in the use of the VLE during a training programme, those unfamiliar with Moodle took some time to grasp it (Adnan et al., 2017). Reporting on an evaluation of an Online Teaching Initiative (OTI) course in a university in the US, Borup and Evmenova (2019) found that those educators who weren’t ‘ready’ with the technological skills had a deep learning curve and may not have benefited from the exposure to new tools as much as educators who had prior experience.



## Enablers for professional development

Educators with training and experience in online teaching identified the following institutional infrastructure issues; “enrolment systems, technical support, professional development needs, workload and time issues, and role clarification among administrative and academic staff” as having a bearing on their ability to engage in professional development in (Northcote et al., 2015, p. 328). These are discussed under two themes below:

1. Time, schedules and locations
2. Institutional support

### Time, schedules and locations

There is also a move towards ‘just-in-time’ professional development (Northcote et al., 2015). Educators have identified that the shift to online teaching can appear overwhelming and that implementing small changes at a time will benefit them (Sword, 2012). Canadian online educators noted that professional development that can be enacted immediately and that fits in with their schedules works best (Adnan, 2018). Baran and Correia (2014) reported that studies showed that educators require professional development that fits in with their schedules, and, that could be used within a current course. The importance of fitting into educator schedules was also highlighted by a State University of New York (SUNY) initiative. They developed a cross-campus professional development initiative to provide a shared service across their campuses, almost half of the 64 campuses had used the programme in its five year run (Sullivan, Neu, & Yang, 2019). Including educators from a diversity of education institutes, community colleges, comprehensive colleges and research institutions, who had a varied level of pedagogical experience and technical knowledge, and who came from different disciplines, proved invaluable to the shared experience.

### Institutional support

It is clear from the literature that institutional support for all aspects of online teaching is critical to its success (Adnan, 2018; Baran & Correia, 2014; Northcote et al., 2015; Walters et al., 2017). Walters et al. (2017) found that one of the most important factors for online educators was the reliability of the technology. Despite the fact that the College of Education in a mid-west US campus provides good faculty support, the online educators expressed a need for “improved technological,... administrative support ...to overcome issues arising from: ..., limitations of course management systems, acquisition and maintenance of newer innovative technologies for teaching and learning” (Kibaru, 2018, p. 184). Overall institutions have a responsibility to provide their online educators with both professional development and ongoing support (Vaill & Testori, 2012). This requirement is strongly reflected in the needs of part-time educators. In a literature review on the status of professional development for part time educators, Hitch et al. (2018) identified studies that suggested part-time staff need to have a sense of belonging through the provision of ‘support, development and supervision’ in order to increase retention and job satisfaction.

## Evaluating the impact of professional development

Brinkley-Etzkorn (2018) note that there are many ways to approach the evaluation of the impact of professional development but that they fall into two broad categories:

1. Beliefs, confidence, and attitudes
2. Teaching behaviours, abilities, and effectiveness

Meyer (2013) was critical of the lack of rigor used to determine the effectiveness of evaluations of professional development programmes. She stated that it is difficult to compare the different models of professional development due to a lack of consistency in the presentation of the models and suggested that disentangling the various elements of professional development provision to identify which ones support and achieve which goal will help us identify effective professional development strategies. In a subsequent article (Meyer & Murrell, 2014) identified the main measures that have been used to evaluate online educator professional development. These were “... satisfaction, assessment of usefulness, and assessment of relevance” (Meyer & Murrell, 2014, p. 10). They found that 72% of those surveyed used assessment of educator competencies and just under half used measures of evidence of critical reflection. Student evaluations were considered by half of those surveyed, but the use of student grades by one third was considered problematic due to the multiple influences on student grades. They expressed concern with the lack of measurement around both the cost of the professional development provided and whether educators understand the research behind the basis of the training programmes. In a similar vein, Borup and Evmenova (2019), who used educator perceptions of changes in knowledge and attitudes when evaluating the impact of a professional development program, acknowledged the need to take observable measures of those changes.

To summarise, there is a need for rigorous evaluations of online educator professional development programmes and a better focus on the various ways educators may want, or be able, to engage in the professional development programmes.

### Educator expectations from professional development

Only a few studies considered the reasons educators themselves enrolled on professional development. Educators expected to develop their teaching capabilities using technology, experience being an online student, and to receive practical information about managing the online course (Adnan et al., 2017). In addition educators were looking for qualifications (Dean et al., 2017).

### Satisfaction with professional development

Mentoring and professional development opportunities can increase satisfaction with teaching, enhance the quality of teaching and raise staff retention rates (Dittmar & McCracken, 2012; Meyer, 2013). Adnan (2018) advocate the use of measures such as readiness and satisfaction to evaluate online professional development courses, quoting sources such as Garrison and Anderson (2003). They found a correlation between educator satisfaction and readiness in a compulsory online professional development course e-tutor, introduced in a Turkish state university. Readiness refers to having “knowledge, skills and regular access to appropriate technologies” and has been shown elsewhere to predict satisfaction (Adnan, 2018, p. 93). There is evidence in the literature that the sense of belonging to a community and teacher presence are predictors of student satisfaction in online courses (Baran et al., 2011; Brunton, Brown, Costello, Farrell, 2018; Dean et al., 2017; Feng et al., 2017). However, satisfaction alone is not a measure of the effectiveness of a course, there is a need to use data from multiple sources to evaluate professional development (Brinkley-Etzkorn, 2018). Vaill and Testori (2012) used a range of measures to indicate educator satisfaction with an online course such as level of preparedness to teach online after completing the course.

### Content and structure of professional development

Care needs to be taken that neither one pedagogy nor one discipline dictates the content of the professional development programme as this will not facilitate exposure to the diverse nature of pedagogies available for the online environment (Lane, 2013). Reflecting on the educator evaluation of the professional development opportunities provided in the University of Melbourne, Bell and Morris (2009) concur with a growing body of evidence that professional development for online educators should include elements that reflect their disciplines. González-Sanmamed et. al. (2014) found that educators request professional development in all of the roles that are required for online teaching. In a study of educators in South Africa, significant gaps in competence were identified in many areas including:

1. becoming an online teaching expert
2. creating a friendly online environment
3. being a pedagogical expert
4. facilitating student interaction
5. providing emotional support (Bezuidenhout, 2018)

The need for Professional development on the integration of technology and pedagogy was also identified by educators in studies examined by Hitch et al. (2018) along with that of ‘managing very large classes, engaging academically diverse and time-poor student cohorts’ (p. 296).

Professional development should not simply consist of one off workshops or training opportunities, but be deliberately programmed (Vaill & Testori, 2012). Walters et al. (2017) report that standardised scheduled professional development opportunities should be made available along with the opportunity to get targeted, perhaps one on one, training and advice.

### Facilitation skills

A number of studies identified that novice educators required training on their facilitation skills (Chang et al., 2014; Walters et al., 2017). Goold et al. (2010) recommended that professional development on how to provide pedagogical support should be given to novice online educators, along with guides for best practice (Goold et al., 2010).

### Technology skills

Development of the use of technology tools, and their integration into pedagogy, was also prevalent in the literature. Feedback from participants in the Open online class to prepare educators to teach online, indicated that by having access to support in using tools increased their ability to use them in the classroom (Lane, 2013).

### Practical topics

Participants, in the e-Tutor programme, undeniably preferred ‘practical topics for example social media, e-assessment, graphic design (Adnan, 2018).

### Learning from others

Valuable learning occurred from the observation and interaction with peers in the professional development described in the literature (Baran & Correia, 2014; Kibaru, 2018; Shattuck & Anderson, 2013; Sullivan et al., 2019; Vaill & Testori, 2012). Baran and Correia (2014) discuss how techniques to include peer observations and peer support can contribute to effective professional development. Participants in a survey of educators and administrators in the US highlighted the fact that many online educators are not on campus and don’t have the opportunity to meet their peers, thus professional development is an ideal opportunity for them to meet up and share experiences (Kibaru, 2018). Learning from others is key in helping educators overcome barriers with respect to beliefs and attitudes to online learning (Borup & Evmenova, 2019).

### Which roles and competencies are important for professional development?

Bawane & Spector (2009) asked expert online educators to rank the eight roles of the online educator for relative importance in achieving effective online teaching. The pedagogical role was ranked as the most important, followed by the professional, evaluator, social, and technologist roles. They recommended that training of online educators should focus on the competencies associated with the pedagogical role. Carril et al (2013) used the competencies associated with roles as the basis of a survey that was used to determine online educators proficiency levels and their associated training needs. Focussing on the pedagogical role, educators rated their ability to develop content highest and to undertake student assessment lowest. However, they considered their greatest training need was for the organisation and facilitation of student participation. In a companion article González-Sanmamed et al. (2014) examined proficiency levels in what they called peripheral roles: social, evaluator, manager, technologist, advisor/counsellor, personal, and researcher. In the social role the greatest need for professional development arose for the competency “encourage and stimulate positive participation in a friendly learning environment” (González-Sanmamed et al., 2014, p. 168), which mirrors the associated pedagogical role competency training needs identified by Carril et al (2013).

Metz & Bezuidenhout (2018) conducted a study on educators' perceptions of their roles in an online course. These educators, on independent contracts, each supported up to 200 students in first-year modules that were led by a lecturer. At the end of a two-year period they were asked to rank their roles, in both importance and time spent, from a given list of administrative, informative, managerial, pastoral, pedagogical, social, and technical. They spend most time on the informative role followed by administrative, pedagogical and managerial, while spending the least time on the social and pastoral roles. Similarly, they ranked the informative role as most important and social and pastoral as least important. While acknowledging educators' comments about the lack of participation by the students and misalignment and misunderstanding of the role of the educator by students, lecturers and the institution, Metz & Bezuidenhout (2018) recommended that such educators require pedagogical training on how to provide the pastoral and social role required to encourage student participation.

In another study, Chang et al. (2014) reported from a survey of over 200 online educators in universities of Taiwan who were asked to rank their perceived importance of eight roles and to indicate which roles they practice most. When they examined the differences in practices between online educators who had received different levels of training, significant differences existed for the practices of instructional design, learning assessment, and technology use, those with training practicing these roles more. They recommend that this type of training be made available to all online educators (Chang et al., 2014). The importance of the educator role was also highlighted by Shattuck et al. (2011). The educator who facilitated the COAT online educator professional development programme recognised that there is a distinction between the role of course design and the online educator's roles for both students' satisfaction and success and that the "most important roles of the online instructor were to set the tone for communicating online and to serve as a guide" (Shattuck et al., 2011, p. 57). Quoting systems theory, Bezuidenhout (2018) recommends that professional development should be underpinned by competency development.

## Learning theories and professional development

In this section we discuss some of the models and frameworks that emerged from the literature. Five key learning theories and frameworks were evident in the literature in relation to the professional development of online educators:

1. The TPCK Framework
2. Community of practice
3. Connectivism
4. Situated learning
5. Threshold concepts

## TPCK framework

The Technological, Pedagogical, and Content Knowledge (TPCK) framework enables teachers to consider how their knowledge of content, pedagogy and technology interact to enable them to develop effective teaching strategies. It provides a lens through which we can examine effective online teaching (Mishra & Koehler, 2006). Additionally it has been used as a framework to design professional development opportunities for teachers (Northcote et al., 2015). In a Turkish based university all prospective online educators must attend structured online professional development modelled on the TPCK framework. The results of a survey of past attendees indicated that they considered their technological knowledge prior to the course was sufficient for participation in the training but that their pedagogical knowledge was insufficient, thus indicating the need to modify the professional development to include more pedagogical knowledge (Adnan, 2018). Participants on another TPCK based professional development training programme, the Online Teaching Initiative (OTI), in the US were asked to complete a pre and post-test on their TPCK skills. Results pointed to an increase in their Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK) and Technological Pedagogical Content Knowledge (TPACK). However their Technological Knowledge (TK): "Knowledge about standard technologies, ... and more advanced technologies, such as the Internet and digital video", did not increase significantly, indicating the need to ensure that participants' base technological skills are at a prerequisite level before participating in professional development (Borup & Evmenova, 2019, p. 3).

Karen Brinkley-Etz Korn (2018) carried out a similar study of a professional development programme for online educators in a large US university. Data was gathered from three sources: (1) student evaluations pre and post educator professional development; (2) educator course material pre and post professional development; and (3) an educator completed survey one year after the professional development assessing their self-rated level of TPCK skills. While the student ratings had not changed significantly the educators' course materials had shown evidence of incorporation of the professional development training. Educators rated their skill development higher in pedagogy than technology. The authors consider that this points to a lack of understanding of how technology and pedagogy are interrelated or that the TPCK framework is not reflective of the actual way educators learn to teach online (Brinkley-Etz Korn, 2018).

## Communities of practice

Lave and Wenger (1991) were first to discuss the idea of a community of practice in educational terms. They consider that learning does not occur in isolation, but is a continuous process, whereby learners from within the same communities learn from each other, as apprentices learn from other apprentices and experts. Barran and Correia (2014) developed a framework that models effective professional development for online educators. This framework has three levels where support, in the form of professional development or otherwise, should be provided. The teaching level comes at the base of the framework and consists of those supports for technology, pedagogy and content, similar to those outlined in the TPCK model. The next level, the community, outlines the opportunities online educators should be given to socially construct their practices. The top level is the support that the organisation needs to provide such as recognition of commitment and the required technology infrastructure. The authors are clear that the organisation level should envelope and support the communities of practice, and similarly the community level should support the teaching activities. The benefits of these communities of practice are many, from providing mutual support to colleagues about frustrations they encounter in the online environment to sharing best practice (Baran & Correia, 2014).

In an effort to address the issues surrounding the professional development of part-time educators, the University of Wollongong in Australia initiated a flexible professional development course where participants engaged and completed modules at their own pace. One of the key outcomes was the educators' endorsement of the opportunities to share practices and discuss the challenges they face on a daily basis. The communities of practice were maintained throughout the year contributing to an increased confidence participants reported in their teaching (Dean et al., 2017). Maryland university introduced a Certificate of Adjunct Online Teaching (COAT) to address the training requirements of part time educators moving to teach in the online environment. Participants indicated that being part of a learning community had been a positive benefit of attending COAT and influenced their teaching. Learning from more experienced educators and troubleshooting issues in a CoP was invaluable (Shattuck & Anderson, 2013). This idea of sharing success stories was also identified by the online educator experts in Dunlap & Lowenthal (2018) investigation into recommendations for teaching online.

## Connectivism

Some of the studies identified the need for professional development that enables educators to facilitate online learning communities amongst their students, and enable them to make the connections between the different complex information sets they encounter during their learning. This relates to the theory of Connectivism as a learning theory proposed by George Siemens (Metz & Bezuidenhout, 2018)

## Situated learning and authentic practice

The experiential benefit of being an online student is evident in the literature (Adnan et al., 2017; Borup & Evmenova, 2019; Northcote et al., 2015). This is particularly important for novice educators who have said that 'as a novice to online teaching, I really needed to be a student' (Shattuck & Anderson, 2013, p. 196).

Lane (2013) acknowledged that professional development for online educators should be provided in the same modality as they teaching environment. She suggests that consideration should be given to support participants in accessing and using tools and technology outside the institutionally supported ones. Further, Bell and Morris, (2009) discuss the importance of reflection in action and provided opportunities to reflect on authentic practices captured on video clips. The use of social networking sites to support learning activities was found to be a very useful authentic practice in an online educator professional development programmes in Canada (Oastashewski et al., 2011). Feedback from participants in the e-tutor professional development requesting more opportunities to perform authentic tasks was noted, "hands-on, real-world experience was reiterated, and the lack of immediate practice opportunities was frequently raised" (Adnan, 2018, p. 103).

Aligned with the idea of situated learning is the belief that professional development for online educators should model best practice (Borup & Evmenova, 2019; Vaill & Testori, 2012). In their online educator professional development, which had both a pedagogical and technical focus, Bay Path College have built in the idea that the course facilitators should "consistently model best practices by participating in the required discussions, maintaining a clear presence within the online classroom and providing timely feedback to participants" (Vaill & Testori, 2012, p. 114).

## Threshold concepts

Threshold concepts are those troublesome understandings that are difficult to grasp and may alter previously held conceptions, but once grasped they will open doors to new and further levels of knowledge (Kilgour et al., 2018). In a multiphase phase study Northcote et al. (2011) used a mixed methods study to gather data from educators in the US and Australia regarding the threshold concepts they encountered while transitioning to online teaching. As a result, they produced a set of guidelines and strategies that they then incorporate into a professional development program. These are:

1. Workshops that focused on both pedagogical knowledge and technical skills
2. One-to-one consultations that were encouraging in nature, acknowledged the difficulties involved and provided a safe and private space in which to discuss fears and other anxieties about online teaching
3. Use of examples (to demonstrate best practice) and non-examples (to demonstrate mistakes or 'what not to do' examples) of previously or purposely constructed online courses, resources and activities
4. Informal corridor conversations that provided academics with "just in time" advice and guidance
5. Strong support from Faculty Deans and institutional leaders in the form of allocated time slots for workshops, reward of skill development in performance appraisal sessions and the scheduling of regular items in Faculty and School meetings
6. Encouragement and sharing of research into online learning and teaching
7. Identifying a set of units for development
8. Provision of instructional resources via the online learning management system and paper-based (booklets and handouts)
9. A set of nine pedagogical guidelines for developing online courses at Avondale College of Higher Education, based on expert advice from various higher education educators (Northcote et al., 2011, pp. 86 & 87)

The second phase of the research investigated what new expertise, confidence and advancements had been made on the threshold concepts encountered. As a result they are including opportunities for online educators to develop their pedagogical, content and technical knowledge along the lines of the TPCK framework, making self-paced resources available, providing more just in time training and small workshops as well as implementing other institutional recommendations to support online teaching (Northcote et al., 2015).

## Key factors that impact on professional development

These themes were evident across the literature we examined and we have used them as a basis for a set of factors that should be considered in order to produce effective professional development. See Table 10 for the factors that we have identified that impact on professional development.

Table 10. Key factors that impact on professional development.

Factor	Value for PD	Example	Source
Use of model or framework for PD	Supports the application of a learning theory approach to PD and allows effective evaluation and replication by others	"And to lift the model above its one-institution norm, models – or pieces of models – need to be replicated across institutions and careful analyses conducted"	Meyer (2013, p. 9)
Institutional support	PD must be both enabled and valued within an institution to ensure engagement of online-educators	"Enrolment systems, technical support, professional development needs, workload and time issues, and role clarification among administrative and academic staff were all identified as institutional infrastructure issues"	Northcote et al., (2015, p. 328)
Communities	Communities of practice provide support for educators working in similar environments	"Regular contact between sessional staff and continuing staff (particularly unit/course chairs) was found to be a tangible source of support"	Hitch et al. (2018, p. 293)
Role of the educator	To ensure the correct learning outcomes are achieved	"persons who saw their role as guides to learning were more likely to complete all of the faculty development modules than faculty who saw their role as providers of content"	Meyer, (2013, p. 11)
Educator type	Novice, Expert and part-time tutors have different needs and availability	"ad hoc approach to (part-time) ... may impact on... the quality of students' learning"	Hitch et al., (2018, p. 286)

Integration of pedagogy and technology	Ensure an understanding of how technology and pedagogy should be integrated	"... creation of transformative learning experiences for faculty who will engage in pedagogical problem-solving and discovery about online teaching"	Baran and Correia (2014, p. 101)
Situated learning	Experiencing being an online student	"ensure faculty fully appreciate the online learning experience in the environment their students will use"	Adnan et al. (2017, p. 33)
Modelling best practice	'practice what they preach'	"learning from observation as well as from social interactions seems to transform instructors' beliefs and attitudes"	Borup & Evmenova, (2019, p. 15)
Mix of synchronous and asynchronous	Have recorded synchronous sessions as well as the ability to contribute asynchronously	"I like doing online learning as I can do it in my own time, but I get a lot out of face-to-face so I am really pleased that I was able to attend the session"	Dean et al. (2017, p. 37)
Sharing of practice/ Learning from others	Opportunities for participants to share practices, experiences and observe each other in practice	"the community of teachers help facilitate the cross pollination of ideas"	(Dean et al., 2017, p. 37)
Online delivery	Course should be provided online	"Model best practice, experience being a student, allow part-time educators attend"	Hitch et al. (2018)
Online presence	Teacher and participant should actively engage and establish their presence	"...presence to encourage a supportive learning community... strongly aligns with the goals of social presence in online courses ... quality and quantity of formal and informal social interactions"	(Dunlap & Lowenthal, 2018, p. 86)
Situated at the point of need	Just in time training and easy access	"recent trends indicate a preference by academic staff for just-in-time above just-in-case"	Northcote et al., (2015, p. 320)
Practice based	Provide opportunities for development of practical skills	"PD needs to provide 'how-to skills' that will encourage and support reflection on practice"	Kilgour et al., (2018, p. 12)
Discipline specific/ generic	Both are valuable and required	"practice is likely to be particular to a specific body of knowledge or discipline"	Bell and Morris (2009, p. 704)

## #Openteach principles for professional development for online educators

Distilling the factors outlined above into overarching principles, this report proposes the following principles for the effective professional development of part-time online educators. Professional development is (see Figure 7):

1. (1) tailored for online educators;
2. (2) is authentic, evidence based and structured but allows for flexible participation;
3. (3) focuses on effective situated delivery;
4. (4) supports community building and integration into the institutional academic community.

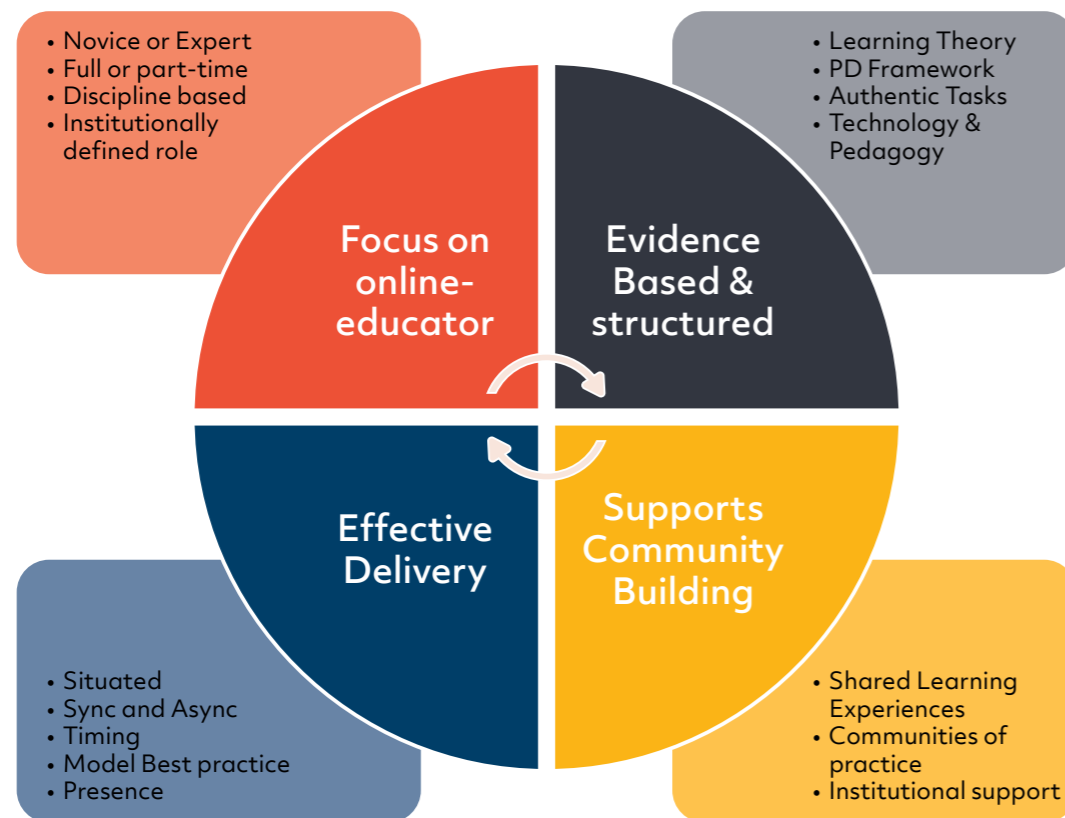


Figure 7. #Openteach principles for professional development for online educators





# Conclusions

5

## Section five: Conclusions

The overarching conclusion of this report is that teaching online is different. This difference is evident in the roles, competencies and professional development approaches required to equip online educators to teach effectively in the online higher education environment.

This report set out to investigate the key approaches to effective online teaching practice, with the aim of harnessing this knowledge to support the professional development of online educators. This report was developed to lay a foundation for the #Openteach project through a critical analysis of the relevant literature. The literature analysis was carried out focussing on three key areas: online educator roles and competencies, effective online teaching and professional development approaches for part-time and online educators. The report focused on three research questions, which we will revisit in this section and proposes answers to these questions in the form of conclusions.

### What is the role of the online educator?

As a result of our review we have identified the following seven roles of the online educator:

1. Managerial
2. Pedagogical
3. Social
4. Technical
5. Assessor
6. Facilitator
7. Content Expert

### What competencies characterise effective online teaching?

Drawing on the literature discussed above, this report emphasizes three key elements for effective teaching online: presence; facilitation and supporting students and have mapped eighteen associated core competencies.

### What is the most effective way of delivering professional development to part-time online educators?

Based on the analysis of the professional development literature for part-time and online educators, we have identified a set of interlinked factors that should be considered in order to produce effective professional development for this cohort.

The #Openteach approach to professional development for part time online educators focuses on four principles: (1) Professional development is tailored for online educators; (2) is authentic, evidence based and structured but allows for flexible participation; (3) focuses on effective situated delivery; (4) supports community building and integration into the institutional academic community.

### Final reflection

Learning to effectively teach online is a bit like learning how to catch a fish. You have to learn how to think like a fish which goes to illustrate that effective teaching is both an art, craft and science. There is more to effective online teaching than acquiring a set of competencies as the sum of the whole is actually quite complex. You can either give someone a fish so they can meet their daily food requirements or you can teach them how to fish so they can feed the mind, bodies and souls of their entire village for a lifetime.



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# Appendices

## Appendix A: Methodologies used in the studies.

Author	Methodology
Abdous, M'hammed (2011)	Conceptual or theoretical
Adnan, Müge (2018)	Mixed methods
Adnan, Muge; Kalelioglu, Filiz; Gulbahar, Yasemin (2017)	Mixed methods
Ally, Mohamed (2019)	Experts as participants ,Qualitative
Alvarez, I.; Guasch, T.; Espasa, A. (2009)	Conceptual or theoretical ,Phenomenology, narrative and ethnographic, Qualitative
Badia, Antoni; Garcia, Consuelo; Meneses, Julio (2017)	Quantitative
Baran, Evrim; Correia, Ana-Paula (2014)	Conceptual or theoretical
Baran, Evrim; Correia, Ana-Paula; Thompson, Ann (2011)	Conceptual or theoretical
Bell, Amani; Morris, Gayle (2009)	Mixed methods
Berge, Zane L (1995)	Conceptual or theoretical
Berge, Zane L (2008)	Conceptual or theoretical
Bezuidenhout, Adéle (2018)	Quantitative
Borup, Jered; Evmenova, Anna (2019)	Mixed methods ,Qualitative, Message analysis
Brinkley-Etz Korn, Karen E. (2018)	Mixed methods ,Phenomenology,narrative and ethnographic, Student surveys of teachers work
Carril, Pablo Cesar Munoz; Gonzalez Sanmamed, Mercedes; Hernandez Selles, Nuria (2013)	Quantitative
Chang, Chiungsui; Shen, Hun-Yi; Liu, Zhi-Feng (2014)	Quantitative
Coker, Helen (2018)	Quantitative ,Phenomenology, narrative and ethnographic, Message analysis
Corfman, Timothy; Beck, Dennis (2019)	Online interview - email and web ,Student surveys of teachers work
Dean, Bonnie Amelia; Harden-Thew, Kathryn; Thomas, Lisa (2017)	Qualitative
Dittmar, Eileen; McCracken, Holly (2012)	Student surveys of teachers work

Author	Methodology
Dunlap, Joanna C.; Lowenthal, Patrick R. (2018)	Crowdsourcing or workshop
Edwards, Margaret; Perry, Beth; Janzen, Katherine (2011)	Phenomenology, narrative and ethnographic
Englund, Claire; Olofsson, Anders D.; Price, Linda (2017)	Mixed methods ,Phenomenology,narrative and ethnographic
Feng, Xiaoying; Xie, Jingjing; Liu, Yue (2017)	Message analysis ,Design Based Research
Gómez-Rey, Pilar; Barbera, Elena; Fernández-Navarro, Francisco (2018)	Quantitative ,Student surveys of teachers work
González-Sanmamed, Mercedes; Muñoz-Carril, Pablo-César; Sangra, Albert (2014)	Quantitative
Goodyear, Peter; Salmon, Gilly; Spector, J. Michael; Steeples, Christine; Tickner, Sue (2001)	Crowdsourcing or workshop
Goold, Annegret; Coldwell, Jo; Craig, Annemieke (2010)	Qualitative ,Message analysis
Gorsky, Paul; Blau, Ina (2009)	Message analysis ,Student surveys of teachers work
Gurley, PhD, RN, CNE, COI, Lisa E (2018)	Quantitative ,Qualitative
Hitch, Danielle; Mahoney, Paige; Macfarlane, Susie (2018)	Conceptual or theoretical
Kibaru, F. (2018)	Qualitative
Kilgour, Peter; Reynaud, Daniel; Northcote, Maria; McLoughlin, Catherine; Gosselin, Kevin P. (2018)	Mixed methods
Lane, Lisa M. (2013)	Qualitative ,Student surveys of teachers work
Martin, Florence; Ritzhaupt, Albert; Kumar, Swapna; Budhrani, Kiran (2019)	Qualitative ,Online interview - email and web
Martins, Nico; Ungerer, Leona M. (2017)	Quantitative
Mbati, Lydia; Minnaar, Ansie (2015)	Phenomenology, narrative and ethnographic ,Online interview - email and web
Metz, Nadine de; Bezuidenhout, Adele (2018)	Quantitative
Meyer, Katrina A. (2013)	Conceptual or theoretical ,Integration scholarship, Mixed methods
Meyer, Katrina A.; McNeal, Larry (2011)	Qualitative
Meyer, Katrina A.; Murrell, Vicki S. (2014)	Mixed methods ,Student surveys of teachers work
Northcote, Maria; Gosselin, Kevin P; Reynaud, Daniel; Kilgour, Peter; Anderson, Malcolm (2015)	Mixed methods
Ostaszewski, Nathaniel; Moisey, Susan; Reid, Doug (2011)	Design Based Research
Peacock, Susi; Cowan, John (2019)	Conceptual or theoretical

Author	Methodology
Redmond, Petrea; Devine, Jo; Bassoon, Marita (2014)	Qualitative ,Message analysis
Roberts, Jennifer (2018)	Quantitative
Rogers, Carolyn B.H.; McIntyre, Melissa; Jazzar, Michael (2010)	Conceptual or theoretical
Setlhako, M.A. (2014)	Qualitative ,Online Observation, Online interview - email and web
Shattuck, Julie; Anderson, Terry (2013)	Design Based Research ,Mixed methods, Online interview - email and web
Shattuck, Julie; Dubins, Bobbi; Zilderman (2011)	Mixed methods
Smits, Anneke; Voogt, Joke (2017)	Student surveys of teachers work ,Qualitative, Message analysis
Sullivan, Roberta (Robin); Neu, Victoria; Yang, Fengrong (2019)	Message analysis ,Qualitative
Swann, Jennie (2010)	Conceptual or theoretical
Sword, Thelma S. (2012)	Phenomenology, narrative and ethnographic
Trammell, Beth A; LaForge, Chera (2017)	Conceptual or theoretical
Ungerer, Leona M. (2016)	Conceptual or theoretical
Vaill, Amber L.; Testori, Peter A. (2012)	Conceptual or theoretical
Walters, Shelly; Grover, Kenda S.; Turner, Ronna C.; Alexander, Jackson C. (2017)	Quantitative

## Appendix B: Authors, prior to 2010, and the roles they identified.

### Paulsen (1995) (Paulsen, 1995)

**Organisational:** Encompasses the clarification of discussion objectives, timetabling and other procedures

**Social:** Social role aims to ensure a friendly environment with plenty of constructive interaction and feedback

**Intellectual:** Intellectual is concerned with the need to keep discussion focussed and summarising ideas to encourage further student interaction

### Berge (1995)(Berge, 1995)

**Managerial:** Sets the objectives of the discussion, the timetable, procedural rules and decision-making norms

**Social:** Creating a friendly, social environment in which learning is promoted is also essential for successful moderating. This suggests "promoting human relationships, developing group cohesiveness, maintaining the group as a unit, and in other ways helping members to work together in a mutual cause," are all critical to the success of any conferencing activities

**Pedagogical Educational:** facilitator that uses questions and probes to focus the discussions

**Technical:** The facilitator must make participants comfortable with the system and the software that the conference is using. The ultimate technical goal for the instructor is to make the technology transparent. When this is done, the learner may concentrate on the academic task at hand

### Goodyear et al, (2001)

(Goodyear, Salmon, Spector, Steeples, & Tickner, 2001, p. 69)

**Manager Administrator:** Issues of learner registration, security, record keeping and so on

**Process Facilitator:** Facilitating the range of online activities that support student learning as well as establishing the ground rules for a community with a friendly environment

**Content Facilitator:** concerned with the facilitation of the learners growing understanding of course content

**Technologist:** Making or helping to make technological improvements and choices that help learners by improving the learning environment

**Assessor:** Provides grades, feedback and validates learners work

**Researcher:** Engagement with the development of new knowledge that is relevant to the content of the course

**Designer:** Designing worthwhile online learning tasks

**Adviser-Counsellor:** Works with students individually to provide advice on how to get the most out of their course

**Coppola et al. (2002)**  
(Coppola, Hiltz, & Rotter, 2002)

**Managerial:** One of the roles filled in carrying out tasks related to pedagogy deals with class and course management. This role includes instructor behavior related to course planning, organizing, leading, and controlling

**Affective:** The affective role includes instructor behaviour related to influencing student's relationships with the instructor and with other students and the virtual classroom atmosphere

**Cognitive:** Cognitive aspects deal with mental processes pertaining to perception, learning, information storage, memory, thinking, and problem solving

**Williams (2003)\***  
(Williams, 2003, p. 53)

**Administrative manager:** Managerial skills, budgeting skills, marketing skills, strategic planning skills

**Instructor Facilitator:** Content knowledge, teaching strategies/models, general education theory, skill with Internet tools for instruction, instructional design for interactive technologies, library research skills, modelling of behaviour/skills

**Technology expert:** Computer hardware skills; technology operation/repair skills; skill with Internet tools for instruction

**Evaluation specialist**

**Instructional designer:** Instructional design skills, instructional design for interactive technologies; media attributes knowledge; general education theory; text layout skills; skill with Internet tools for instruction; teaching strategies/models, Web-related programming skills; learning style and theory; HTML authoring skills

**Advising/counselling skills**

**Trainer:** Training skills (for technology), modelling of behaviour/skills, general education theory, teaching strategies/models, skill with Internet tools for instruction, advising/counselling skills

**Leader Change Agent:** Modelling of behaviour/skills, managerial skills, marketing skills, strategic planning skills, policy-making skills, general education theory

**Graphic Design Skills:** Graphic design skills; text layout skills; media attributes knowledge; skills with Internet tools for instruction

**Media Publisher/Editor:** Skills with Internet tools for instruction; graphic design skills; media attributes knowledge

**Technician:** Technology operation/repair skills; computer hardware skills; computer networking skills

**Bawane and Spector (2009)**  
(Bawane & Spector, 2009, p. 390)

**Administrator:** Manage the time and course Demonstrate leadership qualities. Establish rules and regulations

Maintain a cordial learning environment. Resolve conflict in an amicable manner. Refrain from undesirable behaviours. Promotes interactivity within the group

**Pedagogical Design:** instructional strategies. Develop appropriate learning resources. Implement instructional strategies. Facilitate participation among students. Sustain students' motivation

Access various technological resources. Select the appropriate resource for learning. Develop different learning resources. Suggest resources to the students (resource provider)

**Evaluator Monitor:** individual and group progress and performance, evaluate the course program

**Researcher:** Conduct research on classroom teaching Interpret and integrate research findings in teaching.

**Advisor/counsellor:** Suggest measures to enhance performance  
Provide guidance based on student needs

**Professional:** (6) Comply with ethics and standards, communicate effectively, update knowledge, committed.

*\*Not all roles included as they did not all apply to an online educator*

## Appendix C: Online educator roles and/or competencies identified by studies for use in their research and the outcomes of this research.

Article	Roles identified from literature	Outcomes of study
Abdous, M'hammed (2011)	Mishra and Koehler (2006), that online teaching requires the interplay of three main components: content, pedagogy, and technology.	A process-oriented framework for acquiring online teaching competencies
Adnan, Müge (2018)	Cognitive, Affective and Systemic, relating to Tait's Framework (Baumann et al., 2008)	Readiness, Competence and Satisfaction after a PD programme
Ally, 2019	Focussing on competencies rather than roles, considers that an online tutor will need to be able to use emerging technologies to educate students in a virtual environment, as a facilitator of learning Campbell & Cameron, 2016	Nine major areas of responsibility identified, General. Use digital technology, develop digital learning resources, Re-mix learning resources, Communication, facilitate learning, Pedagogical strategies, Assess learning. Personal characteristics.
Alvarez et al., 2009	Examines how roles and competencies are defined and uses a framework to address this. Define Roles, Identify Competencies, Describe Tasks	Designer/planning role, Social role, Cognitive role, Technological domain, Managerial domain
Badia, Antoni; Garcia, Consuelo; Meneses, Julio (2017)	Reviewed literature on approaches to teaching Managing Learning Task, promoting self-learning, facilitating content Acquisition, supporting knowledge-building, supporting collaborative learning, Creating community and networked learning	Five roles: Managing the social interaction, Instructional Design, Guiding the use of technology, Learning Assessment, Learning support.
Baran, Evrim; Correia, Ana-Paula; Thompson, Ann (2011)	Lit review through the lens of transformative learning identified 11 relevant articles with multiple roles	Managerial, Social, facilitator, Roles that may be shared with other staff: instructional designer, program coordinators, and graphic designers.
Berge, Zane L (1995)	Literature used to develop roles (Feenberg, 1986; Gulley, 1968; Kerr, 1986; McCreary, 1990; McMann, 1994; Paulsen, 1995).	Pedagogical, Social, Managerial and Technical
Berge, Zane L (2008)	Pedagogical, Social, Managerial and Technical	While the same four roles (pedagogical, social, managerial, and technical) need to be addressed, there is a different focus for online teaching and learning.

Article	Roles identified from literature	Outcomes of study
Brinkley-Etzkorn, Karen E. (2018)	Theoretical framework of TPCK used to design PD which was subsequently evaluated.	One survey question asked respondents what they believed was the most important role : pedagogical (57.5%), social (20%), managerial (20%), and technical (2.5%).
Carril et al., 2013	Over 20 roles identified from the literature from the analysis of 14 studies	Consolidated the roles they identified into 8. Pedagogical, Social, Evaluator, Administrator/ manager, Technologist, Advisor/ Counsellor, Personal, Researcher.
Chang, Chiungsui; Shen, Hun-Yi; Liu, Zhi-Feng (2014)	Drew on the same literature when discussing roles. Seven e-instructor dimensions were used for the study	Ranking of importance of the roles was as: (1) content expertise, (2) instructional design, (3) learning assessment, (4) administrative management, (5) facilitating learning, (6) technology use, and (7) research development
Coker, Helen (2018)	Examined pedagogical approaches	knowledge, affect, and dialogue
Edwards, Margaret; Perry, Beth; Janzen, Katherine (2011)	Lit review found that pedagogical strategies, course design, and instructor qualities aimed at initiating and sustaining connections and interaction, are common in the literature on effective online education.	Exemplary online educators are: challengers, affirmers, influencers
Gómez-Rey, Pilar; Barbera, Elena; Fernández-Navarro, Francisco (2018)	As per literature that was identified in other studies,	Used a bottoms up approach, asked students. pedagogical role, course designer role, social role, life skills promoter role, technical role, and managerial role.
González-Sanmamed, Mercedes; Muñoz-Carril, Pablo-César; Sangra, Albert (2014)	As per literature that was identified in other studies. Identified the peripheral roles, peripheral to pedagogy: social, evaluator, manager, technologist, advisor/ counsellor, personal, and researcher	Online educator perceptions of proficiency and training needs in these roles and associated competencies.
Goold, Annegret; Coldwell, Jo; Craig, Annemieke (2010)	Similar literature, in particular roles identified as part of the e-Tutor project. Content facilitator, Metacognition facilitator, Process facilitator, Advisor/ counsellor, Assessor, Technologist, Resource provider are all associated with a mixture of 4 roles of Social, Pedagogical, Organisational and Technical.	Analysed tutor discussion postings. Most were managerial, lack of Content type was highlighted.

Article	Roles identified from literature	Outcomes of study
Martin, Florence; Ritzhaupt, Albert; Kumar, Swapna; Budhrani, Kiran (2019)	Drew on the literature to consider effective online courses in terms of their online course design, online course assessment and evaluation, and online course facilitation and used this as a conceptual framework to study how award winning online educators carry these out	Online Course Design: Systematic approach to content design, Backwards design, Course organization, Meeting learner needs, Student interaction Online Course Assessment Variety of course assessments, Using traditional and authentic assessments, Using rubrics Online course evaluation, Quality assurance process, Student and peer feedback Online course facilitation Timely response and feedback, Availability and presence, Periodic communication
Metz, Nadine de; Bezuidenhout, Adele (2018)	Denis's (2004): Used for defining competencies. Central Roles: Content facilitator, Metacognition facilitator, Technologist, Process facilitator, Assessor, Advisor, Resource provider Peripheral Roles: Manager/ administrator, Designer, Co-learner Researcher And 7 from Berge etc used for ranking administrative, informative, managerial, pastoral, pedagogical, social, and technical.	Informative and Pedagogical as most important, Informative and Administrative as most time.  Social and Pastoral lowest on both scales.  Gaps in competencies identified.
Roberts, Jennifer (2018)	technology expert, instructional designer, administrator/manager, assessor, Mentor, team player Facilitator, student support, researcher, knowledge expert (from previous study)	perceived future importance of following roles will increase, technology expert, instructional designer and administrator/manager Perceived gaps in competency for technology expert and instructional designer
Setlhako, M.A. (2014)	Berge and Collins (1996) competencies for the four Berge roles Pedagogical, Social, Managerial and Technical Used to define possible competencies	Found competencies required by tutors in online environment.
Smits, Anneke; Voogt, Joke (2017)	Sis principles used to define the teacher's role for the project: presence, moderation, feedback, organisation, social presence and monitoring/activation.	Teaching behaviours identified in online educator messages content, listening and feedback, organisation and affective behaviour.

## Appendix D: Roles to Competencies for selected articles

Reference	Roles	Associated Competencies
Williams 2003, page 53	Administrative manager	Managerial skills, budgeting skills, marketing skills, strategic planning skills
	Instructor/Facilitator	Content knowledge, teaching strategies/models, general education theory, skill with Internet tools for instruction, instructional design for interactive technologies, library research skills, modelling of behaviour/skills
	Instructional designer	Instructional design skills, instructional design for interactive technologies; media attributes knowledge; general education theory; text layout skills; skill with Internet tools for instruction; teaching strategies/models, Web-related programming skills; learning style and theory; HTML authoring skills
	Trainer	Training skills (for technology), modelling of behaviour/skills, general education theory, teaching strategies/models, skill with Internet tools for instruction, advising/counselling skills
	Leader/Change agent	Modelling of behaviour/skills, managerial skills, marketing skills, strategic planning skills, policy-making skills, general education theory
	Technology expert	Computer hardware skills; technology operation/repair skills; skill with Internet tools for instruction
	Graphic designer	Graphic design skills; text layout skills; media attributes knowledge; skills with Internet tools for instruction
	Media publisher/Editor	Skills with Internet tools for instruction; graphic design skills; media attributes knowledge
	Technician	Technology operation/repair skills; computer hardware skills; computer networking skills
	Support staff	Advising/counselling skills
Librarian	Library research skills	
Evaluation specialist	General education theory	
Site facilitator/ Proctor	Consensus not reached on any competencies as very important	



Reference	Roles	Associated Competencies
Bawane and Spector (2009) Page 390	Professional (role)	Comply with ethic and legal standards, Communicate effectively, Undertake efforts to update knowledge, Demonstrate commitment and favourable attitude
	Pedagogical	Design instructional strategies, Develop appropriate learning resources, Implement instructional strategies, Facilitate participation among students, Sustain students' motivation
	Social	Maintain a cordial learning environment, Resolve conflict in an amicable manner, Refrain from undesirable behaviours, Promotes interactivity within the group
	Evaluator	Monitor individual and group progress, Assess individual and group performance, Evaluate the course/program
	Administrator	Manage the time and course, Demonstrate leadership qualities, Establish rules and regulations
	Technologist	Access various technological resources, Select the appropriate resource for learning, Develop different learning resources, Suggest resources to the students (resource provider)
	Advisor/counsellor	Suggest measures to enhance performance, Provide guidance based on student needs
	Researcher	Conduct research on classroom teaching, Interpret and integrate research findings in teaching.

Reference	Roles	Associated Competencies
Carril et al 2013, page 469, adapted from Bawane and Spector (2009)	Pedagogical	Design the teaching proposal at a general level and in each of its phases or elements, Draft and develop digital materials and learning and assessment activities, Draft and develop course contents, Link the subject with scientific, social and cultural phenomena, Organize and promote different tutorial modalities, Organize and facilitate student participation, Organize and promote self-training and teacher professional development
	Social	Maintain a cordial learning environment, Resolve conflict in an amicable manner, Refrain from undesirable behaviours, Act as information facilitator, Improve the learning environments, Send messages to support students, Give feedback to student interactions and communications, Dynamize and promote interaction with the students, Keep the classroom/course/university degree coordinator informed about the progress and the possible problems that may arise
	Evaluator	Assess students' work according to established criteria, Monitor individual and group progress, Assess individual and group performance, Evaluate the course/program
	Administrator/ manager,	Manage time and course, Demonstrate leadership qualities, Establish rules and regulations, Follow efficiently management and administrative procedures, Maintain contact with the rest of the teaching and administrative team
	Technologist	Select the appropriate resource for learning, Awareness of the technical procedures to develop multimedia content and to adapt them to e-learning environments, Suggest resources to the students (resource provider), Stay up to date with and learn about new software needed for the teaching process, Awareness of the features and uses of the main platforms, resources and virtual tools, Awareness of the procedures required to manage as a teacher both synchronous and asynchronous communication tools
	Advisor/ Counsellor	Suggest measures to enhance performance, Provide guidance based on student needs, Offer advice, suggestions and clarify doubts, Motivate the students
	Personal	Comply with ethical and legal standards, Adopt a positive attitude and commitment to e-learning, Show sensitivity during the communication process and in online contacts
	Researcher	Conduct research into classroom teaching, Interpret and integrate research findings in teaching, Develop reflexive processes about, in and for the teaching practice

Reference	Roles	Associated Competencies
Alvarez et al 2009, page 353	Designer/planning role	Course planning, organising, leading and controlling. Tasks include: defining the procedures of instructional design; considering the resources and the assessment in a virtual context; presenting content/ questions; translation of traditional content in online contents with interactive activities for students; creation of online interactive content; written and oral presentation of an instructionally designed sequence with tutoring environment; and establishing time parameters.
	Social role	influencing students' relationships with the instructor and with other students: Tasks include: managing cooperative interactions among students; managing the online interaction with distance learners through its synchronous activities (live lessons, homework and virtual labs, exchange of didactical methodologies between other instructors, interaction on web); communication in the virtual room (visible and non-visible processes); identifying areas of agreement/ disagreement; diagnosing misconceptions; seeking consensus/ understanding, encouraging, acknowledging or reinforcing student contributions; setting climate for learning; drawing in participants; prompting discussion; assessing the efficacy of the process; confirming understanding through assessment and explanatory feedback
	Cognitive role	Deals with mental processes pertaining to perception, learning, information storage, memory, thinking and problem-solving. Tasks include: learning guidance and evaluation and factors that influence interaction on the web; tutoring in a distance learning environment over the internet; validation of knowledge acquired by web-assisted learning; providing in-practice strategies about how to drive a virtual classroom (communication with the students, the virtual classroom); to know aspects of collaborative, active, constructive, reflective and authentic learning; didactic organisation (effectiveness of live synchronous interactions in virtual classrooms, homework and virtual labs); and evaluation of web-based teaching.
	Technological domain	Knowledge of support services, multimedia knowledge, basic technology knowledge, technological access knowledge and software skills, and data analysis skills. Tasks include: functionalities in the virtual campus; styles of virtual communication; virtual environment uses of applications for web-based teaching; online platform tools usable for tutoring; applications and resources (i.e. learning management systems (LMS)); and establishing working with ICT in campus and flexible courses.

Reference	Roles	Associated Competencies
Dunlap et al, page 83	supporting student success	Experienced online educators shared strategies for supporting students in online courses so that students have the potential to be successful. For example, some of the recommendations referred to the need to:
	Providing Clarity and Relevance through Course Structure and Content Presentation	Examples include; Providing Clarity and Relevance through Course Structure and Content Presentation, Structure online learning resources so materials are one click away., Address universal design for learning (UDL) principles in all created materials.
	Establishing Presence to Encourage a Supportive Learning Community	Online educators commented on the importance of connecting with students, helping students connect with each other, and helping students feel they are members of a supportive learning community
Metc et al Page 33 (2018)	Being Better Prepared and More Agile as an Educator	Examples, Sometimes you have to leave the LMS and find other technologies that help you better achieve your instructional goals, Online teaching isn't about taking your face-to-face course materials and uploading them to a course! It is okay if things don't go perfectly the first time- they probably won't. You'll learn and keep improving along the way.
	11 roles taken from the literature	Three broad competencies were refined from 15 items on competencies social engagement administering the online environment developing/creating supporting material
Ally Mohammed 2019 (page 308-312)	General	Competencies too numerous to list. See pages 3018-312 for details
	Use digital technology	
	Develop digital learning resources	
	Re-mix digital learning resources	
	Communication	
	Facilitate Learning	
	Pedagogical strategies	
Assess Learning		
Personal characteristics		

# Notes

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