

Can Alignment of Digital Resources with Needs Produce a New Curriculum Theory for Teaching?

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Abstract

Teaching and graduating students have become important responsibilities for academics, helping their universities to fulfil disciplinary, societal, and personal needs. Academics use digital resources to support their teaching processes, in order to increase the student completion rate for their universities, improving the world rankings with funding. Digital resources divided into hardware, software, and theories work well when they are aligned with relevant needs. Therefore, this chapter presents an interpretive case study of eight academics who taught students specialising in Curriculum Development at a university in South Africa. The study explored and understood the alignment of digital resources with human needs involved in the teaching of master of education (MEd) students. Semi-structured interviews, focus-group discussions, and document analysis were used for data generation. Purposive with convenience sampling was used to select the eight most accessible participants. The study revealed that, when digital resources were used for teaching, this created competing perceived and conceived spaces that had to be integrated into lived space. This chapter, consequently, recommends the understanding and the use of the lived space, which is capable of helping individuals to self-actualise and be able to address societal and disciplinary needs.

Keywords

digital resources – discipline – needs – personal – spaces – society

1 Introduction

Increasing the production rate of post-graduate students has become an important need to be fulfilled by academics who teach and supervise master of education (MEd) students. The MEd graduates are expected to master

the research methodology through their studies, to address their individual (self-actualisation), societal (social), and professional (esteem) needs (Hoffman, 1988). According to a study conducted by Blumbach and Peak (2018) on six countries in Africa (Ethiopia, Ghana, Kenya, Nigeria, Senegal, and South Africa), this need is influenced by irrelevant distribution of resources that support academics who teach and supervise MEd students to completion. MEd student teaching and supervision, as part of an academic workload, has become one of the most challenging needs to be fulfilled by academics. This is because students should graduate on time so that their universities acquire a government subsidy or other external funding (Pather, 2017). As a result, these academics rely heavily on the use of digital resources in trying to fulfil this need. Let alone that studies have not established the alignment between human needs and the rapidly changing digital resources, they have not established the types of digital resources capable of helping academics to increase the production rate of postgraduate students (Khoza, 2018). The importance of this need supports the significance of conducting this study on the alignment of needs with digital resources used by eight academics from eight different countries (Germany, UK, USA, South Africa, Kenya, Swaziland, Nigeria, and Lesotho), who taught and supervised MEd students registered at a university in South Africa. This occurred when the university at which they taught and supervised students held an international conference on e-learning for curriculum development, at which academics showed an interest in the digital resources used in teaching and supervising MEd curriculum students. This study may be useful to university management, lecturers, supervisors, policymakers, students, and government officials, in trying to align human needs with digital resources, to increase the production rate of the MEd graduates.

2 Teaching Needs and Digital Resources

Needs are cognitive circumstances that demand individuals' actions, and drive relevant digital resources in teaching (Khoza, 2018). A study conducted by Maslow (1943) on writings and biographies of eighteen participants who were at the self-actualisation level of needs, concluded that the self-actualisation need is the greatest and most challenging need to be fulfilled by individual human beings/academics. The study identified four hierarchical levels of needs, namely, basic (physiological and safety), social (friendship, love, or affection), esteem (status, achievement, or mastery), and self-actualisation (personal identity, or self-fulfilment) needs. This suggests that digital resources

used by academics to teach MEd students should also be divided according to these levels of needs, in order to support MEd students to fulfil each of the needs. Subsequent studies (Hoffman, 1988; Maslow, 1954; Tay & Diener, 2011) supported these categories of needs as the forces that drive all academics to use specific resources in teaching, research, and supervision processes. However, other studies identified three categories of needs, which are not hierarchical in nature. For example, Van Manen (1977) identified technical, practical, and critical needs, while Khoza (2017) identified professional, societal, and personal needs.

Professional, technical or esteem needs are fulfilled by following prescribed content and rules of a specific profession or discipline (Mpungose, 2018; Rimmer, Warwick, Blandford, Gow, & Buchanan, 2008). For example, in curriculum as a profession, academics guide students to ensure that students deploy digital resources to implement the curricula according to their specific rules or concepts, such as content, assessment, goals, and others (Khoza, 2017). Academics explain and emphasise the content to students so that students can master the content of their subjects on time (Budden, 2017). In other words, academics teach students by drilling them with subject content, so that students apply the prescribed and explained content to their subjects. Academics train students to master the subject content through their prescribed instructions, by giving them structures to be followed without any deviation, in order to ensure timely completion and success (Dowling & Wilson, 2017; Zaitun, 2010). If students deviate from the instructions/content, academics use direct or indirect criticism as feedback to correct the students (Li & Seale, 2007). The timely completion of MEd studies becomes one of the main factors that motivate MEd students and academics (Khoza, 2019). This kind of motivation connects students to their academics, identifying them, being driven by a specific profession (Brabazon, 2016). Success and quality of their subjects are measured through following or mastering a prescribed linear structure of professional content and rules. Once the students master the content and rules of their subjects, they tend to work independently, avoiding groups that are outside their professions (Fomunyam, 2017; Khoza, 2018). This suggests that, while this type of teaching helps universities with their high rate of MEd graduates (timely completion), it only advances professions/disciplines, and addresses disciplinary needs.

Societal, practical, or social needs are fulfilled by the opinions of people or group members. MEd students are taught to master the research, acquiring skills useful in addressing challenges faced by societies or communities (Budden, 2017; Murphy, Bain, & Conrad, 2007). While students work with their academics on their subjects, they also share their ideas with other students,

academics, and/or community members, as a way of promoting collaboration in learning (Donnelly & Fitzmaurice, 2013). MEd studies become mostly a platform for connecting students and academics with different people that train them in the art of the debate, in order to fit into the various communities of their interests (Makumane, 2018; Malfroy, 2005). As a result, students may conduct studies in order to impress certain organisations. Students may acquire skills required by such in the hopes of gaining employment by them. Academics also learn with their students through teaching, in which they mostly use feedback with caution, guidance, or support, to help students identify themselves with different people (Li & Seale, 2007; Mabuza, 2018). Students may therefore only complete their studies after many years, because academics and students are guided by flexible structures, if indeed the structures even exist. However, when students are taught, they are trained to fulfil the professional and/or social needs, with limited emphasis on the fulfilment of their personal needs, using digital resources (Lee, 2007; Marsh, Rowe, & Martin, 2002).

3 Digital Resources

Studies (Abbott, 2015; Dowling & Wilson, 2017; Edyburn, 2001; Piccinin, 2003; Rimmer et al., 2008) are pointing to the effective use of digital resources as a solution. Such a solution neutralises the tension caused by the professional and social needs which compromise the fulfilment of personal or self-actualisation needs in the teaching of MEd curriculum students. A digital resource is any object, person, or theory that communicates electronic learning (Khoza, 2018). A case study conducted by Pather (2017) on digital library spaces for academics, identified hardware, software, and theories, as the three categories of resources used by academics when they teach. Hardware resources are machines/tools used by academics and students during their research processes. Some examples of hardware are personal computers, laptops, tablets, and other mobile-phone devices. Hardware resources have specific rules to be followed when they are used (Shoba, 2018). For example, if one has to use a tablet, it must be switched on as the first step; login is the second step, before continuing with other steps in a linear fashion. This suggests that, when students are used to the system of hardware-resource usage, they may better understand the system of fulfilling professional needs, which also follows prescribed linear structures (Dowling & Wilson, 2017; Mpungose, 2018).

However, the hardware resources work with software resources to display information on screens to be viewed by readers. Software resources are

materials used in conjunction with the hardware in teaching (Budden, 2017; Kisaka, 2018). Some examples of software resources are Microsoft office, SPSS, NVivo, Internet, email, Skype, Facebook, WhatsApp, amongst others. Software resources are mostly used for communication, conveying messages to other people, developing groups for socialisation, and other activities (Sodje, 2018). For example, one may design a Facebook page in order to discuss and share social challenges with friends. Software resources are therefore capable of helping academics and students to fulfil social needs. Therefore, when academics use various software in teaching, they automatically address societal/social needs. Although software resources are mostly driven by non-linear processes, users need to consciously or subconsciously understand how they work (Czerniewicz & Brown, 2014; Mpungose, 2018).

This conscious or subconscious cognitive process is called technology of education (Percival & Ellington, 1988), technologies of self (Foucault, 2007), ideological-ware (Khoza, 2018), or mental space (Lefebvre, 1991). In other words, when academics and students use hardware and software resources, they are driven by the ideological-ware resources. According to Lefebvre (1991), this cognitive space that manages the use of digital resources, is divided into perceived (professional), conceived (social), and lived (personal) spaces. The perceived space allows and promotes discipline or professional actions to drive the use of digital resources in order to address professional needs (Anaraki & Babalhavaeji, 2013; Sodje, 2018). The conceived space is the driver of digital resources that address societal needs (Khoza, 2017; Kisaka, 2018). The lived space is personal use of digital resources that address individual personal needs (Dlamini, 2018; Shoba, 2018). These are habitual cognitive ideologies, ideas, experiences, or theories that encourage academics and students to choose and use the hardware and software resources in particular ways generated over a period of time (Budden, 2017; Czerniewicz & Brown, 2014; Pather, 2017).

A study conducted by Rimmer et al. (2008) on humanities scholars' perceptions of research resources, represents the ideological-ware resources as the experiences of finding and working with relevant resources. Donnelly and Fitzmaurice (2013) identify ideological-ware as a blended model for teaching because, when students and academics use digital resources, they consciously or subconsciously use habitual actions to choose and use hardware and software resources for teaching. Abbott (2015) defines the intrinsic part of teaching, which represents the ideological-ware, as a digital curation; this being a thinking process of using resources for data creation, management, processing, and preservation. Edyburn (2001) refers to ideological-ware resources as digital strategies for dealing with literature review. These studies indicate the importance of the cognitive process (ideological-ware) that takes place before,

during, and after the usage of digital resources, as the underrepresented resource in the literature (gap). The studies further suggest that ideological-ware resources are responsible for the fulfilment of personal/self-actualisation needs, because they represent one's identity (conscious, subconscious, and unconscious mind/thoughts) through the use of hardware and software resources. While these studies emphasise the importance of the cognitive processes that drive hardware and software, they have not identified the digital resource/s that are aligned with different needs. Therefore, the missing discussions of digital ideological-ware resources that drive digital hardware and software resources within the academic needs, are the reason for conducting this study. As such, the next sections present the research purpose, objectives, questions, design with methodology, findings, and conclusion.

4 Research Purpose, Objective, and Questions

The purpose and objective of the chapter is to explore and understand the alignment of digital resources and human needs used in the teaching of MEd students at a university in South Africa.

Research questions:

- Which digital resources do academics use in the teaching of MEd Curriculum Development students?
- What is the alignment of digital resources with human needs used in the teaching of MEd Curriculum Development students?

5 Research Design and Methodology

This study used a qualitative, interpretive case study of a university in South Africa. Both paradigms and style were chosen because they are capable of producing rich data, helping me to reach an in-depth (Creswell, 2014; Fouché & Schurink, 2011) understanding of the explored phenomenon (alignment of digital resources with needs). The in-depth understanding of the phenomenon was achieved through participants' subjective (Nieuwenhuis, 2016; Patton, 1990) responding to the questions asked. We further chose these paradigms and style because they were capable of generating multiple truths (Vithal & Jansen, 2010) from which we could choose the one that represented the participants' experiences. As a result, they help us to interrogate and interpret the responses from the participants, selected through purposive and convenience sampling.

We used purposive with convenience sampling to choose the most accessible academics who were eight MEd academics at universities from outside South Africa, indicated below, in the Curriculum Development discipline. The academics had been recruited by the university from various countries (Kenya, Lesotho, Swaziland, Germany, USA, UK, Zimbabwe, and Nigeria). Their discipline/specialisation was curriculum development. Purposive with convenience sampling is useful in selecting specific, most easily accessible participants, who can produce rich data (McAteer, 2013; Polzer, 2007). In 2017, the university organised an e-learning conference for curriculum development, at which these participants were recruited when they showed an interest in working with digital resources. Ethical clearance letters were received from their universities. Their real names were replaced by coding as Participants A – H, in order to observe the principles of ethics (confidentiality, voluntary participation, anonymity, and anytime withdrawal) (McNiff, 2013; Ramrathan, 2017).

One-on-one semi-structured interviews, focus-group discussions, and document analysis were used for data generation. Semi-structured interviews and focus-group discussions, as conversations between researchers and participants (Creswell, 2014), were used in this study to help me probe for in-depth descriptions of digital resources resorted to by academics to teach MEd students in Curriculum Development. Interviews and discussions were each conducted twice for approximately one hour at a time. This communication helped me to probe and paraphrase the questions in order to pin down the participants who had a tendency to avoid certain questions. Document analysis was used to confirm the digital resources and needs written into the academics' documents. These three data-generation methods were also used to triangulate data, in order to address the issues of trustworthiness, namely, dependability, credibility, confirmability, and transferability. "This was done to verify that the data generated were consistent across the sources of data, that triangulation (using multi-methods), transferability (findings were presented clearly to be applicable to similar contexts of this study), dependability (we presented evidence including direct quotations to allow readers to evaluate the findings), confirmability (we described the steps in detail to make sure that my position did not influence the findings), and credibility (through the different needs) were also supported, and to ensure trustworthiness of the findings as an important process of authenticity" (Khoza, 2018, p. 7).

Guided analysis, as a process that combines both deductive and inductive reasoning (Samuel, 2009), was used to generate three themes and categories (Table 11.1). The process started with needs that frame the digital resources that were generated from the data.

TABLE 11.1 Themes and categories of findings

Themes	Categories
Ownership in space	<ul style="list-style-type: none"> – Thesis goals – Instructions of content – Summative feedback
Ownership for space	<ul style="list-style-type: none"> – Activities – Peer feedback
Ownership of space	<ul style="list-style-type: none"> – Supervisor and student roles – Formative feedback

6 Findings and Discussions

The findings reveal that the participants used university desktop computers, laptops, office printers, mobile phones, Microsoft Office (Word, Excel, Power-Point, Access, and Publisher), Paint, the Internet, email, Moodle, Skype, Zoom, EndNote, NVivo, SPSS, Facebook, WhatsApp, CamScanner and Turnitin. All these hardware and software resources were observed in each participant's university office. Main theories or frameworks reflected in the participants' activities to represent ideological-ware resources were behaviouralism, cognitivism, and constructivism, which included connectivism (Siemons), technological pedagogical content knowledge (TPACK) (Mishra), the cultural historical activity theory (CHAT) (Angstrom), the curricular spider web (van den Akker), and the product theory (Tyler).

Desktop computers and printers were used by the participants in their university offices. Participants also had other printers in their living rooms (homes). Their laptops have similar software resources as that of the desktop computers. All these software resources were accessible online; even the EndNote libraries (reference-management software) were accessible through Google accounts. Most of these software resources were accessible through their mobile phones (tablets). Their mobile phones had other software resources, such as the geographical information system (GIS), banking software, inter alia.

7 Theme One: Ownership in Space

The first part of the findings (Participants A, C, and G) indicates that the digital resources were driven by a specific discipline in order to fulfil the ownership

needs in the space (perceived space). According to the three participants, it was compulsory that their students choose from the topics generated by their disciplines, in which prescribed digital resources were to be used to address the discipline needs.

Our students are given the goals of our discipline in order to make sure that the goals guide their research. They must know and understand the application of algebra, trigonometry and geometry in life. Although students had to search for their studies to the prescribed discipline phenomena to read, they choose from the discipline topics relevant discipline goals ... students are given clear instructions on how to read and write the literature based on their phenomena, rationale, research questions, theoretical frameworks, research design with methodology, research results interpretation and other content of their modules ... (Participants C, A, and G supported)

The discipline of the three participants was Mathematics Education.

Before our MEd students finalise the registration, they attend a three day orientation with technical training where all students whose applications were approved come to the orientation with their laptops. We help our students to connect their laptops to the Internet (wireless network connection), email, Moodle, Skype, Zoom, download Microsoft Office, GeoGebra, EndNote in order to create their online libraries, SPSS, and create Turnitin accounts ... (Participants A, C and G agreed)

Over and above their laptops, our students use university desktop computers. We train our students to master all these prescribed computer systems before they start to engage their research projects ... They master the use of Word in formatting documents; Excel, Access, SPSS for quantitative data; NVIVO for qualitative data; emails or Moodle discussion forum for documents exchange or communicating with us; Skype or Zoom for online meetings if they are not on campus; EndNote for references/referencing ... If students deviate from the prescribed structure of their research projects as in the agreements between them and their supervisors, they are given three written warnings, after which they are excluded from our discipline because they are breaking the university rule of progression ... These help us to manage our heavy workloads and our students become very good at writing ... (Participants G, A, and C supported)

Some examples of feedback observed from these three participants' documents to students, made by MS Word Review function:

I cannot make sense of the entire section because the phenomenon is missing ... (Participant A)

You have sent me too many pages to read, but I only managed to read five pages because you did not follow the instructions ... (Participant C)

You have tried to write this section, but the transitions from one paragraph to the next are all weak, you need to work on them ... (Participant G)

The above accounts reveal that the participants taught their students to master their module content and dissertations in their spaces by following strict instructions that directed them to achieve the prescribed objectives. Although the participants indicated the objectives as goals, the keywords used (know, and understand) were for the objectives, which are short-term goals (Budden, 2017; Makumane, 2018). Goals are divided into aims (supervisors' long-term goals), objectives (supervisors' short-term goals), and outcomes (student goals) (Donnelly & Fitzmaurice, 2013; Shoba, 2018). Digital resources were used to communicate discipline-based objectives of research projects, direct or indirect instructions of research content through summative feedbacks (Khoza, 2017), or direct criticism (Li & Seale, 2007). This suggests that the main reason for teaching was to instruct students to complete their studies on time, based on the needs of their disciplines. According to Lefebvre (1991), this practice indicates spatial, perceived, logical, or mathematical space in which academics' and students' responsibilities are to cognitively master their disciplinary or specialisation needs in order to drive all their actions. This space helps academics to manage the workload. Students may refer to the written disciplinary standardised structures (Lefebvre & Nicholson-Smith, 1991) that allow them all equal access to the digital resources of their disciplines, supporting them to complete their theses on time. Students either complete on time because they are good at writing; or are excluded, because they do not complete such, prescribed agreements between the institutions, academics, and students being binding. According to Maslow (1943) and Khoza (2018), this is a level of thinking for those who have socialised sufficiently to be ready or motivated to achieve more in their lives through their disciplines or professions (esteem or professional needs). As a result, the space even includes specific disciplinary

digital resources (GeoGebra in the case of mathematics curriculum), to be used for the achievement of the next cognitive level of action.

8 Theme Two: Ownership for Space

The second part of the findings (Participants B, D, F and H) indicates that the digital resources were driven by societal or community needs in order to fulfil the shared, social ownership needs for spaces (conceived space). According to the four participants, their students were encouraged to generate projects from their societies, in order to ensure that their projects addressed social challenges.

Our students come to the university and use different digital resources that include Facebook, WhatsApp ... that help them to share their ideas with academics and other students. We organise six weekend seminars every year at which our students use PowerPoint to present their projects to be critiqued by academics and other students (peer feedback). They use MS Word review function to review other students' projects in order to learn new ideas. Other discussions are facilitated by Facebook, WhatsApp, Google groups, Skype, emails ... academics encourage and facilitate these so that our students can have a broad understanding of their projects, based on different community ideas (group activities) ... (Participants B, D, F, and H agreed)

... students should learn to share everything with others because digital technologies have taken every element of life and made such accessible online, so that our students do not memorise any information any more. Communities are affected by different problems that should be resolved through PhD studies. Our students should therefore discuss, research and store these problems to make sure that they do not affect the communities all the time ... (Participants B, D, F, and H agreed)

Digital technologies make it easy for our students to process this information through sharing ideas ... Although most of our PhD students take more than three years to complete their studies, they learn to say what they write in their curriculum projects, based on their community problems ... They are allowed to appeal against exclusion after three years ... (Participants B, D, F, and H agreed)

Students learn to debate in order to fit into different communities through their studies. Even when they look for places to meet their friends, they make use of GPS, so that they do not have to memorise the directions ... (Participants B, D, and F, and H supported)

Some observed examples of comments from these four participants on their students:

You have done well in the discussion of Curriculum Development; we only have to add Pinar (2012) in the definition ... (Participant B)

Well done; please continue with other sections ... (Participant H)

The above accounts reveal that the participants taught their students to help their societies to solve their challenges. This was achieved by generating skills required by their societies to own the social space used to address societal needs (Khoza, 2018). Lefebvre and Nicholson-Smith (1991) identify this process of using digital resources as particular or conceived space in which ownership of the space activities belongs to the society. Such a space is generated for the fulfilment of social needs (Hoffman, 1988; Khoza, 2017). According to Dlamini (2018) and Shoba (2018), this process is called a communicative approach: digital resources are used to invite stakeholders to be part of university studies. The main aim of using digital resources in this approach, is for communication supporting the developing of communities of practice, in which members share the same culture (Mabuza, 2018). As a result, supportive peer feedback is used to encourage students and other stakeholders to feel a sense of belonging to the university community of practice (Li & Seale, 2007). In other words, students are trained not to individually own activities – activities keep on changing according to new introduced digital resources. The lives of these academics and their students are therefore driven by communication digital resources that help them to store and retrieve relevant information when necessary. They do not even memorise directions to different places because digital resources such as GPS can direct them to their destination. Although they were good with social needs, their personal spaces were forfeited by their societies, through digital resources.

9 Theme Three: Ownership of Space

The third part of the findings from Participant E, indicates that the digital resources were driven by theories chosen according to Participant E's individual

and students' personal needs, in order to own personal spaces (lived space). According to Khoza (2018), and Lefebvre and Nicholson-Smith (1991), personal or lived spaces are the natural individual theories that drive academics and students to choose and use specific digital resources. According to Participant E,

all students have their individual theories that influence their individual subconscious minds to produce habitual actions. These theories need to be triggered through supervision so that students become aware of them when they choose and use digital resources in their theses. So, teaching is about triggering or helping students to reflect on their individual experiences in order to become aware of their relevant theories according to their abilities before they use digital resources in their studies ... Some of the common theories used by my students to drive the use of digital resources are behaviouralism, cognitivism and constructivism that included connectivism, technological pedagogical content knowledge (TPACK), cultural historical activity theory (CHAT), curricular spider web, product theory ... My students choose and use hardware and software digital resources that are required by their needs as identified by their individual theories of life histories, self-studies, action research ...

The above account from Participant E reveals that digital resources were used, based on individual theories that drove students' individual subconscious

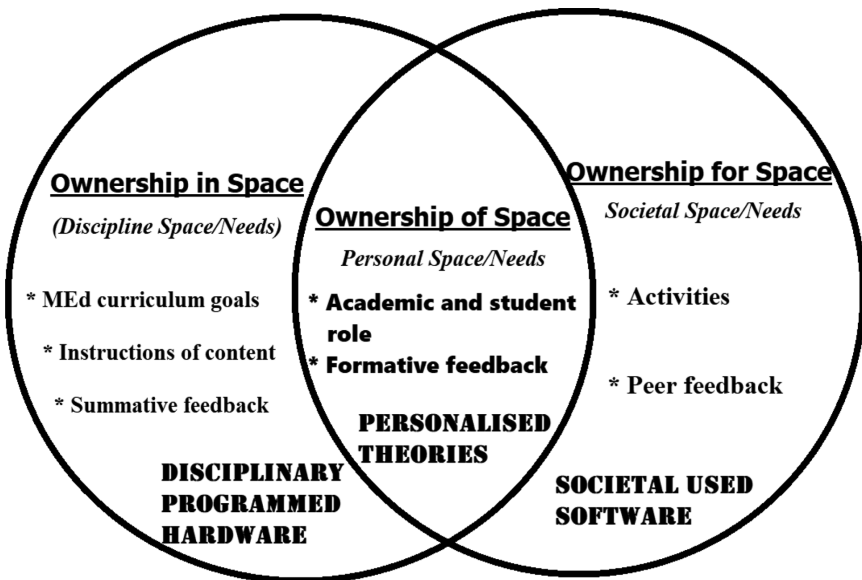


FIGURE 11.1 Alignment of digital resources and needs in curriculum development

minds or thoughts. Personal or lived space is taken as a combination of both the perceived (professional) and conceived (social) spaces, because the use of digital resources depends on the chosen theory. For example, if students are driven by product theory, digital resources may be used according to the prescribed structure. However, if they are chosen based on constructivism they may be used according to the experiences of the groups that need them. This practice helps individuals fulfil their self-actualisation needs (Maslow, 1954), understanding their personal identities (Khoza, 2017) in order to possess natural actions (Lefebvre, 1991). According to Tay and Diener (2011), together with Khoza and Biyela (2020), these individuals are problem-centred. They objectively accept reality, and are highly creative, based on high moral standards, because they have come to understand their strengths and weaknesses. Their research projects are mostly based on self-studies, life histories, and action research.

10 Conclusion and Recommendations

This study concludes that the use of digital resources in the teaching of MEd curriculum students was driven by disciplinary or professional, social or societal, and personal or self-actualisation needs (Figure 11.1). Disciplinary needs, as a function of spatial or perceived space, has one prescribe a discipline-based structure to be mastered and used by all students in order to complete their theses on time. Students should complete their studies according to their discipline-prescribed period, so that they are not excluded from their disciplines. The main question to be addressed is the ‘what?’ question of their theses. This question is addressed by mastering and correctly using the discipline-prescribed structure. Students who use digital resources to follow all the steps of the structure pass their degrees on time and achieve internal discipline satisfaction, being motivated for the next level of achievement. This suggests that quality in this space is defined based on the mastering and usage of the discipline content, in order to complete the degree on time. Disciplines usually have digital hardware resources programmed to support disciplinary structures. Therefore, this space should be used to increase the number of MEd graduates capable of advancing their disciplines. MEd curriculum goals should be clearly prescribed and supported by direct or indirect instructions of the disciplinary content within the prescribed structure, with summative timeous feedback from academics. Students must therefore learn the definition of quality actions from their disciplines. Although graduates here may not work well with societies outside their discipline, this is not a function of this space.

Societal needs, as a function of social or conceived space, are capable of producing MED graduates who are about to work with different societies, having learnt to share their activities with other people through their MEd studies. This space answers the ‘how?’ question of their theses. Students understand how they should conduct their studies based on the opinions or contributions of other people, irrespective of disciplines or societies. They learn the definition of ‘quality’ with other people (societies or communities). As a result, they generate various definitions of quality based on different societies. They use mostly digital software resources to communicate with other people. Therefore, this space should be used to increase numbers of MEd graduates who are capable of addressing social challenges. Although they may not have enough time to deal with their personal activities, other people may support them in dealing with such.

Personal needs, as a function of lived space, may combine the perceived and conceived spaces, producing individual, natural actions. This space help students to understand their identities based on various theories that require relevant hardware and software as appropriate to their studies. Students must learn to answer the question of ‘Why me?’ or ‘Why not me?’ after they have understood their identities. This space should be used for projects that address the self-identity, using styles such as self-studies, life history, action research, and others.

References

- Abbott, D. (2015). Digital curation and doctoral research. *International Journal of Digital Curation*, 10(1), 1–17.
- Anaraki, L. N., & Babalhavaeji, F. (2013). Investigating the awareness and ability of medical students in using electronic resources of the integrated digital library portal of Iran: A comparative study. *The Electronic Library*, 31(1), 70–83.
- Blumbach, H., & Peak, M. (2018). *Building PhD capacity in Sub-Saharan Africa*. Taylor & Francis.
- Brabazon, T. (2016). Winter is coming: Doctoral supervision in the neoliberal university. *International Journal of Social Sciences & Educational Studies*, 3(1), 14–34.
- Budden, R. (2017). *Exploration of factors that inform curriculum studies students to use e-resources in conducting masters of education dissertations at a South African university* (PhD thesis). University of KwaZulu-Natal, Durban.
- Creswell, J. W. (2014). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage Publications, Inc.
- Czerniewicz, L., & Brown, C. (2014). The habitus and technological practices of rural students: A case study. *South African Journal of Education*, 34(1), 1–14.

- Dlamini, M. (2018). *Exploring formative assessment practices in context-based science curriculum in Swaziland: A case of form 2 junior secondary school science* (PhD thesis). University of KwaZulu-Natal, Durban.
- Donnelly, R., & Fitzmaurice, M. (2013). Development of a model for blended post-graduate research supervision in Irish higher education. In C. O'Farrell & A. Farrell (Eds.), *Emerging issues in higher education III, from capacity building to sustainability*. Educational Developers in Ireland Network (EDIN).
- Dowling, R., & Wilson, M. (2017). Digital doctorates? An exploratory study of PhD candidates' use of online tools. *Innovations in Education and Teaching International*, 54(1), 76–86.
- Edyburn, D. (2001). Scholarly endeavors: Conducting a comprehensive review of the literature using digital resources. *Journal of Special Education Technology*, 16(1), 49.
- Fomunyan, G. K. (2017). The ideological ware as key to improving learner performance. *Journal of Educational Studies*, 16(1), 108–125.
- Foucault, M. (2007). *Security, territory, population: Lectures at the Collège de France 1977–1978*. Picador.
- Fouché, C. B., & Schurink, W. (2011). Qualitative research designs. In A. S. De Vos, H. Strydom, & C. S. L. Delpont (Eds.), *Research at grassroots: For the social sciences and human service professions* (3rd ed., pp. 307–327). Van Schaik.
- Hoffman, E. (1988). *The right to be human: A biography of Abraham Maslow*. Jeremy P. Tarcher, Inc.
- Khoza, S. B. (2017). Master of education students' reflections: Which curriculum reasons are promoted or limited by skype resources? *Progressio: South African Journal for Open and Distance Learning Practice*, 39(2), 1–19.
- Khoza, S. B. (2018). Can teachers' reflections on digital and curriculum resources generate lessons? *Africa Education Review*, 1(2018), 1–16.
- Khoza, S. B. (2019). Lecturers' reflections on curricular spider web concepts transformation strategies. In E. N. Ivala & C. L. Scott (Eds.), *Transformation of higher education institutions in post-apartheid South Africa* (Vol. 1, pp. 15–26). Routledge/Taylor & Francis Group.
- Khoza, S. B., & Biyela, A. T. (2020). Decolonising technological pedagogical content knowledge of first year mathematics students. *Education and Information Technologies*, 25(4), 2665–2679.
- Kisaka, S. T. (2018). *An exploration of the use of moodle in teaching MEd students at a university in Kenya* (PhD thesis). University of KwaZulu-Natal, Durban.
- Lee, A. M. (2007). Developing effective supervisors: Concepts of research supervision. *South African Journal of Higher Education*, 21(4), 680–693.
- Lefebvre, H. (1991). *The production of space*. Blackwell.
- Lefebvre, H., & Nicholson-Smith, D. (1991). *The production of space* (Vol. 142). Blackwell.
- Li, S., & Seale, C. (2007). Managing criticism in Ph.D. supervision: A qualitative case study. *Studies in Higher Education*, 32(4), 511–526.

- Mabuza, D. C. (2018). *Educators' reflections of the Swaziland junior secondary integrated consumer science curriculum: Towards development of a unique content area* (PhD thesis). University of KwaZulu-Natal, Durban.
- Makumane, M. A. (2018). *Educators' enactment strategies of the French integrated curriculum: An action research of Lesotho educators* (PhD thesis). University of KwaZulu-Natal, Durban.
- Malfroy, J. (2005). Doctoral supervision, workplace research and changing pedagogic practices. *Higher Education Research & Development*, 24(2), 165–178.
- Marsh, H. W., Rowe, K. J., & Martin, A. (2002). PhD students' evaluations of research supervision: Issues, complexities, and challenges in a nationwide Australian experiment in benchmarking universities. *The Journal of Higher Education*, 73(3), 313–348.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396.
- Maslow, A. H. (1954). *Motivation and personality*. Harper and Row.
- McAteer, M. (2013). *Action research in education*. Sage Publication.
- McNiff, J. (2013). *Action research – Principles and practices* (3rd ed.). Routledge.
- Mpungose, C. B. (2018). *Exploring lecturers' reflections on the use of Moodle to teach physical sciences at a South African University* (PhD dissertation). University of KwaZulu-Natal, Durban.
- Murphy, N., Bain, J. D., & Conrad, L. (2007). Orientations to research higher degree supervision. *Higher Education*, 53(2), 209–234.
- Nieuwenhuis, J. (2016). Qualitative research designs and data-gathering techniques. In K. Maree (Ed.), *First steps in research* (3rd ed., pp. 72–100). Van Schaik.
- Pather, R. (2017). *Library spaces in higher education: Exploring academics' understanding*. (PhD thesis). University of KwaZulu-Natal, Durban.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Sage Publications.
- Percival, F., & Ellington, H. (1988). *A handbook of educational technology* (2nd ed.). Kogen Page.
- Piccinin, S. J. (2003). Graduate students supervision: Resources for supervisors & students. *Education*, 25(3), 71–92.
- Polzer, T. (2007). Adapting to changing legal frameworks: Mozambican refugees in South Africa. *Internal Journal of Refugee Law*, 19(2007), 22–50.
- Ramrathan, L. (2017). Educational Research: Key concepts. In L. Ramrathan, L. Le Grange, & P. Higgs (Eds.), *Education studies: For initial teacher development* (pp. 403–418). Juta & Company (Pty) Ltd.
- Rimmer, J., Warwick, C., Blandford, A., Gow, J., & Buchanan, G. (2008). An examination of the physical and the digital qualities of humanities research. *Information Processing & Management*, 44(3), 1374–1392.

- Samuel, M. A. (2009). On becoming a teacher: Life history research and the force-field model of teacher development. In R. Dhunpath & M. A. Samuel (Eds.), *Life history research-epistemology, methodology and representation*. Sense Publishers.
- Shoba, M. E. (2018). *Exploring teachers' experiences of teaching English-speaking skill to second language learners in three KwaNdengezi township primary schools* (PhD thesis). University of KwaZulu-Natal, Durban.
- Sodje, P. E. (2018). *Exploring the use of internet resource/s in learning mathematics at a TVET college in South Africa* (PhD thesis). University of KwaZulu-Natal, Durban.
- Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of Personality and Social Psychology*, 101(2), 354–364.
- Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, 6(1977), 205–212.
- Vithal, R., & Jansen, J. (2010). *Designing your first research proposal: A manual for researchers in education and the social science*. JUTA.
- Zaitun, A. B. (2010). *Strategic cooperation to enhance quality in doctoral supervision*. Naif Arab University For Security Science (NAUSS).