A Virtual Community of Practice: Impact on Instructional Design Knowledge and the Cultural Elements Evident Within Interactions Among Nigerian Faculty

Hala Walid Esmail

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A VIRTUAL COMMUNITY OF PRACTICE: IMPACT ON INSTRUCTIONAL DESIGN KNOWLEDGE AND THE CULTURAL ELEMENTS EVIDENT WITHIN INTERACTIONS AMONG NIGERIAN FACULTY

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy

in

The School of Education

by

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بسم الله الرحمن الرحيم

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Abstract

With the expansion of higher education and the growth of online course offerings in Sub-Saharan Africa, there is a critical need to support faculty in developing the necessary skills to teach effectively online. The purpose of this qualitative, single-case study was to examine the nature of the discourse in which faculty members engaged within a virtual community of practice that was created to support their instructional design and online teaching efforts. The community of practice framework and the related learning theories of situated learning and social constructivism served as the underpinning of this study. The E-Learning Program was facilitated via Moodle over the span of six weeks within the context of a community of practice. Participants were engaged in various activities including reviewing materials regarding instructional design strategies, designing instructional activities, engaging with colleagues in discussion forum activities, submitting self-reflection activities, collaborating with colleagues on a group project, and creating a final portfolio. Data were collected from discussion forum responses, self-reflection submissions, and semi-structured interviews, which were conducted after the program concluded. A key finding reveals that participants developed expertise in online instruction and confronted their misconceptions or preconceived notions and concerns regarding online teaching and learning. Additionally, culture played a significant role in the way participants provided and perceived feedback, collaborated on activities with colleagues, and in the way they maintained a supportive and harmonious learning environment. The interconnectedness and communal relationships that existed in the community of practice provided a pathway for knowledge sharing and capacity building across the institution. Implications for creating and facilitating communities of practice are discussed along with recommendations for future research.
Chapter 1. Introduction

Introduction and Background

Higher education is crucial in increasing a country’s capacity and can yield both economic and social benefits for individuals and society as a whole. Economic benefits include higher salaries, better employment opportunities, increased tax revenues and productivity, and workforce flexibility. Furthermore, social benefits include improved health and life expectancy, quality of life for offspring, reduced crime rate, increased civic engagement, and appreciation of diversity (Peercy & Svenson, 2016). While the value of higher education is virtually undeniable, there are increasing concerns in the international community regarding inequities in access to, and the quality of higher education (Blanco-Ramírez & Berger, 2014).

In 2015, more than 190 world leaders committed to 17 Global Goals for Sustainable Development by developing a universal agenda to work towards ending poverty, fighting inequality and injustice, and fixing climate change (Sustainable Development Goals, 2020). Recognizing the important role education serves as the main driver of achieving these goals, the vision includes education as Sustainable Development Goal #4, which proposes to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (Education 2030, 2016, p. 7). It highlights the importance of achieving “equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university” (Sustainable Development Goals, 2020). Materu (2007) states, “tertiary education is central to economic and political development and vital to competitiveness in an increasingly globalizing knowledge society” (p. xiii).

Also in 2015, African leaders adopted Agenda 2063, a fifty-year strategic framework for the socio-economic transformation of the continent, with the guiding vision of “an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in
the international arena” (Agenda 2063, 2015, p. 1). Included in this vision is the goal to “catalyse education and skills revolution and actively promote science, technology, research and innovation, to build knowledge, human capital, capabilities and skills to drive innovations and [sic] for the African century,” which includes the objective to “harness universities and their networks and other options to enable high quality university education” (Agenda 2063, 2015, p. 15).

Matching the African Union 2063 Agenda is the Continental Education Strategy for Africa 2016-2025 (CESA 16-25) driven by the mission of “reorienting Africa’s education and training systems to meet the knowledge, competencies, skills, innovation, and creativity required to nurture African core values and promote sustainable development at the national, sub-regional and continental levels” (CESA 16-25, 2016, p. 21). This strategy provides not only ownership of the global sustainable development goals, but also a way for the continent to adapt the goals for their own wants and needs. Three of the twelve objectives are to

- revitalize the teaching profession to ensure quality and relevance at all levels of education;
- harness the capacity of ICT [information and communication technologies] to improve access, quality, and management of education and training systems; and
- to revitalize and expand tertiary education, research, and innovation to address continental challenges and promote global competitiveness. (p. 8)

CESA 16-25 emphasizes the importance of tertiary education for meaningful and sustainable economic growth and highlights the challenges facing the continent, which include “reorienting enrolments, post-graduate education, research and innovation linked to economic, social and industrial development…and the mounting cost of tertiary education” (p. 19). It states the need for “building additional modern infrastructure and providing innovative delivery, such as distance and open/virtual learning” and for a renewal of the teaching force (p. 19).
Ilie and Rose (2016) among other researchers (Moyo, 2003; Wakahiu & Shaver, 2015), call for increased efforts to provide equitable and quality higher education access in countries that need it the most, specifically, within Sub-Saharan Africa. Assié-Lumumba (2004) states, “to claim to be legitimate modern states, African countries need to have the institutional base of strong higher education for teaching, research, and dissemination of research results that will produce relevant knowledge for social progress” (p. 78). Altbach (2016) notes that distance education is growing both within countries and internationally, and states, “of the 10 largest distance-education institutions in the world, 7 are located in developing countries” (p. 98).

Acknowledging the need to widen accessibility and address the increasing demand for higher education, institutions within Sub-Saharan Africa are forced to devise innovative ways to respond to these needs—one of which is turning to distance education (Assié-Lumumba, 2004).

Distance education is becoming more prevalent and transforming the way people teach and learn. It has the potential of improving access along with addressing the increasing demand for higher education (Moyo, 2003; Pretorius et al., 2016; Zamani et al., 2016). Braimoh and Osiki (2008) state, “the methodologies being employed in distance learning in Africa are gaining prominence and becoming dynamic as a valuable tool for expanding access to higher education with added value of quality and relevance” (p. 55). Similarly, Murphy et al. (2002) asserts that “there is considerable activity underway in Africa to build upon its capacity to provide distance education as a means of addressing the demand for tertiary education” (p. 22). For instance, to meet the demand for higher education, the Ugandan government has encouraged alternative means, one of which being e-learning. As a result, universities have developed and implemented e-learning systems and several continue to follow suit (Mayoka & Kyeyune, 2012). In addition to the flexibility distance education provides, it allows institutions to maximize their resources, save
costs, increase their flexibility in class scheduling, and reach a larger audience of students from around the world (Lei & Gupta, 2010).

**Statement of the Problem**

While the benefits of distance education within the Sub-Saharan African context are abundant, there are a number of challenges. Asuman et al. (2018) state, “despite the growing demand and achievements of WBL [Web-Based Learning] to expand teaching and learning opportunities, the developing countries like Uganda have not fully optimized their use and benefits in higher education” (p. 34). These challenges include inadequate learning support, technological illiteracy among learners, restricted access for learners to modern facilities, and inefficient ICT-related infrastructure such as electricity, lack of operational e-learning policies, telecommunications, computers, and trained personnel (Braimoh & Osiki, 2008; Gunga & Ricketts, 2007; Oluwatobi & Abigail, 2017; Tarus et al., 2015). Blanco-Ramírez and Berger (2014) highlight faculty development as an area of concern during “the rapid expansion of higher education, particularly in countries where higher education has been historically under-developed” (p. 99).

Impediments to faculty participation in e-learning innovations include the considerable amount of time required to develop e-learning content, exclusion from the preview and development of e-learning programs, and inadequate institutional support (Hadullo et al., 2018; Isabirye & Dlodlo, 2014; Tarus et al., 2015). Researchers call attention to the concern that limited online teaching experience and minimal or lack of academic training can negatively impact academic quality at open and distance learning institutions (Braimoh, 2010; Isabirye & Dlodlo, 2014; Tarus et al., 2015). A study investigating the challenges hindering the implementation of e-learning in Kenyan public universities revealed the lack of relevant
technical skills on e-learning and content development by faculty as a challenge (Tarus et al., 2015, p. 133), which the researchers explain can be attributed to being trained in the absence of an ICT environment. Similarly, in examining barriers facing faculty in the integration of web-based learning at higher education institutions in Uganda, lack of skills and support were identified (Asuman et al., 2018). Isabirye and Dlodlo (2014) explain, “lecturers are no longer mere instructors as they assume the role of content experts, instructional designers, web graphic designers and programmers” (p. 391). Braimoh (2010) highlights another contributing factor: many distance higher education institutions in African countries consist of faculty drawn from predominantly face-to-face traditional institutions (p. 231). As a solution, Braimoh (2010) suggests that academics and professional staff participate in training that enables them to understand “the underpinning epistemologies, principles and practices as well as the pedagogical requirements of ODL [Open and Distance Learning] activities including research and student handling processes in an ODL institution” (p. 240). Isabirye and Dlodlo (2014) warn, “in a finely balanced e-learning process, inadequately trained lecturers can become an obstacle, leading to problems in perception, application and usage” (p. 395). Similarly, Berry (2019) emphasizes, “Lack of training for online faculty has dangerous implications for online students. Faculty that are not prepared are less likely to help students engage with peers, collaborate on learning activities and cultivate a sense of community” (p. 122).

Transitioning from teaching a face-to-face course to an online course requires somewhat of a shift in pedagogical mindset and this can be a challenge for faculty. Masoumi and Lindström (2012) explain,
e-Learning is not just a technological add-on that teachers need to learn how to use; it is a new educational approach involving new pedagogical and professional procedures and processes that require support and professional development beyond conventional teaching forms (Marshall 2006). (p. 33)
Furthermore, it may involve a “reversal in the way they think about their teaching, to place the focus on learning rather than teaching, and on the learner activity rather than content” (Brack et al., 2005, p. 52). Therefore, it is critical that institutions recognize these challenges and provide faculty with professional development opportunities to guide them through the process of developing skills and confidence in online course design and online teaching (Northcote et al., 2015, p. 319). Developing communities of practice among faculty can serve as an effective way to provide faculty professional development and support faculty in designing and developing quality courses and providing students with valuable learning experiences.

**Purpose of the Study**

The purpose of this case study was to determine how a professional development program structured within a virtual community of practice facilitated the development of online instructional design knowledge among a cohort of faculty at a university in Nigeria. A concurrent goal was to understand the nature of the interactions among the participants while engaged in the learning community. The community of practice framework and the related learning theories of situated learning, social constructivism, and andragogy served as the underpinning of this study. This study was designed to investigate the following research questions:

1. What learning outcomes related to instructional design were achieved by faculty participating in the virtual community of practice?

2. How did faculty perceptions about online teaching evolve as a result of participation in the virtual community of practice?

3. What cultural values were evident in the knowledge building process among faculty within the virtual community of practice?
Significance of the Study

With the expansion of higher education and the growth of distance education and online course offerings in Sub-Saharan Africa, deficits in online teaching skills among faculty threaten the success of e-learning implementations. To address challenges faced by faculty in the integration of web-based learning practices, Asuman et al. (2018) recommend professional development programs that provide experiences to enhance their knowledge and skills. Assié-Lumumba (2004) stresses, “in dealing with innovation in higher education in Africa, particular attention must be paid to learning and teaching, courses and pedagogy, and the ways in which students learn” (p. 79). There is a critical need to support faculty in developing these necessary skills as they navigate the shift in their teaching practice (Asuman et al., 2018). Faculty development programs typically consist of face-to-face workshops, instructional resources, and showcases or presentations featuring exemplar faculty. Although these types of offerings can contribute to changes in instruction, there are limitations in that “individuals cannot move from little or no knowledge about a different approach to the use of an approach in a single step (i.e., through participation in a single faculty development workshop)” (McKenna et al., 2016, p. 32).

Recent trends reveal a preference by faculty for forms of professional development programs, which include “just-in-time” components and that are characterized by capacity-building intentions; some of which are developed online by using pedagogically-informed design frameworks, and online communities of practice as well as on-campus seminars (Northcote et al., 2015, p. 320). Golden (2016) argues “beyond offering initial trainings to help professors convert existing courses to an online format, higher education institutions will need to nurture a sustained environment of professional development for online teachers” (p. 85).
The topic of communities of practice for faculty development within the higher education context is not widely discussed in the literature (McKenna et al., 2016). Researchers call for further studies to identify faculty development initiatives that are most successful for improving engagement and removing barriers (Dailey-Hebert et al., 2014; Sun et al., 2014). Furthermore, there is a need to explore the influences of culture on knowledge sharing behavior and practices within communities of practice (Al-Kurdi et al., 2018; Ardichvili et al., 2006), specifically from the individualism-collectivism viewpoint (Burgess, 2005). West African nations significantly diverge in collectivism from other countries—most notably in comparison to the United States (Hofstede, 2001). The United States (considered an individualist culture) has an index score of 91 on the individualism-collectivism dimension, while the West African region has a score of 20 (Hofstede, 2001, p. 500). Kim (2019) states, “to foster knowledge sharing behavior among individuals, the first thing is to understand the characteristics and social behaviors of organization members because they are the primary component of organizational culture” (p. 197). The individualism-collectivism dimension is an important construct in understanding social behavior (Triandis, 1995). Kerno (2008) hypothesizes that from a community of practice standpoint, societies valuing group community, harmony, collectivism, and interconnectedness over self and individualism may be more effective in their use of communities of practice (p. 75). Therefore, this study focused on the individualism-collectivism dimension to examine the knowledge building process within a virtual community of practice. This study contributes not only to the literature, but examines the process and impact of participation within a virtual community of practice implemented with faculty at a university in Nigeria.
Definition of Terms

The following is a list of definitions for the terminology used in this study:

*Community of Practice*: “Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al., 2002, p. 4)

*Distance Education*: “Teaching and planned learning in which teaching normally occurs in a different place from learning, requiring communication through technologies as well as special institutional organization” (Moore & Kearsley, 2012, p. 2)

*Individualism-collectivism*: a dimension of national culture that “describes the relationship between the individual and the collectivity that prevails in a given society” (Hofstede, 2001, p. 209)

*Information and Communication Technologies (ICT)*: A set of technological tools and resources used to disseminate, communicate, create, store, and manage information. It includes technologies such as learning management systems, mobile technology, email, instant messaging, and web conferencing

*Instructional Design*: “An iterative and systematic process of problem-solving to align learning theories, learner expectations, teaching pedagogy, educational technology, and user experience design with curriculum and course outcomes” (Heiser & Ralston-Berg, 2019, p. 282)

*Knowledge Sharing*: The exchange or dissemination of data, ideas, experiences, or technology between individuals to help others and solve problems within the organization (Al-Kurdi et al., 2018)
Reflexivity Statement

My interest in this topic stemmed from over thirteen years of supporting faculty with the integration of the technology into their teaching at Louisiana State University (LSU), and more recently, in my role of creating and facilitating faculty professional development offerings for faculty designing and developing online courses, and those teaching online. Throughout the years, the number of hybrid and fully online course offerings significantly increased at LSU. Many of the faculty offering these courses had little to no prior experience developing online courses or teaching online. Through my work, several faculty members shared their feelings of apprehension and isolation as they worked through the process of transitioning to developing courses and teaching in the online environment. Responding to the need of supporting faculty teaching online, I worked with colleagues across campus to organize and lead a faculty learning community, the Online Teaching Cohort. The formation of the group drew the interest of over 100 faculty and staff across LSU and nearby institutions. Members were invited to participate in meetings and events throughout the year on various topics. The success of the Online Teaching Cohort invigorated my interest in faculty development and creating opportunities for faculty to connect and learn with peers.

I spent the majority of my life overseas. I grew up in Saudi Arabia, attended an international high school in Bahrain, spent summers in Palestine, and visited several countries across the Middle East and Europe. Through these experiences, I gained not only perspective but also a heightened curiosity about different cultures and ways of living. While working on my doctoral coursework, I attended the Comparative and International Education Society (CIES) annual conference twice. The first year’s theme, coincidentally, was “Ubuntu! Imagining a Humanist Education Globally.” During the conferences, I listened to a variety of researchers
describe the work they did and research conducted in the field of education; ranging from pre-K to higher education, from private schools to refugee camps—I was in awe and inspired. Several of these sessions focused on cross-cultural research. Around the same time, my doctoral advisor was involved in various projects in Sub-Saharan African (e.g., Cameroon, Uganda) and discussed the work she was doing. These shared stories piqued my interest, and her connections provided me with the opportunity to conduct my research at Kaduna State University (KASU). The amalgamation of these experiences led me to the desire to explore further the potential of communities of practice on faculty professional development, with a focus on higher educational institutions in Sub-Saharan Africa.
Chapter 2. Review of the Literature

This chapter begins with an overview of the learning theories relevant to communities of practice including social constructivism, situated learning, and andragogy. It is followed by an overview of the community of practice framework including the structure, challenges typically experienced in communities of practice, and a focus on virtual communities of practice. Next, various studies exploring the use of communities of practice for teacher and faculty professional development are described. The focus will turn to studies examining communities of practice designed to support instructors teaching online. Factors that influence knowledge sharing behaviors in communities of practice will be discussed. Lastly, an overview of the types of interactions that are essential for learning and engagement in distance education courses is provided.

Theoretical Foundations

The community of practice framework has roots in social constructivism and situated learning. Constructivism emerged as a learning theory in the 1980s in response to the narrow, isolated, and intrapersonal behaviorist approach to learning, and in contrast, it embraces the view in which reality is determined by personal experiences (Cooper, 1993; Liu & Matthews, 2005). Constructivists would argue that “there is no such thing as content-independent knowledge or skill” (Cooper, 1993, p. 17). Constructivist theories focus on the processes in which learners construct knowledge and meaning, both individually and socially, based on interactions and experiences with the world. Additionally, instruction is considered “a process of supporting that construction rather than communicating knowledge” (Duffy & Cunningham, 1996, p. 2). A constructivist learning environment should:

Engage learners in activities authentic to the discipline in which they are learning; provide for collaboration and the opportunity to engage multiple perspectives on what is
being learned; support learners in setting their own goals and regulating their own learning; and encourage learners to reflect on what and how they are learning. (Driscoll, 2007, p. 42)

Duffy and Cunningham (1996) explain that group discussion is commonly found within educational settings that are characterized as constructivist. This underscores the important elements of social and collaborative activities. Social constructivism, a branch of constructivist thought, is based on Vygotsky’s work, which emphasizes the impact of social and cultural influences on students, and the belief that “because participants bring their own worldviews to the learning context, their social interaction allows for multiple perspectives on the content and multiple representations of reality” (Schreiber & Valle, 2013, p. 396). One of Vygotsky’s theories is the zone of proximal development (ZPD) (Vygotsky, 1978). This concept explains the way in which social and participatory learning takes place. Students are guided by their peers and teachers to master concepts and skills that they are unable to do initially on their own (Powell & Kalina, 2009; Schreiber & Valle, 2013). Scaffolding strategies along with cooperative learning experiences assist learners to get to the next level of understanding in the learning process (Powell & Kalina, 2009).

Brown et al. (1989) argue that learning and cognition are “fundamentally situated,” and approaches such as cognitive apprenticeship that “embed learning in activity and make deliberate use of the social and physical context are more in line with the understanding of learning and cognition” (p. 2). They led the creation of the theory of situated cognition, which is also referred to as authentic learning or situated learning. Situated learning is described as an immersive approach where learning “is not simply the acquisition of propositional knowledge, but rather occurs through certain forms and types of social coparticipation, is contextual, and embedded within both a social and physical environment” (Kerno, 2008, p. 69). Central to this process is a
concept which Lave and Wenger (1991) refer to as *legitimate peripheral participation*, “an analytical viewpoint on learning, a way of understanding learning” (p 40). Jawitz (2007) explains, “peripherality refers to the relatively low-risk environment within which the first experience of participation takes place, and legitimacy refers to the recognition of newcomers as potential full members of the community of practice” (p. 186). The practice of the community creates the “curriculum,” and as new members are involved in activities their understandings and knowledge develops. The resources for learning are not solely from a pedagogical activity, but from a variety of sources. Lave and Wenger (1991) take a decentralized view of the master-apprentice relationship and explain that “mastery resides not in the master but in the organization of the community of practice of which the master is part” (p. 94). The focus is on participation as a way of learning, moving away from the practice of learning through observation and imitation. They suggest that “learning occurs through centripetal participation in the learning curriculum of the ambient community” (p. 100). Driscoll (2007) highlights the strength of this theory and describes it as “integrating knowing with doing” (p. 40).

**Andragogy: Adult Learning Theory**

Soon after World War I, interest in adult education increased. At the time, pedagogy, the art and science of teaching children, was the only theoretical framework applied to all educational contexts (i.e., those consisting of children and adults learners). It became clear that the purpose of education as the “transmittal of knowledge and skills,” and the assumptions about the characteristics of learners within the pedagogical model was not fitting for adult learners (Knowles, 1980). This led to redefining education as a “lifelong process of continuing inquiry” and the emergence of andragogy, a learning theory directed towards adult learners (Knowles,
Andragogy is a theoretical model that includes the following four key assumptions about the characteristics of adult learners:

1. Their self-concept moves from one of being a dependent personality toward being a self-directed human being;
2. They accumulate a growing reservoir of experience that becomes an increasingly rich resource for learning;
3. Their readiness to learn becomes oriented increasingly to the developmental tasks of their social roles; and
4. Their time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly, their orientation toward learning shifts from one of subject-centeredness to one of performance-centeredness (Knowles, 1980, p. 44).

In this theoretical model, it is essential to incorporate activities into educational programs that allow learners to acquire skills in self-directed learning and take responsibility for their own learning. Methods for self-evaluation should be incorporated to allow learners to gauge their progress in meeting their educational goals themselves. Because adult learners bring a wealth of experiences, emphasis should be placed on activities that can tap into those experiences (e.g., group discussions, case studies, simulation exercises, seminars, and community development) and incorporate practical application of knowledge (Knowles, 1980). Given “the immediacy of application toward most of their learning,” the sequence of the curriculum should be thoughtfully considered to meet adult learners’ needs at their specific stage of development (Knowles, 1980, p. 53). Additionally, educators should be attuned to the concerns and problems of learners and develop educational activities that are problem-centered or performance-centered. Knowles (1980) describes learning as “a process of need-meeting and goal-striving by the learners” (p.
A key consideration to successful approaches to adult learning is to consider the various world-views of other cultures—in order to have a significant impact on the effectiveness of the teaching—as well as the perceived value of the education (Peltz & Clemons, 2018).

**Communities of Practice**

The term *community of practice* was coined within the context of traditional apprenticeship. Lave and Wenger (1991) define communities of practice as “a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice” (p. 98). It later became evident that these communities existed in settings despite the absence of institutions of apprenticeship (Wenger et al., 2002). Wenger et al. (2002) introduced the value of innovation and problem solving within communities of practice and describe them as “groups of people who share a concern, set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (p. 4). Communities of practice have been around for centuries and are incorporated in many aspects of our lives—in the workplace, at school, at home, and in our hobbies. While they can take a variety of forms (small or large, long-lived or short-lived, collocated or distributed, homogeneous or heterogeneous, inside and across boundaries, spontaneous or intentional, and unrecognized to institutionalized), they share a common basic structure (Wenger et al., 2002). They consist of a combination of three elements that provide a model to guide the development of a community of practice: a domain of knowledge, a community of people, and a shared practice.

**Elements of Communities of Practice**

The *domain* creates a sense of common identity and defines the boundaries of what is relevant to share and what activities are worth pursuing. A domain evolves along with the
community and the world, yet it should continue to inspire the members of the community. The 
community creates the “social fabric of learning” and “fosters interactions and relationships 
based on mutual respect and trust” (Wenger et al., 2002, p. 29). As members interact regularly, 
learn together, and build relationships, they develop a sense of belonging and commitment. The 
element of practice is a “set of socially defined ways of doing things in a specific domain” (p. 
38). It refers to the knowledge (e.g., set of frameworks, ideas, tools, information, styles, 
language, stories, documents, best practices) the community develops, shares, and maintains. A 
shared practice is oriented to the future and like the domain, it evolves with the community. 
Wenger et al. (2002) explain that “successful practice building goes hand-in-hand with 
community building. The process must give practitioners a chance to gain a reputation as 
contributors to the community’s practice” (p. 40). The development of these three elements is a 
balancing act and it is their interactions that make for a healthy community.

Communities of practice provide ways to actively involve members in problem-solving 
processes and “support the concepts of constructivism such as ill-structured problems and 
cooperative learning” (Ekici, 2018, p. 27). They can also connect people across organizational 
units, time zones, and countries. Wenger et al. (2002) refer to a community of practice that 
“cannot rely on face-to-face meetings and interactions as its primary vehicle for connecting 
members” as a “distributed community” (p. 115). With the use of information and 
communication technologies (ICT), these communities can help create and sustain relationships 
that are necessary to build a global organization.

**Virtual Communities of Practice**

While members of a community of practice interact regularly, it is not necessary that 
these interactions occur in the same physical space. Virtual communities of practice have been
shown to be promising ways to serve a wider audience, and many organizations are taking note. Virtual, or online, communities of practice are referred to as “a social group that exists through computer-mediated communication which is focused on shared practice and knowledge” (Ekici, 2018, p. 27). Virtual communities of practice extend traditional communities of practice in geographic and cultural ways making it possible for diverse individuals from a variety of institutions to connect, serving as efficient and cost-effective means of creating rich learning environments (Ekici, 2018; Reilly et al., 2012). Wasko and Faraj (2005) explain, “organizational members benefit from external network connections because they gain access to new information, expertise, and ideas not available locally, and can interact informally, free from the constraints of hierarchy and local rules” (p. 36).

These communities provide members with the flexibility of participating remotely through the use of a variety of information and communication technologies (ICT) (e.g., email, internet, learning management systems, web conferencing tools). These tools facilitate communications and afford mechanisms for digital sharing and storage of resources. Asynchronous and synchronous tools allow members to participate from home, their office, or anywhere with an internet connection. Furthermore, these technologies can address some of the challenges that arise within communities of practice mentioned previously. Through participating in computer-mediated conversations (e.g., in an online discussion forum), non-native speakers may feel more comfortable contributing since they are afforded the time to compose and edit their responses before sharing with others (Wenger et al., 2002). Questions and problems can be shared on websites or through listservs—providing members the ability to connect with others. Once these connections are made, conversations can take place privately through other means (e.g., phone, email). Regular events or meetings can be facilitated through
the use of web conferencing tools (e.g., Skype, WebEx, Zoom), which make it possible to share audio and video feeds, collaborate through whiteboards, and the ability to share screens. These interactions can serve as a reminder of the community’s presence, give members a sense of connection, and “increase the sense of social obligation community members feel to connect” (Wenger et al., 2002, p. 129).

Limitations of Communities of Practice

Communities of practice can be difficult to develop and sustain. Wenger et al. (2002) explain the downsides of communities of practice and state, “they can hoard knowledge, limit innovation, and hold others hostage to their expertise” in addition to reflecting “the narrow, unjust prejudices of their society” (p. 139). In short,

the very qualities that make a community an ideal structure for learning—a shared perspective on a domain, trust, a communal identity, long-standing relationships, and established practice—are the same qualities that can hold it hostage to its history and its achievements. (p. 141)

Distributed communities of practice present a unique set of issues: distance, size, organizational affiliation, and cultural differences (e.g., language barriers) (Wenger et al., 2002). Kerno (2008) describes challenges confronting communities of practice, and explains, “they typically occur at structural, ecological, and cultural levels of organizational analysis” (p. 73). He focuses on three challenges: time demands and constraints, organizational hierarchies, and regional culture (sociocultural environment). Ekici (2018) highlights the time commitment that participating in communities of practice requires within educational settings, and explains, “the success of these communities depends on the social interaction and voluntary participation of their participants (Bates 2014) and teachers may not always be able to provide this voluntary participation.” (p. 28). Participants in communities of practice have expressed feelings of anxiety about receiving criticism from their peers when sharing their views (Ekici, 2018). This can lead
to minimized engagement and misinterpretations of the sincerity in peers’ comments and feedback.

Although virtual communities of practice provide several advantages, they present their own challenges. As with the use of any technology, connectivity issues and outages are inevitable. For example, the requirement of internet access and the use of a device (e.g., computer, laptop, tablet, smart phone) can be considered a limitation and affect membership and the participation of members. Additionally, organizers need to be aware of participants’ previous experiences with online communities and technologies and should expect a period of learning and adjustment. This may also necessitate providing training in the form of documentation or tutorials on the use of selected platforms. Wenger et al. (2002) mention the challenge distance can cause in distributed communities of practice and discuss the reliance on technologies “that are not real substitutes for face-to-face interactions” (p.116). For situations in which video conferencing is not feasible or practical (due to low bandwidth, large number of participants, etc.), lack of face-to-face time may make it difficult for members to develop meaningful social ties (McKenna et al., 2016). It is important to recognize challenges when they occur in order to manage them, show leadership when action is required, and to help ensure the continued value of the community.

While challenges exist in the formation, development, and cultivation of communities of practice, they have considerable potential. “By uniting people from different regions, countries, or divisions around topics they feel passionate about, communities increase the density of relationship between distributed business units” (Wenger et al., 2002, p. 135). The following section focuses on their use within educational contexts to bring together educators passionate about transforming their teaching practices and the learning experiences of their students.
Knowledge Sharing Behavior in Communities of Practice

Communities of practice play a central role in the knowledge management strategies of organizations, so understanding how they function and what leads to successful knowledge sharing is important for researchers and practitioners. In a systematic literature review and meta-analysis of 73 publications on knowledge sharing behavior among academics in higher education institutions, Al-Kurdi et al. (2018) identified factors influencing knowledge sharing and categorized them as follows:

1. Individual factors: trust, personal attitude, motivation, affective commitment, subjective norms, personal expectations, and the relationship between knowledge and power
2. Organizational factors: organizational culture, climate, subcultures, rewards systems, and management support
3. Technological factors: acceptance of IT as a tool for knowledge sharing, hesitancy toward using IT tools, availability of IT tools
4. Cultural factors: regional and national culture, language

Enablers of knowledge sharing include supportive organizational culture, trust (personal-knowledge trust and institution-based trust), and supporting tools (Ardichvili, 2008). Participation in communities of practice can be encouraged by “promoting members’ sense of belonging to the community, by promoting conditions for an open, uninhibited exchange of ideas and information, by creating time and space for exchanging stories and expertise, and by teaching community members about the value of storytelling and how to develop and share stories” (Ardichvili, 2008, p. 550). Members will need to have trust in the integrity of the organization as well as perceive that their fellow members’ intentions and contributions are valid.
and truthful (Rodman & Trespalacios, 2018). Upon examining knowledge sharing behaviors among teachers within a community of practice, Tseng and Kuo (2014) found that when members “with stronger ties feel confident that they can devote themselves to knowledge sharing practices, their personal efficacy belief will have direct influences on the commitment to helping other teachers as well as the educational effectiveness of professional development” (p.44). Trust is identified as one of the main enablers of knowledge sharing in a community of practice (Al-Kurdi et al., 2018; Ardichvili, 2008; Rodman & Trespalacios, 2018).

Barriers to knowledge sharing in communities of practice include the following factors: technological, interpersonal, procedural, and cultural. Hesitancy using information and communication technologies (ICT), or lack of technological proficiency, can be a detriment to knowledge sharing. Providing training and technology support can address these barriers. Personal characteristics of members that deter them from participating in communities of practice include introversion, a lack of self-efficacy, and fear of criticism (Ardichvili, 2008; Sun et al., 2014). Rodman and Trespalacios (2018) conducted a qualitative case study designed to explore knowledge sharing behavior within a virtual community of practice created to provide professional development to United States Coast Guard officers. Members reported concern sharing their mistakes and lessons learned for fear of it negatively impacting their reputation. Examples of procedural barriers include lack of clarity on what can and cannot be shared due to security and confidentiality considerations and what are the best ways of sharing (Ardichvili, 2008). Providing anonymity has the potential to influence members’ willingness to share knowledge (Rodman & Trespalacios, 2018). Knowledge sharing, communication, and learning in organizations are heavily influenced by culture; therefore, it is important to take into consideration the multiplicities of values and cultures (Ardichvili, 2008; Ardichvili et al., 2006).
The Influence of Culture on Members’ Participation in Communities of Practice

Wenger et al. (2002) state that “people’s willingness to ask questions that reveal their ‘ignorance,’ disagree with others in public, contradict known experts, discuss their problems, follow others in the thread of conversation—all these behaviors vary greatly across cultures” (p. 118). Cultural differences can lead to communication difficulties or misinterpretation (Wenger et al., 2002). For example, a “barrier to participation in online communities could be cultural preference for face-to-face communication, which depends on cultural assumptions about what is polite, and which mode of communication is more conducive to establishing trust” (Ardichvili et al., 2006, p. 99).

Triandis and Gelfand (2012) describe culture as “shared behavior and shared human-made aspects of the society. Thus, it includes “practices” (the way things are done here) and “values” (the way things should be done)” (p. 498). When examining cross-cultural differences in knowledge sharing patterns, Hofstede’s model (2001) and seminal work on national culture is often referenced. The model consists of six dimensions:

1. **Power Distance**, related to the different solutions to the basic problem of human inequality;
2. **Uncertainty Avoidance**, related to the level of stress in a society in the face of an unknown future;
3. **Individualism versus Collectivism**, related to the integration of individuals into primary groups;
4. **Masculinity versus Femininity**, related to the division of emotional roles between women and men;
5. Long Term versus Short Term Orientation, related to the choice of focus for people’s efforts: the future or the present and past.

6. Indulgence versus Restraint, related to the gratification versus control of basic human desires related to enjoying life (Hofstede, 2011, p. 8).

Hofstede (2001) describes the individual-collectivism dimension as “the relationship between the individual and the collectivity that prevails in a given society” and shares that it has many implications for values and behaviors (p. 209). Triandis (1995) defines collectivism as a social pattern consisting of closely linked individuals who see themselves as parts of one or more collectives (family, co-workers, tribe, nation); are primarily motivated by the norms of, and duties imposed by, those collectives; are willing to give priority to the goals for these collectives over their own personal goals; and emphasize their connectedness to members of these collectives. (p. 2)

Hofstede’s (2001) model was used as a framework in a study investigating knowledge sharing patterns of Caterpillar Inc. online community members (Ardichvili et al., 2006). Participants included 36 managers and employees from Brazil, China, Russia, and the United States. Results from interviews suggest that national culture significantly impacts knowledge sharing. These findings include cultural expectations of modesty, “saving face,” competitiveness, preferred modes of communication, and authority, seniority, and hierarchy. For example, Russian employees viewed knowledge sharing as a way to strengthen their job security since it would improve their visibility and perceived uniqueness and usefulness to the organization; while competitiveness and job security-related fears were prevalent among participants from China (p. 101-102). Al-Kurdi et al. (2018) call for “an in-depth study of factors influencing knowledge sharing among faculty members in HEIs [higher education institutions], particularly national culture, would help universities to adopt appropriate strategies to manage their intellectual assets, and enhance performance, research output, and teaching activities” (p. 238).
In a study designed to explore the influence that culture has on the way teachers at secondary schools in Malaysia participate in a community of practice, researchers found that the teachers were careful not to say anything to openly criticize their peers or give negative feedback (Khalid et al., 2014). Khalid et al. (2014) report, “teachers mentioned how they were bound by Malaysian culture; for example, they stated that their culture prevented them from saying harsh words in the presence of others” (p. 30). They reported teachers found it inappropriate to be criticized by others, especially by newer or younger teachers. Additionally, teachers were careful not to share too much in the online discussions to avoid being perceived as arrogant.

**Communities of Practice for Teacher and Faculty Development**

Although communities of practice are prevalent in business and health care sectors (Li et al., 2009; Wenger & Snyder, 2000), they are often used within educational settings. Table 2.1 presents the forms of learning communities commonly found within educational institutions.

<table>
<thead>
<tr>
<th>Table 2.1. Learning Communities</th>
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<tbody>
<tr>
<td><strong>Communities of Practice</strong></td>
</tr>
<tr>
<td>Found throughout different types of organizations</td>
</tr>
<tr>
<td>Participants have various roles within the organization</td>
</tr>
<tr>
<td>Participants engage in a process of collective learning</td>
</tr>
<tr>
<td>Participants share similar concerns or passions about a topic</td>
</tr>
<tr>
<td><strong>Faculty Learning Communities</strong></td>
</tr>
<tr>
<td>Found in higher education</td>
</tr>
<tr>
<td>Higher education faculty, students, and staff</td>
</tr>
<tr>
<td>Year-long</td>
</tr>
<tr>
<td>Specifically structured to include goals</td>
</tr>
<tr>
<td>Conversations are based on scholarly teaching practices</td>
</tr>
<tr>
<td>Focused on the Scholarship of Teaching and Learning (SoTL)</td>
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<tr>
<td><strong>Professional Learning Communities</strong></td>
</tr>
<tr>
<td>Found in K-12</td>
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<tr>
<td>K-12 educators and administration</td>
</tr>
<tr>
<td>Ongoing</td>
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<tr>
<td>Focus on collective inquiry</td>
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<tr>
<td>Focus on action research and school improvement</td>
</tr>
</tbody>
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Note. Adapted from “Communities of Practice: The Shared Experiences of Higher Education Faculty,” by Desruisseaux, L. R., 2016, (Doctoral Dissertation) p. 36.

**Teacher Professional Development**

Within K-12 educational settings, communities of practice are commonly referred to as *professional learning communities*. These communities provide an organization for teachers’
professional development. Damjanovic and Blank (2017) note that teacher learning is “situated within day-to-day lived experiences in classrooms” and they view professional development as “a long-term collective effort to construct meaningful local knowledge and engage in inquiry in order to transform teaching, learning, and schooling” (p. 567).

Communities of practice are often formed to provide educators with opportunities for professional development, especially within contexts in which teaching materials and professional opportunities are limited (Hajisotiriou et al., 2018; Thakrar et al., 2009). Tseng and Kuo (2014) highlight the issues teachers face in seeking opportunities to expand their knowledge and enhance their teaching skills. Communities of practice are becoming an approach to increase those opportunities. In their study, Tseng and Kuo (2014) focused on members within an online community of practice created for those in the teaching profession in Taiwan. They were interested in examining social participation and knowledge sharing behaviors among members. Members were interviewed regarding their experiences, and results showed that teachers’ membership fostered a “pro-social attitude” that increased their willingness to share with others and work to solve their peers’ problems (p. 43). The researchers note that “online professional CoPs [communities of practice] represent a unique cyberspace where people not only share their professional knowledge but also build their identity to enrich their life experience” (p. 44). These findings coincide with those of Ekici’s (2018) study of communities of practice for pre-service teachers. Ekici (2018) explains that they not only provide a place to “present, compare, and reflect on their knowledge, ideas, and experiences” but also allow teachers to “undertake assessments and enrich their knowledge by talking to each other” (p. 37).

Hajisotiriou et al. (2018) developed an online community of practice to promote in-service teachers’ intercultural professional development in Cyprus. Most notably, as a result of
their participation in the virtual community of practice, members were inspired to “transform their classrooms to simulated virtual communities by drawing upon their experiences from the platform” (p. 29). Examples include launching distance collaborations with other teachers, urging students to participate in virtual teams with peers from other schools, and encouraging students to engage in online forums and incorporate images, videos, and other means of technology. Members indicated that they discussed with peers plans to implement activities to address the challenges they faced in their teaching. In addition to advancing teaching practices, teachers reported experiencing the following through participating in communities of practice:

- joint learning and application of learning;
- engaging in supportive and shared leadership;
- developing a sense of ownership among participants;
- enhancing teachers’ commitment;
- producing and disseminating of tacit knowledge, reflecting on teachers’ practice in a collaborative and supportive learning environment, and offering opportunities for providing immediate feedback to community members. (p. 31)

Similar findings are seen in research conducted within communities of practice designed to support faculty professional development efforts in higher education contexts.

**Faculty Professional Development**

Within college and university settings, communities of practice are often referred to as *faculty learning groups, faculty inquiry groups, or faculty learning communities* (Sherer et al., 2003). According to Cox (2004), faculty learning communities (FLCs) can “include many bridges linking faculty to deep learning, early-career faculty to experienced faculty, isolated teachers to new colleagues, departments to departments, disciplinary curricula to general education, and faculty to students and staff” (p. 18). FLCs fall into one of two categories: cohort-based (addresses the teaching, learning, and developmental needs of a specific group of faculty or staff that has been particularly affected by the isolation, fragmentation, stress, neglect, or
chilly climate in the academy) and topic-based (has a curriculum designed to address a special
campus teaching and learning need, issue, or opportunity) (Cox, 2004, p. 8).

Communities of practice take place in a variety of forms within institutions of higher
education for professional development, although examples of their use in the literature are
relatively limited (McKenna et al., 2016). Wildman et al. (2000) call attention to how standard
faculty development activities can be fragmented and removed from the realities of teaching, and
emphasize the power of communities of practice:

Although faculty developers provide information about learning and teaching, the weight
of recent research on learning suggests that we may have vastly underestimated the
complexity of professional learning; that is, we may have overlooked powerful natural
processes that surface when communities of practice are allowed to form. (p. 251)

These communities provide opportunities for faculty to interact with colleagues from various
disciplines, establish personal connections with peers, and explore and develop the scholarship of
teaching and learning (Glowacki-Dudka & Brown, 2007). Additionally, these communities
provide venues for faculty to share their experiences and challenges, provide advice and support,
seek insight from others, celebrate their successes, and share ideas and recommendations.
“Learning about teaching within a social constructivist framework is more of a social process
involving formulation of knowledge through sharing and comparing learnings and
understandings with others” (Eib & Miller, 2006, p. 2). Successful faculty development
programs are described as those which “build on previous activities, offer opportunities to
discuss classroom experiences with others, are aligned with state and national standards, and
encourage ongoing professional communication of instructors with similar concerns” (Reilly et
al., 2012, p. 101). Through engaging with these communities, faculty are exposed to diverse
perspectives, practices, and teaching strategies—fostering continuous learning and professional
growth.
Communities of practice provide opportunities for faculty to collaborate and produce innovative solutions to problems, as well as minimize feelings of isolation and build solidarity (Wildman et al., 2000). Bond (2013) explains, “for many faculty who already feel isolated by the culture of higher education, navigating the existing communities of practices of the institution may mean the difference between tenure and the end of a career” (p. 28). These communities allow members to recognize that they are not the only ones who are experiencing problems, and in fact often face similar challenges (Ekici, 2018). This realization can serve as a way to positively affect confidence and beliefs about teaching efficacy. Eib and Miller (2006) examined a faculty development program that used a community of practice approach. It was designed to support faculty in the social work department at a research university in Canada with effectively integrating technology in their blended and online courses. Activities included a two-day “kick-off” institute consisting of small and large group discussions and workshops. Throughout the rest of the academic year, faculty engaged in workshops, project consultations, and attended various campus events. Reported results include improvements in teaching repertoires and technology skills among faculty, and established capacity to deliver online programs. While the program was deemed successful in accomplishing the set goal, the community of practice dispersed in the months following the conclusion of the year-long activities. Participants shared their interests in keeping the program going, but there was no structure put in place by the facilitators to support the continuation of the process and sustaining the “aliveness” of the community of practice. However, the researchers note that faculty participants continue to develop their teaching practices, and a few groups of colleagues continue to share resources and insights with each other.
Communities of practice can allow educators to enhance pedagogical skills and acquire new ideas. A virtual community of practice was used to facilitate instructional professional development efforts for engineering faculty across the U.S. (McKenna et al., 2016). In the first semester, faculty met weekly to discuss issues related to student learning in their courses and their plans to implement research-based instructional practices using synchronous and asynchronous tools. In the following semester, faculty supported each other through those implementations. A survey using Roger’s model of Diffusion of Innovation (a theory used to explain how and at what rate new ideas and technology are spread) was administered to participants at three points (before the virtual community of practice activities began, after the first semester, and after the second semester). Survey results revealed that participants’ experiences led to significant shifts in their awareness, attitudes, and adoption of research-based instructional approaches (p. 36). The researchers note that faculty expressed interest in extending the virtual community of practice model to other disciplines, and those who participated in this study have expressed interest in developing new topics for exploration in the future.

**Communities of Practice for Online Teaching**

Existing literature reveals a variety of concerns, issues, and challenges discouraging faculty from participating in online teaching. These include increased workload, inadequate support, lack of incentives and compensation, loss of control of intellectual property, limitations in the ability to form personal connections with students, lack of expertise in the design and delivery of course materials, and lack of professional development programs (Howell et al., 2004; Zamani et al., 2016). Faculty development programs can lead to increased enrollment, student satisfaction, faculty satisfaction with the online teaching experience, and faculty desire to participate in online programs (Reilly et al., 2012, p. 100). Hajisoteriou et al. (2018) note, “it is
important to develop online professional development environments for constructive collaboration in the area of e-learning” (p. 30). A community of practice can serve as an effective way to support faculty and create powerful learning experiences, which in turn can improve online teaching and learning.

Golden (2016) examined literature on the use of communities of practice for online faculty support in higher education settings, and states, “faculty development programs that include CoPs [communities of practice] can build a culture of support for online educators that encourages innovation fueled by community connections and lessen the disconnect often experienced by online instructors” (p. 92). The use of virtual communities of practice not only provides efficient and cost-effective ways to connect geographically dispersed groups, but as a result of engaging with them, members can be inspired to transform their own virtual classrooms by facilitating similar activities with their students (Hajisoteriou et al., 2018).

A multi-campus community of practice approach was taken to connect faculty in nursing education across various institutions in the state of Wisconsin (Reilly et al., 2012). The community of practice was a five-year program created in an effort to enhance faculty members’ technology and online teaching knowledge and skills. Topics explored included simulation, virtual gaming, problem-based learning, e-learning, and more. Throughout the program, the faculty participated in monthly video conferences, face-to-face conferences, and participation in activities within the online learning management system (LMS). Survey results revealed that 93% of the faculty described enhanced knowledge and understanding of e-learning, and 95% indicated improvements in their ability to evaluate design and deliver methods in online courses (p. 106). It is worth emphasizing that, as a result of their participation, faculty expressed “intentions to redesign their online courses to reflect best practices” (p. 106).
Professional development programs that build the capacity of online educators can in turn extend to include both confidence and competence to design and teach online courses. Additionally, participants can “develop a sense of self-efficacy in association with their teaching abilities” (Northcote et al., 2015, p. 232). Given that teaching online often presents unique challenges, improving faculty members’ online teaching efficacy can improve their likelihood of persisting through those challenges and negative experiences, and in turn improve learner outcomes and experiences (Horvitz et al., 2015).

Types of Interactions in Distance Education

Lou et al. (2006) state, “interaction is the defining component of all forms of education” (p. 144). Focusing on distance education and applying concepts of transactional distance, Moore (1989) emphasizes the importance of understanding and facilitating interactions and identified three types of interactions: (a) learner-content interaction, (b) learner-instructor interaction, and (c) learner-learner interaction. Additional theorists identified other types of interactions including learner-interface, instructor-instructor, instructor-content, and content-content (Moore & Kearsley, 2012). While these interactions are relevant in the broader context of distance education, this study will focus on the three types initially listed.

Learner-content interaction is “the defining characteristic of education” and described as the interaction the learner has with the subject matter to “construct his or her knowledge through a process of personally accommodating information, attitudes, or behaviors into previously existing cognitive, attitudinal, or behavioral structures” (Moore & Kearsley, 2012, p. 132). Types of learner-content interactions include reading texts, watching videos, and completing activities and assignments.
Moore (1989) defines learner-instructor interaction as “interaction between the learner and the expert who prepared the subject material, or some other expert acting as instructor” (p. 2). Once the course is planned and content is presented, instructors assist students in interacting with it. These types of interactions include stimulating learners’ interest in the content and motivating them to learn, assisting in the application of knowledge, monitoring learners’ practicing of skills, assessing learners (formal and information testing), giving feedback, and providing counsel, support, and encouragement (Moore & Kearsley, 2012).

The third type of interaction that this study will focus on is the learner-learner interaction. These are interactions between a learner and another learner (individually) or interactions within and between groups. Moore (1989) argues that this type of interaction is “an extremely valuable resource for learning, and is sometimes even essential,” benefiting both cognitive and motivational support (p. 4). These types of interactions can occur with the presence of an instructor or without, face-to-face or virtually, synchronously or asynchronously. Learner-learner interactions commonly occur during group activities and projects, online discussions in discussion boards, email correspondences, and online chatting or video conferences. Discounting any of these forms of interaction in an online course can diminish the effectiveness of a course.

**Summary**

This literature review addressed the learning theories underpinning communities of practice, provided an overview of the community of practice framework, and touched upon the benefits and limitations of communities of practice to keep in consideration when designing and facilitating them. In virtual communities of practice, the use of ICT can be leveraged to connect members across geographic boundaries and support interactions that occur in asynchronous and synchronous formats. Communities of practice can provide members a welcoming and
supportive environment to engage in discussions with peers, ask questions, share resources, and spark innovative solutions.

The studies presented in this section demonstrate that communities of practice can serve as an effective means to provide teachers and faculty professional development opportunities to enhance their teaching practices (Eib & Miller, 2006; Hajisoteriou et al., 2018; McKenna et al., 2016) and consequently the quality of learning experiences of their students. As a result of participating in communities of practice, participants reported reduced feelings of isolation and increased teaching efficacy (Eib & Miller, 2006; Wildman et al., 2000). Understanding factors—barriers and motivators, which influence knowledge sharing in communities of practice can assist with creating a supportive and encouraging environment for providing professional development. The approach of using virtual communities of practice for faculty professional development is shown to be a promising way to provide faculty with the support they need to effectively teach online (Reilly et al., 2012).
Chapter 3. Methodology

This chapter provides details of the methodological approach, including the research design followed by a description of the context and explanation of procedures and data collection. The purpose of this study was to examine the nature of the discourse in which faculty members engaged in a structured virtual community of practice created to support their instructional design and online teaching efforts. The following research questions guided this study:

1. **What learning outcomes related to instructional design were achieved by faculty participating in the virtual community of practice?**

2. **How did faculty perceptions about online teaching evolve as a result of participation in the virtual community of practice?**

3. **What cultural values were evident in the knowledge building process among faculty within the virtual community of practice?**

**Research Design**

A single-case study design was used from the perspective of a representative or typical case as “the lessons learned from these cases are assumed to be information about the experiences of the average person or institution” (Yin, 2003, p. 48). Yin (2002) defines a case study as an empirical inquiry that investigates “a contemporary phenomenon within its real life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context” (p. 13). A holistic case study approach was used to examine the “global nature” of the virtual community of practice and to capture participants’ unique perspectives. An ethnographic lens was taken to develop a deeper
understanding of participants’ perceptions, attitudes, interactions, and beliefs about their experiences.

Context

This study took place within a structured virtual community of practice designed in the learning management system (LMS), Moodle, to provide faculty with the opportunity to interact with each other and develop their instructional design knowledge and skills. The community of practice was created to support faculty at Kaduna State University (KASU) in Kaduna, Nigeria. KASU was established in 2004 to address the growing demand for higher education in Nigeria. The mission of the university is to “provide an all-round university education of the highest standard for the development of the individual and the state, while inculcating the spirit of love, tolerance, understanding and unity in the state in particular and the country in general” (Welcome to Kaduna State University, 2020). The university consists of two campuses—one in Kaduna (which was the context of this study), and the other in Kafanchan. Across the two campuses, the university has two colleges, two schools, eight faculties, 51 academic departments, 32 undergraduate programs, and 54 postgraduate programs (Aboout KASU, 2020).

Participants

Prior to beginning the research, I obtained approval from the Louisiana State University (LSU) Institutional Review Board (IRB) (Appendix A). Additionally, permission was acquired from the University Librarian, Prof. Abdullahi Musa, and Vice-Chancellor Prof. Muhammad Tanko at KASU. Prof. Musa provided a list of 20 nominated faculty members to participate in this study. He provided them with an overview of the program, information on the benefits of participation, length and structure of the program, and expectations regarding their involvement (e.g., participating in asynchronous and synchronous activities, submitting self-reflections,
creating and submitting a portfolio of instructional activities). Once participants were confirmed, Prof. Musa emailed me a list of 20 participants and shared that they will be tagged as “KASU First Level E-Learning Ambassadors.” He explained, “Each of our first level pioneer E-learning ambassadors is expected to train four persons who will constitute the second level of KASU E-learning Ambassadors. The second ambassadors will train the third level, and the chain continues” (A. Musa, personal communication, April 23, 2020). The participants confirmed their acknowledgment of the Consent to Participate Script (Appendix B), which was made available to them in the Moodle course in advance of their participation.

Several faculty members had to drop out at the beginning of the program due to personal reasons—leaving 17 faculty members, two female and 15 male, remaining who participated throughout the duration of this study. Wenger et al. (2002) explain it is difficult to give absolute numbers when recommending an ideal size for a community of practice, but share that those with fewer than 15 members are very intimate, while those that consist of members between 15 and 50 become more fluid and differentiated (p. 35). Comparably, Cox (2004) asserts a group of eight to 12 members is ideal for a faculty learning community. The participants represented various faculties at KASU: Agriculture (2), Arts and Humanities (3), Environmental Sciences (1), Library and Information Science (1), Social and Management Science (4), Pharmaceutical Sciences (1), Basic Sciences (4), and Allied Health Sciences (1). Participants ranged in their experiences in higher education from eight to 34 years, and from four months to 15 years at KASU. Pseudonyms are used for all participants to maintain confidentiality.

**E-Learning Program Design**

The goal of the E-Learning Program was to facilitate the development of participants’ instructional design knowledge and skills. Heiser and Ralston-Berg (2019) describe instructional
design in online distance education as an “iterative and systematic process of problem-solving to align learning theories, learner expectations, teaching pedagogy, educational technology, and user experience design with curriculum and course outcomes” (p. 282). The elements covered in the E-Learning Program were represented by the ADDIE instructional design model, which provided a useful framework for participants to implement their knowledge and skills to develop their culminating final portfolio.

The ADDIE framework is a cyclical process consisting of five phases: analysis, design, development, implementation, and evaluation (Peterson, 2003). The analysis phase involves analyzing learners’ needs and establishing instructional goals. Using the results from the analysis phase, the design phase consists of determining the learning objectives, assessments, the instructional strategies used to achieve the objectives, and the instructional material (content)—while ensuring alignment. The development phase highlights three areas: drafting production, and evaluation (Peterson, 2003). In this phase, designers create instructional activities and assessments and develop or select the instructional materials. Formative evaluations are conducted to ensure the quality of the product, and improvements are made before implementation. During the fourth phase, implementation, designers take an active role in implementing (or delivering) the instruction with learners and are actively involved in continual and iterative improvement to enhance the product (e.g., the course or program). Lastly, in the evaluation phase, the designer gathers feedback from learners and determines what adaptations need to be made for instructional improvement (i.e., to improve the course or program).

The E-Learning Program focused on the first four phases of the ADDIE model: analysis, design, development, and implementation. The first and second weeks of the program comprised the analysis and design phases. With their course and students’ needs in mind, participants
developed the course outcomes for their focus course. They also explored instructional strategies to incorporate in their course to foster interaction. In the development stage—weeks three through five—they worked through ideas with their peers as they developed discussion and group activities for their course. During the final week of the program, the implementation phase, each group presented their project to the rest of their colleagues in a synchronous meeting via Zoom.

The Moodle course was organized into seven modules (an introductory module and six content modules) and included various resources and activities—weekly overview videos, instructional resources, discussion forums, self-reflections (private “Moodle assignment” submissions), a group project, and a final portfolio assignment. Appendix C includes an outline of the Moodle course along with the resources and activities in each module. Topics covered include writing course outcomes, promoting student interaction, engaging students in online discussions, and creating, facilitating, and evaluating group activities. Figure 3.1 provides a screenshot of the Week three module in the Moodle course. Each week, I created and posted weekly overview videos (consisting of a review of the previous week’s topic, highlighted various examples of participants’ work, and provided a preview of the upcoming week), provided feedback on their discussion forum posts, monitored assignment submissions, and replied to emails from participants.
Figure 3.1. Screenshot from E-Learning Program Moodle Course

**Procedures**

Before the start of the E-Learning Program, I sent an email welcoming all participants to the program along with a request to complete a background questionnaire to gather demographic information (Appendix D) and to indicate their availability for the program kick-off meeting. That email was followed by a personalized email that included login information to the LSU Online & Continuing Education instance of Moodle (https://moodle2.outreach.lsu.edu) and access to the E-Learning Program Moodle course. Participants were asked to log into the course,
read and acknowledge the Consent to Participate Script, and participate in the *Introduce Yourself* discussion forum activity before the first week of the program.

**Launching the E-Learning Program**

The E-Learning Program began on May 11, 2020, and spanned approximately six weeks. The program launched with a kick-off meeting via Zoom during which I welcomed participants and asked each attendee to introduce themselves. Following introductions, I provided an overview of the program, gave a tour of Moodle, discussed the Week one activities, and answered participants’ questions. The recording of the meeting was uploaded to the Moodle course so that those who were not able to join the meeting could view it.

**Weeks One and Two: Analysis and Design**

Weeks one and two encompassed the analysis and design phases of the ADDIE model. Upon reviewing the resources describing the backwards design model, alignment, and course outcomes within the first module of the Moodle course, participants drafted a course outcome for a course of their choosing (their *focus course*) with their instructional goals and students’ needs in mind. Along with a description of their focus course, they shared their course outcome in the *Week 1: Drafting Course Outcomes* discussion forum activity. Participants were encouraged to view their colleagues’ posts and reply with feedback, ideas, or questions. These forums provided a place for members to not only “present, compare, and reflect on their knowledge, ideas, and experiences,” but also to “undertake assessments and enrich their knowledge” while engaging with colleagues (Ekici, 2018, p. 37).

During the second week of the program, participants reviewed resources describing active learning and fostering the three types of interactions in online courses (student-content, student-student, student-instructor). In the *Week 2: Incorporating Three Types of Interactions*
discussion forum activity, participants shared ways they would incorporate the three types of interaction in their focus course as well as foreseen challenges and successes. After making their initial post, they were encouraged to reply to colleagues’ posts.

**Weeks Three through Five: Development**

Weeks three through five focused on the development phase of the ADDIE model. During Week three, participants reviewed resources regarding designing discussion activities that engage students in critical thinking, reflection, and community building (Aloni & Harrington, 2018). Participants developed a discussion activity for their focus course and shared it in the Week 3: Engaging Students in Online Discussion activity. They were asked to include the discussion prompt and a rubric they would use to assess students’ participation. Also in Week three, participants submitted a (private) self-reflection assignment in which they were encouraged to reflect on their experiences in the E-Learning Program and share their insights gained about instructional possibilities in online courses.

During Week four, participants reviewed resources regarding developing online group activities that foster collaboration among students, build knowledge and skills, and encourage innovative and critical thinking (Brindley et al., 2009). Also, participants began work on the group project, *Solutions for Current Challenges Facing West African Nations*. I divided participants into four groups of six to seven members. Each group was tasked with identifying an issue or challenge impacting West Africa that is of interest and research ways the challenge is being addressed. Each group was responsible for completing and submitting the Group Agreement Form (Appendix E), which included assigning a role for each member and outlining the project plan. Members were encouraged to select a platform/tool to facilitate communication and collaboration. Although a discussion forum in Moodle was created for each group,
participants opted to use other tools to communicate and collaborate (e.g., WhatsApp, Zoom). Each group compiled their research findings into a slideshow presentation, which they presented during Week six in a synchronous meeting via Zoom. In the second self-reflection activity, participants reflected on how their group came together to identify a topic of interest and their contributions to the group project.

As they continued to work on their group project in Week five, participants independently reviewed resources on facilitating and evaluating online group activities. They developed a group activity for their focus course and posted it in the *Week 5: Developing Online Group Activities* discussion forum activity. Participants were directed to include an overview and purpose of the activity, associated components and tasks, instructions, and a rubric they would use to evaluate students. Additionally, participants were prompted to reflect on the ways their group collaborated successfully and shared their most challenging moments while engaged in completing the group project in the third self-reflection activity.

**Week Six: Implementation**

In the sixth and final week of the program (the implementation phase), I hosted a final synchronous Zoom group meeting during which each of the four groups presented their project. After each presentation, time was allotted for questions. Figure 3.2 includes a screenshot of the *Group Presentations* meeting in Zoom.
Figure 3.2. Screenshot from the Group Presentations Meeting in Zoom

At the end of Week six, participants submitted their final portfolio, which included two instructional activities—one discussion activity and one group activity that they plan to implement in their course during the upcoming academic year. They used a worksheet (Appendix F) to outline and describe the two activities. At the end of the program, I created a compendium that included the submitted final portfolios and emailed it to all participants and the Vice-Chancellor of KASU. Additionally, certificates of completion were awarded to all participants who participated in the weekly activities and completed their final portfolio.

Data Collection

When analyzing activity and interactions in communities of practice, potential sources of data include the intensity of discussions, challenges of assumptions, debates on important issues, feedback on the quality of responses to queries, and bringing the experience of practice into the learning space (Wenger et al., 2011). Bond (2013) states, “evaluation of the quality and quantity of knowledge sharing in a virtual community of practice for faculty teaching at a distance should include an analysis of existing artifacts, discussions, and any research projects associated with
improving online teaching and learning practices” (p. 87). Additionally, self-reports and interviews are sources of data that can indicate the types of knowledge capital produced (Wenger et al., 2011).

Three forms of data were collected for this study: (1) discussion forum posts, (2) self-reflection responses, and (3) semi-structured interviews. Participants’ discussion forum posts were a meaningful component of the study’s sources of evidence—providing evidence of participants’ applied knowledge and skills. Data collected from the discussion activities and the self-reflections were used to develop an understanding of the nature of the interactions among participants. Furthermore, the data were used to assist in constructing the questions for semi-structured interviews. Wenger and Snyder (2000) state, “the best way for an executive to assess the value of a community of practice is by listening to members’ stories, which can clarify the complex relationships among activities, knowledge, and performance” (p. 145).

Once the E-Learning Program ended, semi-structured interviews were conducted via Zoom. I selected seven participants using criterion sampling based on gender, group membership for the group project, and their level of engagement in the E-Learning Program (those who participated in the discussion forum activities and submitted the final portfolio). These interviews were used to increase comparability and allow participants to share their perceptions and beliefs about their experiences in the community of practice. The interview protocol (Appendix G) consisted of the following:

1. What interested you in participating in the E-Learning Program?
2. What outcomes were you hoping for or anticipating as a result of your participation in the E-Learning Program?
3. Prof. Musa shared that as participants of the E-Learning Program, you and your colleagues would serve as E-Learning Ambassadors at Kaduna State University—extending your support to your colleagues at the University. In your opinion, why do you think you were selected to participate in the program?

4. Collegial connections are an important aspect of faculty professional lives.
   a. Thinking about your interactions with colleagues in general, to what extent in your daily practice do you perceive your colleagues to be supportive of you and your work?
   b. In what ways was this evident or apparent as you were interacting with your colleagues in the E-Learning community? Please provide an example.

5. I’d like to get a better understanding of your experiences in completing the group project. How did your group approach the task of developing the group project, from the initial assignment to finalizing the project?
   a. How would you describe your contributions to the group project?
   b. If you were to give your group a name that would describe it in one or two words, what would it be? Why did you choose that name?

6. How will your experience of engaging in the group project inform how you will design group activities in a course you might create or teach in the future?

7. What were some of your most challenging moments while participating in the E-Learning Program?

The interviews were recorded for analysis and data were used to write a descriptive narrative that holistically describes the participants’ experiences and interactions in the community of practice.
Validity

One way validity was established was in the collection of data from various sources (discussion forums, self-reflections, and interviews) to obtain corroborating evidence. Data corroboration minimizes the impact of the subjectivity of the researcher, allows for greater confidence in interpretations made from the findings, and leads to thicker and richer data (Onwuegbuzie & Leech, 2007). Rich and thick data (verbatim data of transcripts, posts from discussion forum activities, direct quotes from self-reflections) were used to convey findings to minimize confirmation bias and inform the reader about the transferability of the findings to other settings and contexts. My background and experiences in faculty development in higher education were beneficial in developing accurate emerging codes and themes during the coding process due to my familiarity with the topics being discussed and the instructional design process. Additionally, validity was established by linking the findings to the individualism-collectivism construct (Hofstede, 2011), which served as a framework for the study.
Chapter 4. Findings

This chapter presents the analysis of the data that were collected and the findings forthcoming to answer the three overarching research questions that framed this study:

1. What learning outcomes related to instructional design were achieved by faculty participating in the virtual community of practice?

2. How did faculty perceptions about online teaching evolve as a result of participation in the virtual community of practice?

3. What cultural values were evident in the knowledge building process among faculty within the virtual community of practice?

The data were derived from discussion forum activities, self-reflection activities, and individual post-program semi-structured interviews. Data from the four discussion forum activities were retrieved from the Moodle course and organized in an Excel spreadsheet for analysis. Interviews with participants were transcribed and imported into ATLAS.ti (a qualitative software analysis system) along with participants’ responses to the four self-reflection activities. The use of ATLAS.ti 9 assisted in organizing, managing, and analyzing the data from the self-reflections and interviews.

The data analysis process was conducted in three steps. In the first step, I familiarized myself with the data by transcribing (interviews), reading and re-reading the data, and noting ideas. During the second step, using a content analysis approach (Neuendorf, 2004), I coded the data in ATLAS.ti—using both deductive and inductive coding. Neuendorf (2004) describes content analysis as a “summarizing, quantitative analysis of messages that relies on the scientific method, including an observance of the standards of objectivity/inter-subjectivity, a priori design, reliability, validity, generalizability (with probability sampling from a defined population
of messages), replicability, and hypothesis testing” (p. 33). She explains that content analysis measures variables as they “naturally occur” with a “focus on a message component as the unit of data collection or analysis” (p. 33). I began with themes derived from the ADDIE model (Peterson, 2003) and the individualism-collectivism philosophy (Hofstede, 2001, 2011; Triandis & Gelfand, 2012). I also developed a coding scheme based on themes that emerged from the data that were of interest. During the third step, I reviewed, refined, and named the themes. The process of reviewing all the data was helpful to recode data and to code additional data within the themes that may have been missed in earlier steps. The following sections provide details of the data analysis per each research question along with the findings of the study.

**Outcomes of the E-Learning Program on Participants’ Application of Instructional Design Strategies**

To answer Research Question 1, discussion forum posts, self-reflections, and individual post-program interview responses were analyzed—focusing on new knowledge gained and the application of knowledge, and insights participants gained about instructional design strategies. The instructional design strategies covered during the E-Learning Program included: (1) developing course outcomes, (2) designing activities to foster interaction, (3) developing discussion activities, and (4) developing and implementing group activities.

To find tangible evidence of the knowledge and application of instructional design strategies, data from the four discussion forum activities were analyzed. The discussion forum data consisted of participants’ posts that included products for their focus course (e.g., course outcomes, instructional activities). The ADDIE model (Peterson, 2003) provided the framework to analyze the data, specifically focusing on the *analysis, design, development,* and
implementation phases. The forum posts were analyzed and compared to standards outlined in each of the four discussion forum activities.

To determine participants’ insights regarding analysis, design, development, and implementation of instructional strategies, I analyzed discussion forum posts, self-reflections, and individual post-program interviews based on themes (analysis, design, development, and implementation) that were predetermined by the ADDIE model (Peterson, 2003). Details of the findings are described in the following sections.

**Analysis and Design Phases: Developing Course Outcomes and Designing Activities to Foster Interaction**

Weeks one and two encompassed the analysis and design phases of the ADDIE model (analyzing learners’ needs and establishing instructional goals and determining learning objectives, assessments, and instructional strategies). With their students’ needs in mind, participants successfully created course outcomes that were measurable, observable, and appropriate to their focus course in the Week 1: Drafting Course Outcomes discussion forum activity. In addition to creating course outcomes, one of the goals of the E-learning Program was to enable participants to consider the three types of interactions as important components of the instructional design and online teaching process. The three types of interaction include student-content, student-student, and student-instructor (Moore & Kearsley, 2012). In the Week 2: Incorporating Three Types of Interactions discussion forum activity, participants shared ways they would foster each of the three types of interaction in their focus course as well as anticipated successes and challenges. The knowledge participants developed is evidenced by examples in Table 4.1 and Table 4.2. Table 4.1 showcases an example of a course outcome and activities designed that foster the three types of interaction for a physical science course. Each
interaction is labeled in the table as “student-content,” “student-student,” and “student-instructor.” Additionally, the participant included the anticipated successes and challenges that may be faced with incorporating the three types of interactions in the course. Similarly, Table 4.2 shows examples of this for a social science course.

Table 4.1. Examples of Activities in a Physical Science Course

<table>
<thead>
<tr>
<th>Title of Focus Course and Course Outcome</th>
<th>Activities Fostering the Three Types of Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title: Immunology</strong></td>
<td><strong>Student-content:</strong> Exercise will be given at the end of every module and will be included in the learning materials. The exercise will cover all aspects of the module and to be submitted and assessed before the beginning of the next module. This will give the students an opportunity to actively engage the course materials and will inform the instructor how well the students are coping with understanding the subject.</td>
</tr>
<tr>
<td><strong>Course Outcome:</strong> Describe how innate and adaptive immune systems work individually and in collaboration to fight and prevent infection in the human body</td>
<td><strong>Student-student:</strong> Using a social media platform such as Facebook, WhatsApp or Telegram, an open discussion forum will be created. In the discussion forum, every member of the class will be allowed to ask, or answer questions related to the course. Also, relevant learning materials and information can be shared in the forum. To encourage participation, marks will be awarded and will constitute part of the overall course assessment. This discussion forum will allow students to learn with and from one another.</td>
</tr>
<tr>
<td></td>
<td><strong>Student-instructor:</strong> At the beginning of every week, an overview of the week's learning activities and the summary of the last week's activities will be provided through synchronous video web conferencing platform. In a similar manner, description/explanation of new and complex concepts will be provided. Also, the instructor will provide the feedback from the last week's exercise and will participate in the discussion particularly, by providing more clarification to grey areas.</td>
</tr>
<tr>
<td></td>
<td><strong>Successes and challenges:</strong> Incorporating the three types of interactions will no doubt facilitate the achievement of the course learning outcomes. Engaging students with the course content through exercises and assignments will enhance mastery of the course and retain understanding. Interactions among students will encourage learning; and shape as well as strengthen</td>
</tr>
</tbody>
</table>

(table cont’d.)
Table 4.2. Examples of Activities in a Social Science Course

<table>
<thead>
<tr>
<th>Title of Focus Course and Course Outcome</th>
<th>Activities Fostering the Three Types of Interactions</th>
</tr>
</thead>
</table>
| **Title:** Peace and Conflict Resolution in Islam  
**Course outcome:** Critically analyze the Prophet Muhammad’s Jihad and administrative policy in establishing peaceful coexistence. | **Student-content:** Assignments will be given to students covering the major areas treated each week to help them develop the capability of analyzing three key areas; first the causes of jihad encounters the Prophet Muhammad peace be upon him engaged in with the idol worshipers of his time and their role in establishing peaceful coexistence in the Arabian Peninsula. Secondly the prophet’s administrative policies and their impact on peace in the region, and thirdly the allegations raised against Islam of violence, non-recognition of religious diversity, tolerance and peaceful coexistence.  
**Student-student:** Students will make presentations of their various topics of assignments after which they will engage in an open discussion exchanging ideas and observations.  
**Student-instructor:** The instructor will schedule weekly online meetings to discuss the module/unit to be covered and the assignment given to the students. At the end of the week, presentations will be made by a number of students on topics of assignment after which extensive discussion will take place by the rest of the students and the instructor will finally give his observations, corrections of ideas and misconceptions and a summary of how the topic should ideally be treated. Recordings of the meetings will be made for future reference.  
**Successes and challenges:** I observed that both staff and students are tired of the lockdown that is being observed as a result of the current pandemic as it affected academic activities bringing them to a total halt. Many of them are indeed eager and... |

(table cont’d.)
Title of Focus Course and Course Outcome | Activities Fostering the Three Types of Interactions
---|---
| excited to explore this relatively new form of learning which has undoubtedly come to stay as it gives them the advantage of not losing the academic session thus allowing them to graduate as scheduled. This I guess is a driving force to success in this case and the little experience I had with my students with regard to the level of their preparedness and punctuality is very impressive and encouraging. The major challenge I foresee could be the affordability of internet service charges and the cost of devices for both students and staff in addition to the problem of poor network connectivity and the power supply.

**Insights about Analysis and Design.** It was evident that the concept of developing course outcomes was new knowledge for some participants, including the importance of writing course outcomes in measurable and observable terms. In the first self-reflection activity, participants shared the following:

The most significant for me was the learning outcomes especially stating each course objective with measurable active verbs.

Learning Bloom’s taxonomy verbs have enhanced my understanding of composing learning outcomes that are both observable and measurable.

I have not observed the use of verbs in learning outcomes since they are presented to me by the tutor and I assumed it will be easy to develop. I am very happy with the presentation on how to use the Bloom’s taxonomy to develop measurable learning outcomes. This is new knowledge for me.

Similarly, during his interview, Prof. Umar shared new knowledge he gained regarding developing course outcomes and their importance in the instructional design process.

Before this course [the E-Learning Program] I never had this idea of having course outcomes and the module learning objectives. I’ve never done that for my courses. So I really appreciate that aspect. This will actually enhance my delivery of my course to students. I think it's really interesting to see that if we start with the outcome in mind, and then we [inaudible] by design easily. I have never known that.
Participants shared their recognition of developing a course outcome as an essential first step in the instructional design process in order to design meaningful and relevant instructional activities. In his first self-reflection, Dr. Okafor shared the following:

Another insight gained is alignment as the core of the course design process. The overall goal of alignment is to provide a road map for students to follow in achieving the course learning goals. This is achieved through course design by learning goals that maximizes students’ success. First, write course outcomes, secondly, write learning objectives, thirdly, choosing course materials, and finally, activities and assessments are designed to allow students to demonstrate knowledge and skills acquired.

In the first self-reflection activity, participants also shared knowledge and new insights regarding active learning and designing instruction that incorporates the three types of interaction. For example, Prof. Umar mentioned, “Learning and reflecting on the fact that online learning is a combination of three interactions (student-content, student-student, and student-instructor), and that online learning can be achieved majorly through asynchronous means has changed my perspective positively.” Prof. Yakubu shared the most significant knowledge he gained during the second week had to do with “active learning—providing opportunities for students to actively learn, share, and work with their fellow classmates and the instructor.” He added, “I have learnt how to take advantage of the three types of interactions …to achieve desired learning outcomes.” In subsequent weeks of the E-Learning Program, participants referenced their course outcome and incorporated their knowledge of the three types of interactions in the development of discussion and group activities for their focus course.

Development Phase: Developing Discussion Activities

The third week encompassed the development phase of the ADDIE model, whereby designers create instructional activities and assessments. In Week three, participants developed a discussion activity for their course that was reflective of best practices including: (1) aligning it to a course outcome, (2) writing a thought-provoking and open-ended prompt that encourages
conversation among students, and (3) outlining specific expectations (e.g., providing a rubric) (Aloni & Harrington, 2018). The knowledge participants acquired is demonstrated by the discussion forum activities they developed and posted in the Week 3: Engaging Students in Online Discussions discussion forum activity. Table 4.3 includes several examples of the discussion prompts that participants developed for their focus course.

Table 4.3. Examples of Discussion Activities

<table>
<thead>
<tr>
<th>Title of Focus Course</th>
<th>Discussion Prompt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunology</td>
<td>Adaptive immunity differs from innate immunity by two key features, memory and specificity. Why do you think that these features are important in distinguishing between the two fundamental classes of immunity? Justify your view logically within the immunological context.</td>
</tr>
</tbody>
</table>
| Intermediate Macroeconomics            | Theory is the bedrock of economic analysis and macroeconomic theory in particular focuses on the study of the economy as a whole. Macroeconomics theory concepts like, inflation, unemployment, economic growth, investment, saving, etc. are discussed in greater detail. Now consider these:  
  1. Inflation and unemployment are considered as the twin evil of all economies. Why is it considered so in your opinion?  
  2. Considering the postulation of the theory and Nigeria's response to the "twin evil," why do you think the twin evils still persist? |
| Neurophysiological Bases of Therapeutic Exercises | Reflect on the application of neurophysiology in the treatment of patients with movement disorders. Why do you think it is important to consider the physiological bases of therapeutic exercises when selecting treatment techniques for patients with brain injury? Give an example of a treatment for a movement disorder in a particular type of brain problem and explain why you choose the treatment. |
| Studies in Pre-colonial Africa          | Students are invited to discuss the development of African pre-colonial historiography and the place of history in Africa. In about 200-250 words discuss the following:  
  1. Contemplate the question of whether history can only start when men learn to write or whether other methods apart from writing can be deployed to historical reconstruction.  
  2. How can the historian in Africa resolve the complex issues of dating and chronology when history is dependent on non-writing sources? |

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<table>
<thead>
<tr>
<th><strong>Title of Focus Course</strong></th>
<th><strong>Discussion Prompt</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business, Government and Society</td>
<td>CSR [corporate social responsibility] has become topical in the business environment. A) What are the different stances (postures) that corporate organisations take with regards to corporate social responsibility? B) What are the arguments for and against? C) From your knowledge of the business environment give an example of a business known to you and its stance with regards to CSR.</td>
</tr>
</tbody>
</table>

**Insights about Development.** Participants revealed knowledge they gained regarding designing and incorporating discussion activities. In the first self-reflection activity, Prof. Garba shared, “I have also learnt how to develop a discussion forum rubric and apply it to guide discussions on the discussion forum.” During his interview, he expanded on this new knowledge along with the importance of the element of alignment:

One of the most interesting things that applies, when we do research, we are told that it is very important that your objectives should reflect your methodology. Your results should reflect the objectives and your discussion. So when we set the learning objectives, our discussion forum, whatever you ask the students to do, does it reflect what you have in the learning objectives? I think these are some of the things that I've learned and I want to put into practice.

Additionally, participants made connections on how the incorporation of discussion activities can facilitate meaningful student-student interactions. During her interview, Prof. Ali described her realization of how discussion activities can provide a way for students to provide feedback to one another.

Prior to my interaction with you, I was imagining how could a teacher get feedback from his students, but by the time we started with you, I was able to see a number of strategies that a teacher can adopt in order to get feedback from your students, and part of which is the discussion forum, which is a wonderful one because it will help the learner understand that other people are watching his work and then it will also help him to understand his weakness from his colleagues. It would be a different thing, when the teacher is the one pointing out the mistakes. But now it is his own colleagues, his classmates that are now telling him “oh boy, this is where you went wrong, why not do it this way,” and I think that will make a greater impact on the students than when the teacher is the only one pointing out what students should do.
In addition to the design of discussion activities, participants revealed new understandings about the benefits of setting expectations for engagement in discussion forms by sharing rules of “netiquette” with students and incorporating rubrics. In her self-reflection, Prof. Ali shared “providing students with netiquette will do good in moderating online instructions” as one of the things she would “take home” from the E-Learning program. During his interview, Prof. Umar shared how his experiences of engaging in the E-Learning Program would inform the design of activities in a course he would teach in the future.

There is this relation between students, they learn from each other and there will be challenges definitely also along the way, because I foresee conflicts coming up. But thank God I learned about netiquette, which I never knew until this course…I downloaded something on netiquette and read through and I see how I should manage conflicts when they arise from discussion forums and the rest.

Another takeaway participants shared was the benefit of incorporating rubrics for discussion activities. In a self-reflection, Prof. Yakubu shared “I learnt how to develop a rubric for discussions which is a transparent way of benchmarking quantity, quality and originality of posts as well students’ responses to one another.” To summarize, in his fourth self-reflection Prof. Garba disclosed “the difficulty I presumed in assessing online discussions is a thing of the past now. Simplifying the tasks, giving measurable prompts and applying rubrics are fantastic steps in demystifying the earlier felt problem.”

**Development and Implementation Phases: Developing and Implementing Group Activities**

The development phase extended to the fourth week of the program. Participants developed a group activity for their focus course that was reflective of best practices consisting of: (1) ensuring activity is relevant to the course (i.e., aligned to a course outcome), (2) designing an activity that is best performed by a group, (3) including clear and detailed instructions (e.g., timeline, how students will be divided), and (4) outlining specific expectations (e.g., providing a
rubric) (Brindley et al., 2009). Table 4.4 includes an example of a group activity that a participant developed for a physical science course and Table 4.5 includes an example for a computational physics course.

Table 4.4. Example of Group Activity from a Physical Science Course

<table>
<thead>
<tr>
<th>Title of Focus Course</th>
<th>Description of Group Activity</th>
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</thead>
<tbody>
<tr>
<td>Immunology</td>
<td>Defense against infectious agents in humans is mediated by the innate (natural) and acquired (adaptive) immune system. Both immune responses work together to fight infection, with the innate appearing early, while the adaptive is engaged later. The effector functions in the immune system are performed by various cell types, specifically, leucocytes and cellular molecules such as cytokines, chemokine and interleukins. The cells of the myeloid lineage, which consist of macrophages, neurophils, eosinophils, basophils, mast cells and dendritic cells as well as natural killer (NK) cells are what mediate innate immune response, while the adaptive immune response is mediated by bone marrow-derived lymphocytes (B-cells) and thymus-derived lymphocytes (T-cells), both of which constitute the cells of lymphoid lineage. For the next two weeks, you will work in a small group of five to identify any cell of the immune system and research its individual contributions in fighting and preventing infection. Participating in this group activity will give students in-depth understanding of how various immune cells confer immunological functions. Working with your group: Go to group assignment in week 3 to see the grouping. Each group constitutes five members. You are to work in collaboration with your group members to complete the following tasks: 1. Select a platform or tool that your group will use to communicate. Each group can choose any platform that best meets their needs (e.g., WhatsApp, telegram, slack, Zoom, Skype) 2. Choose any cell of the immune system that is of interest to the group (e.g., macrophages, neurophils, eosinophils, basophils, mast cells and dendritic cells, NK cells, B-cell, T-cells). The following references may be helpful in identifying the cells (student-content interaction) o <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4777539/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4777539/</a> o Immunity and host defense in Brock biology of microorganisms</td>
</tr>
<tr>
<td>Title of Focus Course</td>
<td>Description of Group Activity</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>3. Complete and submit the agreement form document. This includes assigning a role for each group member and outlining the project plan. The Group Agreement Form is due by 1st July.</td>
<td></td>
</tr>
<tr>
<td>4. Research the role of the chosen cell in the immune response including the detailed molecular mechanism of its interaction with the host cells. Meet and discuss with group members to share ideas, resources, and findings (student–student interaction).</td>
<td></td>
</tr>
<tr>
<td>5. Develop a slideshow presentation (10 to 12 slides), preferably using Microsoft PowerPoint, keynote or google slides. The slideshow should include the following:</td>
<td></td>
</tr>
<tr>
<td>o title slide (1 slide)</td>
<td></td>
</tr>
<tr>
<td>o brief overview of the cell including the description of the phenotypic features, receptors and ligands (2 slides)</td>
<td></td>
</tr>
<tr>
<td>o immunological functions (1 slide)</td>
<td></td>
</tr>
<tr>
<td>o mechanisms by which the cell confers the functions (4-6 slides)</td>
<td></td>
</tr>
<tr>
<td>o conclusion/summary (1 slide)</td>
<td></td>
</tr>
<tr>
<td>o references (1 slide)</td>
<td></td>
</tr>
<tr>
<td>6. Submit the final slideshow presentation by 6th July.</td>
<td></td>
</tr>
<tr>
<td>7. Present slideshow during a synchronous group meeting via Zoom.</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.5. Example of Group Activity from a Computational Physics Course

<table>
<thead>
<tr>
<th>Title of Focus Course</th>
<th>Description of Group Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computational Physics</td>
<td>The coronavirus pandemic has disrupted normal activities in Nigeria and in almost all countries of the world. The first confirmed case in Nigeria was announced on 27th February 2020, when an Italian citizen in Lagos tested positive for the virus (Wikipedia, 2020). By 9th June 2020, Nigeria had 13,464 confirmed cases of the virus affecting 35 states and the Federal Capital Territory; 4,206 patients have recovered, and 365 deaths have been recorded (NCDC, 2020).</td>
</tr>
<tr>
<td></td>
<td>Visit the Group Member Assignments to view a list of groups and associated members. Working collaboratively with members in your group, please complete the following tasks:</td>
</tr>
<tr>
<td></td>
<td>1. Select a platform that your group will use to communicate. Each group can select any communication tool or platform that best meets their needs (e.g., WhatsApp, Google meet, Zoom, Skype, email, etc.).</td>
</tr>
<tr>
<td></td>
<td>2. Working in your group of five members select any state in Nigeria and research the coronavirus outbreak in that state, advancing reasons for the seemingly low infection rate in the state and Nigeria. Then write a programme, in BASIC or FORTRAN, modeling the coronavirus pandemic in the state of your choice which can be used to predict the</td>
</tr>
</tbody>
</table>

(table cont’d.)
The implementation phase began during the fourth week and extended to the sixth. Wenger et al. (2002) state that “successful practice development depends on a balance between joint activities, in which members explore ideas together, and the production of ‘things’ like documents or tools” (p. 39). Participants collaborated with colleagues in small groups to implement their group project, *Solutions for Current Challenges Facing West African Nations*. Each group’s project was reflective of the guidelines provided. They met and outlined the project, assigned tasks, completed the group agreement form, researched the topic, and created a slideshow presentation that included all the necessary components (title slide, description of the problem, who is impacted by the problem, consequences if the problem is not addressed, ways the problem is being addressed, conclusion/summary, and resources). Appendix H includes an example PowerPoint presentation from Group 2. During Week six, participants implemented (or delivered) the instruction to all colleagues during a synchronous Zoom meeting. The following list includes the topics each group selected:

- Nexus of Unemployment and West African Economic Growth (Group 1)
- The Challenge of Access and Quality of Education in West Africa: How to Overcome the Obstacles (Group 2)
• Security Challenges in the West African Nations (Group 3)
• Addressing Public Health Crises in West Africa: The Case of Nigeria (Group 4)

Insights about Development and Implementation. In their self-reflections and during the individual post-program interviews, participants described the knowledge they gained in developing and implementing group activities. Examples included various considerations in assigning students to groups, encouraging students to use a collaboration tool/platform of their choosing, ensuring tasks and responsibilities are distributed equally, implementing the use of group agreement forms, and creating detailed rubrics. Participants described their previous attempts with engaging students through group activities in their courses, and shared what they learned as a result of participating in the E-Learning Program.

I began to engage students, either asking them questions individually or putting them in groups, but what I had difficulty with was how to do it in an organized way and get the best out of it. But from this course [the E-Learning Program], the fact that how to even select the group, how to assign tasks, how to give an assignment that will match the learning outcome—there are a number of things that I've learned there that are very useful.

I'm going to be a better designer of group activities than before. I wasn't even thinking of group activities before, I was actually thinking of giving individual assignments, which we've been doing during face-to-face meetings, but now I know I can actually design group activities and have a rubric for the students to know exactly what is expected of them. It will aid in them to do the work properly.

Previously, we only gave the assignment, grouped the students, and ask them to go and do the assignments and then come back to present it in the classroom. I realized over time that most of the time when we give assignments like that only few people participate actively and then some other members do not even participate at all…at the end of the day, the purpose of this assignment will be defeated because only few people participated and then the remaining people do not even know what the assignment is. But on this online E-learning Program, you find out that when you give assignments there is possibility of every member to participate. Because you assign responsibilities and then all other members will be on board, and then any member that is not [participating] will be reached out to. So one must participate, one must read the comments of other people, one must contribute in one way or the other.
The participants’ personal experiences in the group project influenced their beliefs and approaches to incorporating group activities in their own courses. The group project gave participants the opportunity to experience first-hand the process of engaging and implementing a group activity in the online environment. Prof. Garba shared, “instead of just knowing these things, we now began to put it into practice within the program, and all this put together.

Learning the theoretical aspect was given to us in documents, and now [we are] coming in to do it.” Prof. Auwalu described the Group Project as “quite an exciting and functional collaboration with colleagues.” Prof. Mustapha reflected on his experiences with his group in his fourth self-reflection. He shared how he came to realize the importance of providing adequate time for students to complete group activities and emphasized the importance of checking in on students’ progress.

From this realization, I think one way of facilitating participation is to allow for adequate time for the group to complete the assignment and ensure quality checks. For a course that can last for 12 weeks of a semester’s work, giving the group work in the early days and allowing for a minimum of four to five weeks, and following up on the students’ involvement and participation in the group activity may ensure greater participation.

Also in the fourth self-reflection assignment, Prof. Hassan shared the following:

Having acquired some experience in a group project, the strategies I would use to encourage students to collaborate successfully include: 1) Creating a social and active learning environment through various means that enables building a cohesive virtual learning space, where students would familiarize themselves and feel safe; 2) Establishing and demonstrating leadership by posting strategies for effective teamwork, outlining how groups work effectively in online spaces and encouraging groups to assign a group leader; and 3) Stating clearly the purpose and instructions that are specific to the expected outcomes of the project and the details, because students are more likely to engage and commit to a group project when it is aligned closely with the learning objective of the course and is meaningful. My belief about incorporating discussion and group activities in online learning experience for students has been influenced by ensuring accountability in roles assigned to every group member.

Prof. Saidu’s reflections on her experiences in the group project focused on the importance of collegiality and respect. She shared it was important for “students to demonstrate respect for one
another, show understanding and patience to all contributions.” She explained, “students will need to know that there exist numerous viewpoints in discussion so they would need to learn to listen and respond with respect.”

Participants shared their general takeaways regarding developing learning activities for online courses in their self-reflections. Prof. Ali described discussion and group activities as “better ways of encouraging students, participation, and greater teamwork. It brings students together and helps one understand his/her ability.” Prof. Okoro mentioned,

Having gone through this course [the E-Learning Program] I am now in a position to design a group project and a discussion forum for my students at both undergraduate and postgraduate levels and also be able to monitor the participation and contribution of individual members to the class/group activities.

Prof. Auwalu explained the benefits of incorporating discussion and group activities, “I see groups of students handling complex assignments with more innovative and creative thinking than individual students. Group work reduces the number of assignments to assess.” Along the same lines, Prof. Okafor shared, “the incorporation of discussion activities and/or group activities in the online learning experiences has influenced my beliefs in the areas of valuable skill development for the workplace, collaboration with peers, leadership, communication and conflict resolution skills.”

**Changes to Perceptions About Online Teaching**

To answer the second research question: How did faculty perceptions about online teaching evolve as a result of participation in the virtual community of practice?, the self-reflections submitted by the participants during their participation in the program, and responses from the individual post-program interviews were analyzed. In reviewing this data, it was clear that the participants were questioning and changing their prior perceptions of online teaching and learning. They described moments of insight and the impact these discoveries had on their
perceptions, understandings, and approaches to online teaching. Addressing misconceptions and preconceived notions, and thinking about online teaching and learning from a different perspective inspired some to make plans to redesign aspects of their course and to adjust their approach to online course delivery. The self-reflection submissions revealed insights participants gained during the process of engaging in the E-Learning Program, while the post-program interviews captured insights gained after they had time to reflect on their experiences and knowledge gained.

**Insights Gained During the E-Learning Program**

In the first self-reflection assignment, Prof. Umar stated, “I am already a better teacher than the one I was before this training.” He shared how his moments of insight will inform his approaches to teaching in the future.

> Before now, my idea of online (virtual) learning was to deliver live synchronous lectures using video via Zoom or Google Meet. This conforms with the traditional face-to-face lectures in the classroom I am used to. This comes with its attendant problems like the issue of bad internet connectivity, cost of data for the students, power outages, etc. Learning and reflecting on the fact that online learning is a combination of three interactions (student-to-content, student-to-student, and student-to-instructor), and that online learning can be achieved majorly through asynchronous means has changed my perspective positively. Post COVID-19, my lectures will now be a combination of face-to-face classroom lectures with online components.

Additionally, Prof. Hassan shared how his experiences in the E-Learning Program led him to “better appreciate the roles and advantages of e-learning.” He explained,

> From what I have learned, I consider e-learning as the most effective, easiest and cheapest process of learning compared to the conventional process of learning. Considering the challenges of education, especially in less developed nations, arising from inadequate access, overcrowding in classrooms and disruptions of academic calendar, e-learning is a good option to complement the conventional learning process. I am convinced that the concern I had, about e-learning, which mostly relate to quality issues, have actually been taken care-of.
Similarly, in his fourth self-reflection submission, Prof. Okoro expressed how the E-Learning Program changed his perception of “the efficacy of virtual learning even in our environment known for its network and other technology challenges.” He stated, “I am now more confident that online teaching will complement the usual face-to-face classroom teaching we are used to. It will help us manage our over-bloated classrooms better and enhance students’ learning.”

Post-Program Insights

During his post-program interview, Prof. Mohammad shared his previous beliefs about online teaching and described how his experiences in the E-Learning Program would shape his teaching practices.

I used to think that E-learning is to do with synchronous only. Online lectures, you will lecture live, and then the students are in the class listening—just like we do on the conventional way of lecturing. That was my understanding initially. With this training, it changed everything for me, it changed a lot. I have what I come to understand that it's not only that; that aspect is just an aspect. You can bring in together a lot of different ways to enhance the general outcome of e-learning, which is a great success to me, in person.

Similarly, during her interview, Prof. Saidu acknowledged that methods of instruction that may be appropriate or successful in the face-to-face environment do not always translate well to the online learning environment. She explained how she used to deliver synchronous lectures via Zoom in her online courses prior to her participation in the E-Learning Program.

Initially, I will be having lectures and I will take more than an hour of their time…all I know is that I have two hours, let me exhaust the two hours. I didn’t know that the two hours I am having physical contact with them cannot be the two hours I will have virtually.

She further explained, “during the course of this e-learning [program], in fact, somebody even corrected me when I presented my first homework [discussion forum post] and said ‘it is too long Prof, reduce it, summarize it.’” She reported that she would begin to deliver shorter synchronous lectures to increase student participation and engagement. Additionally, Prof.
Solomon shared how his experience participating in the E-Learning Program helped him to discover the benefits of incorporating student-centered approaches to teaching.

You cannot boast that you know all. Even students; you allow students to participate in whatever form of assignments or even in the class, it should be an interactive session, not just “teacher know it all”…so it [the E-Learning Program] has really helped me.

It was clear the E-Learning Program served as an effective way to support participants in their online teaching efforts. Their participation led to newfound and enhanced understandings of instructional design and online learning and teaching.

**Cultural Values in the Knowledge-Building Process**

A community of practice “involves participation as a way of learning—of both absorbing and being absorbed in—the ‘culture of practice’” (Lave & Wenger, 1991, p. 95). To answer the third research question: What cultural values were evident in the knowledge building process among faculty within the virtual community of practice?, I analyzed data from discussion forum posts, self-reflection submissions, and interview responses using content analysis. Cultural values can be considered as “the way things should be done” (Triandis & Gelfand, 2012, p. 498) or as “important goals and principles” (Probst et al., 1999, p. 174). The theoretical framework for this study is Hofstede’s (2001; 2011) individualism-collectivism dimension. Collectivism reflects the cultural orientation evident among African communities (Hofstede, 2001) and is the focus of the analysis of the interactions evident in the virtual community of practice. The discussion forum posts provided insight into how participants enacted their culture during their participation in the E-Learning Program (i.e., how they provided feedback to each other in the knowledge building process). In addition, the self-reflection submissions and post-program interviews provided insight into participants' perceptions and reflections on how they came to a consensus.
within their groups and created a harmonious and supportive learning community (i.e., community of practice). Details of the findings are described in the following sections.

**Providing Feedback in the Knowledge Building Process**

Participants had opportunities to “interact, do things together, negotiate new meanings, and learn from each other” (Wenger, 1998, p. 102) through a series of four discussion forum activities. Participants used these forums to engage in social dialogue to help each other move through the *zone of proximal development* (Vygotsky, 1978). Participants provided feedback to each other—consequently contributing to colleagues’ learning and understanding. As a learning tool, the purpose of feedback is to “highlight discrepancies between actual performance and intended performance, with a motive to produce behavior change” (Molloy & Boud, 2014, p. 414).

The four discussion forum activities were created with specific prompts. Each participant submitted a post and was encouraged to provide a reply to colleagues’ posts. Forum replies were analyzed from the four discussion activities to examine how participants provided each other with feedback. Data comprising replies were retrieved from Moodle and organized into an Excel spreadsheet. A total of 57 replies were analyzed using Swan's (2002) model for types of interactions that occur in online discussion forums. Swan's model identifies five main types of interactions in online discussion forums: *personal advice, invitation, approval, acknowledgment,* and *agreement/disagreement*. In the context of the current study, agreement and disagreement were disaggregated into separate interaction types to allow for a more precise analysis of faculty interactions. Each post was coded as one of the six types of interactions using a content analysis approach. The types of interaction, frequency of occurrence, definitions, and examples are provided in Table 4.6.
The most common type of interaction identified in the data was *approval*—expressing approval, offering praise, encouragement (Swan, 2002). Examples of this were statements such as “very well stated,” “well done,” and “you nailed it on the head.” The second most common type of interaction was *agreement*—expressing agreement with others or confirming what they have accomplished is correct. For example, in the Week three activity, Prof. Mustapha stated, “The discussion points are well thought out and will indeed facilitate students’ interactions” in

<table>
<thead>
<tr>
<th>Interaction Type</th>
<th>Frequency</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td>27</td>
<td>Expressing approval, offering praise, encouragement</td>
<td><em>You nailed it on the head; Well done; A great teacher you are</em></td>
</tr>
<tr>
<td>Agreement</td>
<td>24</td>
<td>Expressing agreement with others or confirming what they have accomplished is correct</td>
<td><em>I love the idea of students working alone and then giving them the opportunity to discuss their learning with their peers using social media.</em></td>
</tr>
<tr>
<td>Personal advice</td>
<td>18</td>
<td>Offering specific advice to colleagues</td>
<td>For further information on Bloom’s taxonomy please refer to the link below <a href="https://assessment.provost.wisc.edu/student-learning-outcomes/writing-student-learning-outcomes">https://assessment.provost.wisc.edu/student-learning-outcomes/writing-student-learning-outcomes</a>.</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>12</td>
<td>Referring directly to the contents of others’ messages</td>
<td>Your presentation is brief and concise, it captured the issues especially the successes and challenges headlong.</td>
</tr>
<tr>
<td>Disagreement</td>
<td>9</td>
<td>Expressed disagreement with colleagues’ posts (e.g., when instructions were not followed correctly)</td>
<td>What you have as learning outcomes are more like what you intend to achieve rather than what the students should have learnt at the end of the course.</td>
</tr>
<tr>
<td>Invitation</td>
<td>3</td>
<td>Asking questions or otherwise inviting a response</td>
<td>Was wondering about the capability of the e-learning facility to handle sketch designs from the students. Would that affect students’ ability to interact student-student?</td>
</tr>
</tbody>
</table>
response to Prof. Okoro’s post. Another way participants interacted was with personal advice—
offering specific advice to colleagues (Swan, 2002). For instance, Prof. Mustapha advised the
following in reply to Prof. Saidu’s Week 2: Incorporating Three Types of Interactions forum
post: “I think the textual interface and discussion forum may perform better.” The fourth type of
interaction was acknowledgment—referring directly to the contents of others’ messages. For
example, in response to Prof. Hassan’s post in the Week one discussion activity, Prof. Ali stated,
“the action verbs used are measurable and observable. You specified in clear language the
actions you hope to measure and observe.” There were several instances of disagreement in the
discussion forums. This type of interaction entails instances in which participants expressed
disagreement with colleagues’ posts (e.g., when instructions were not followed correctly). For
example, Prof. Umar’s response to Prof. Saidu’s Week one forum post: “It appears you gave the
objectives of the course. Course outcomes should be separated from the objectives.” Another
example is the reply from Prof. Okoro to Prof. Nwogu’s Week one post:

What you have as learning outcomes are more like what you intend to achieve rather than
what the students should have learnt at the end of the course. Unfortunately, I cannot
make any suggestions since you have not described the course and its content.

The least common type of interaction was an invitation—asking questions or otherwise inviting a
response (Swan, 2002). For instance, Prof. Mustapha asked the following question in reply to
Prof. Saidu’s Week 2: Incorporating Three Types of Interactions forum post: “In a virtual setting,
would making online oral presentation in the student-student interaction mode be feasible?” In
his Week 2 forum post, Prof. Garba described how he would incorporate the three types of
interaction (student-content, student-student, and student-instructor) in his focus course, which
spurred the following exchange with Prof. Mustapha:

Prof. Mustapha: Is there a practical aspect to this course? If so what is the approach to
handling that with virtual learning?
Prof. Garba: The course is a preliminary course to another course that will be taught in a subsequent year of the program. It does not have a practical aspect but presents concepts that will be applied later. The subsequent course could be taught through video demonstrations on patients that could be posted on an e-learning platform. However, it is necessary for students to have hands-on training with patients in the clinic apart from the e-learning platform.

It is important to note that many of the responses from participants included a combination of the various types of Swan’s (2002) *interactive indicators*. Examples include the following:

Very good presentation although you've outlined six objectives/outcomes while the instruction clearly requires stating one outcome only; you may therefore need to adjust that.

You have done well. However, you need to have specifically stated the achievement in the context of the topic/course outcome.

You gave a good description of the project. However, the rubric may need to be explained. For instance, there is a presenter who is to present the final slideshow of the group project but members' contributions during the presentation will be scored, and only ten minutes allocated for presentation.

Although not every participant provided feedback to colleagues in each of the four discussion forum activities, the feedback that was provided was well received and appreciated.

**Compromising to Build Consensus and Maintaining a Harmonious and Supportive Learning Community**

The self-reflections and transcribed post-program interview responses were uploaded to ATLAS.ti 9. Given that this community of practice was situated in an African context, I applied themes (*priority of collective interests and goals, belief in collective decisions, comparison to family, maintaining harmony*) reflective of the individualism-collectivism philosophy (Hofstede, 2001, 2011; Triandis & Gelfand, 2012). The integration of this philosophy provided a culture-specific framework for the analysis of self-reflections and interviews that enabled a meaningful, in-depth examination and understanding of interactions that occurred in the E-learning Program. After further examination of data, the four original themes were synthesized into two themes:
compromising to build consensus and maintaining a harmonious and supportive learning community.

**Compromising to Build Consensus.** Emerging from the data analysis was the importance of giving everyone a chance to speak until consensus is reached—specifically while participants engaged in the group project. Wenger (1998) states, “a community of practice is neither a haven of togetherness nor an island of intimacy insulated from political and social relations. Disagreement, challenges, and competition can all be forms of participation” (p. 77). When conflicts exist in collectivist cultures, it is understood that the collective’s goals and needs take precedence over those of the individual (Triandis, 1995). Prof. Garba explained the university culture in Nigeria and interactions that typically occur between academics. He shared,

> One thing that we have in Nigeria, you have professors—the best words was the vice-chancellor would say whenever you have professors and senior academics, it will be a group for argument because everyone will feel that he knows, “I'm a professor, I know this! I'm a senior lecturer, I know this.” So mostly groups like that will have a problem where if you mentioned something, another person wants to show that they have a better idea, and usually it ends in arguments.

He continued and shared that those were not his experiences with colleagues while engaged in the group project. He mentioned, “We didn't have that. We had a lot of understanding and everyone was humble but willing to support the whole group to move forward.” Several participants shared the ease with which their group made decisions. For example, Prof. Umar said that it was “really easy” for his group to agree on a topic, and Prof. Umar shared that “we collaborated successfully in the areas of assigning roles to each group member without any hitches.” Similarly, Prof. Okoro shared, “getting every member to participate and collaborate was very easy.”

It is important to note that not every group easily came to consensus on all matters. In his self-reflection, Prof. Mohammad disclosed, “working with a group is not as easy as I thought
because it has to do with collective efforts and decisions.” When describing challenges faced during the group project, Prof. Saidu shared, “the challenges we faced bordered on some members not willing to accept some contributions and shift grounds to accommodate others’ opinions.” She explained, “we are all academics and you know we will always have perceptive issues of how we do things.” Her group comprised colleagues from the same faculty (department), which seemed to present a challenge. She described their interactions, “It took time for us to agree; it's natural to disagree on it specifically because I want to know for one, I will circulate everything towards my own area of expertise. Let everything tilt towards their own area of expertise.” Prof. Solomon, who was in the same group as Prof. Saidu, corroborated this experience in his interview. He shared, “We initially disagreed [on the topic] by discussion because we are from the same faculty and in fact, we are in the same department.” Interestingly, Prof. Okoro (who was also in this group), did not perceive this to be a challenge. He shared,

The grouping for the project was apt because 5 out of the 6 members of the group are from the same specialisation areas (economics and management), which makes sharing ideas very easy. We interacted very well because we are all familiar with the subject matter and have dealt with it at various times in our academic and private life.

A number of participants shared that it was important to them that each group member was given an opportunity to provide their input, and that all members’ opinions, ideas, and perspectives would be considered and respected when group decisions were being made. For example, Prof. Ali shared, “We cooperated with each other. At least we contributed individually in all our ways, and then nobody condemned anybody’s idea and nobody complained about anybody.” Similarly, Prof. Hassan shared that his group collaborated successfully by “allowing the group members to make contributions on the choice of the topic with good justification.” Prof. Mohammad shared that the decision on identifying a topic for the group project was made by providing everyone an opportunity to make a suggestion. Then, one would “propose a vote,”
which would be “seconded” and approved by the group. Prof. Solomon shared that he and Prof. Okoro (his group’s facilitator) initially disagreed on the topic the group should select. They met to discuss it further and afterward, they shared it with the rest of their group so each member could “make their own observations and suggestions.” In his self-reflection, Prof. Garba shared, “the process [of participating in the group project] has helped me to see different ways of doing things from the perspectives of others while at the same time sharing my perspective.”

Kerno (2008) states that “a community of practice, being a social configuration, is likely to reflect the wider social structures, institutions (or lack of them), and sociocultural characteristics present in the broader environmental context in which it is situated” (p. 75).

Despite any disagreements, differences in opinions, conflicts, and challenges, it was evident that the goal of coming to agreement or consensus was something participants highly valued. In his self-reflection, Prof. Hassan shared, “after some discussions, members unanimously agreed on the topic.” Similarly, Prof. Hassan shared that in his group, “suggestions were made, which were collectively accepted by members after some deliberations.” Prof. Saidu described how their group eventually came to consensus on the topic for their group project, “at the point, we said, ‘look we can marry these things together, we can marry them together. So let us marry them together,’ and that is how we came about the topic.” She summed it up nicely when she said:

At the end of the day was the consensus, was the agreement of all of us, and that is what matters. Despite everything, the challenges that you face or despite the disagreement you can get, at the end of the day you agree.

**Maintaining a Harmonious and Supportive Learning Community.** In collectivist societies, values include maintaining good social and personal relationships and maintaining harmony (Hofstede, 2011; Triandis, 1995; Triandis & Gelfand, 2012). It was evident that participants were part of a close-knit and supportive community within the university—
especially within their own faculty (departments). Some participants described their colleagues as “family.” Prof. Abulkareem shared, “my colleagues and I are actually friendly and in the faculty of art, it is our, should I say our logo is that we act as a family. We act as a family and we support one another.” This closeness was also apparent in how participants worked together during the group project. Prof. Umar shared that this closeness even extended to life outside of the university; “When it comes to personal life, some of the colleagues we trained with, who are not even from my faculty even included us in their personal life.” When asked to think of a word or two to describe his group, Prof. Umar decided on the words “friendly harmonious.” He explained, “We never had issues, we never have any conflicts, even when I disturbed people as facilitator, nobody showed anger or any resentment. So we're really friendly; we acted like a family…we have worked harmoniously.” Several participants echoed similar sentiments—their groups worked harmoniously, smoothly, “in a friendly and understandable manner,” and without conflict. Prof. Ali explained, “There wasn't any problem because all members were respectful and all opinions were respected by all members. Nobody condemned anybody and nothing or any conflicts arose during the group assignments.”

Participants discussed the efforts that were made to support one another. During his interview, Prof. Umar shared, “if you go to the discussion forums we had, you will find encouragement coming from colleagues… So that's the kind of environment we work in; everybody's trying to support the other.” It was evident that the feedback provided was thoughtful and intended to support participants in their efforts to develop quality learning experiences for students. During his interview, Prof. Umar described his intentions when providing feedback to his colleagues: “I've been so critical of some of the presentations [posts] of my colleagues, that it is my second nature. When I see something that is wrong, I don't keep
quiet. I talk [laughter].” He continued further and explained, “not that I was trying to put down anybody but I was trying to say ‘yes, if you had gone through the instructional materials, these were the instructions, this, this is what we're supposed to do, but you did this. You didn't do this correctly.’” He also mentioned how he was expecting critical feedback from his colleagues. He shared “most of my colleagues were just commenting telling me that I did the correct thing, which didn't help me much really.” Prof. Garba described the challenge he had with providing feedback that was straightforward yet polite.

The issue of discussing with people, I'd want to be straightforward and say “look, this is not right,” because I've seen some posts that I feel were not aligned with what was asked. And I want to be straightforward and say that, “look, that's not how it should go,” but then I also wanted to be polite. So balancing between these two, I think is one of the challenging things.

Prof. Ali shared, “the good thing about our discussion forum is that whenever anybody wants to comment on one’s contribution they usually start with a positive comment, ‘well done, you have done a good job,’ you know, and that encourages one.” During their interviews, several participants discussed their perceptions toward receiving feedback from colleagues, and how that feedback supported their learning.

I actually learned a lot, because there was a time I posted, I think it was course objective. So I was corrected, specifically what I was told to do. I didn't do it as it was expected. So some of my colleagues highlighted the errors there and they pointed to me the correct way to do it, and I corrected it and I sent it back, and it was accepted. So it has helped me in setting up my objectives; it has helped me in designing my course outline appropriately. (Prof. Solomon)

The discussions and the observations, you know, that are very good and very useful. And this is another area that I think I benefited a lot when I design something, and I get some critiques, some observations from my colleagues. This is very good. It will help me in avoiding that in the future. (Prof. Mohammad)

I will never forget a comment made by one of my colleagues, I think Professor Saleh, when I presented my rubric and he now observed that I did not include some things. So, he now advised me to widen my horizon and then see if I could do something to that effect, and I was very happy at least somebody was able to see a loophole in my work,
and he pointed it out and I was very happy. (Prof. Ali)

Additionally, participants shared their willingness and desire to disseminate the knowledge they gained from participating in the E-Learning Program—supporting their colleagues at KASU. At the start of his interview, Prof. Umar revealed his goal for participating in the E-Learning Program:

At the beginning, when we had this introductory meeting I said that I was coming in as a trainee to learn so that I can also teach my faculty members. That has been my objective right from the beginning, and that was why I paid so much attention to this training. I learned a lot. Every week, the courseware, normally when I see it I download everything, any references there I check the references. If they’re available online, I download them. So I have been reading to prepare to actually come also and train faculty members in the faculty of science in KASU here. That has been my objective really and I mostly learned a lot. I’m ready also to train my colleagues.

During her interview, Prof. Ali mentioned, “the good part of this teaching professional is that you get to learn and to teach every day, and then by interacting with colleagues also one gets to learn a lot of new things from them.” She explained that prior to the COVID-19 pandemic, a group of faculty in her department created a faculty community via a WhatsApp group—providing a way for faculty to post their teaching challenges and share ideas. She described the group and the contributions she made to that community, which included knowledge gained from the E-Learning Program:

Some of the things I'm able to get from you people, from the training we had with you, I'm able to at least effect some changes via our online classes even if it is not official, but we are doing it via the WhatsApp the platform for faculty….It's been an ongoing thing. We usually communicate via the WhatsApp platform. Because we have started online classes, some lecturers are facing a number of challenges with their students and they report it on the platform [WhatsApp]. We use it to advise each other and then some of the knowledge I have acquired there [the E-Learning Program], and I’m beginning to guide them through some of these challenges they are facing.

She concluded by sharing she was happy that she was able to help her colleagues from what she had learned through the program. Similarly, in his self-reflection, Prof. Auwalu shared, “I also
gained insights into how to develop connections with colleagues to cross-fertilize ideas on how to address challenges associated with teaching online courses, which will enhance teaching skills to increase student success and retention.” Prof. Garba made a poignant remark during his interview. He described his passion for working with and supporting others. He shared,

I'm a very passionate person and I always like to work with people and carry them along because I have this feeling that if you achieve something big, it is because you work with others. If you achieve something small, possibly it is because you try to work alone thinking you will do much, but you alone can’t be able to do as much as many people will do together.

**Summary of Cultural Values in the Knowledge-Building Process**

While the analysis using the Swan (2002) framework was applied to the interactions within the discussion forums—examining the type of interactions, the individualism-collectivism (Hofstede, 2001, 2011; Triandis & Gelfand, 2012) philosophy provided a framework to uncover the meaning behind participants’ interactions from their self-reflections and interview responses. The interactions reflected in the discussion forum posts were congruent with the meanings revealed in the self-reflections submitted during the E-Learning Program and the individual post-program interviews. Participants encouraged and supported one another through their replies in discussion forums, which included elements of personal advice, approval, agreement, and invitation. Their intentions to support and encourage colleagues in this way were revealed in responses given during the post-program interviews. Similarly, although instances of disagreement occurred in the discussion forums, during the interviews this was described as an effort to support colleagues in improving their work. Additionally, the importance of reaching a consensus when disagreements do occur was emphasized in self-reflections and during interviews, along with maintaining harmony and supporting one another.
Challenges of Participating in Online Faculty Professional Development

In their self-reflection submissions and during interviews, participants shared the challenges they experienced during the E-Learning Program. Two main challenges emerged through the data—the lack of access to a reliable internet connection and the amount of time allotted to complete the associated activities (e.g., weekly discussion activities, self-reflection assignments, and the group project).

The most commonly reported challenge experienced across all facets of the E-Learning Program was the lack of having a stable internet connection. Over half of the participants shared that the lack of a stable internet connection was a challenge in completing the weekly activities as well as the tasks associated with completing the group project. Additionally, this was a challenge during the group synchronous meetings hosted via Zoom. For example, while presenting during the final group presentation meeting, one participant lost connection and another group member had to continue the presentation on her behalf. Several participants described having to leave their homes to travel to an area with a reliable connection. Prof. Okoro explained how it affected collaborating with his group members. He shared, “there was also the problem of agreeing on an appropriate time to get a stable network, especially that we were working from different far-off locations.” In light of these first-hand experiences, participants shared how this has informed their teaching practices. Prof. Okafor shared,

I now have an understanding of how to deal with social beings in this virtual learning platform. That will mean that I have to give some concessions to certain students if I realized that they faced certain challenges, especially the one that has to do with the data for the online connectivity, the network problem.

The time commitment that was needed to participate in professional development (i.e., complete the E-Learning Program) also arose as a significant challenge for participants, which was magnified by unique difficulties caused by the COVID-19 pandemic. Prof. Saidu stated, “I
have one million and one things to do, so I find it very very taxing…this COVID meant it became very hectic for me.” Some participants found it difficult to keep up with the weekly tasks (participating in discussion activities and submitting self-reflections), as well as fulfilling responsibilities associated with completing the group project. Competing responsibilities included academic and administrative duties, setting up and teaching online classes, and various social engagements. This consequently affected how group members collaborated on the group project. One participant shared, “the group project has been more challenging for me than individual work. I had to rely on others to do their jobs, and as the facilitator, continued to remind members of deadlines.” Prof. Solomon shared, “the group one was mixed up with so many busy professors, I actually drafted the topic myself and I shared the topic with them.” Similarly, Prof. Okafor shared

I seemed to be a little bit more available, except for internet problems that I have, and I realized that most of them were actually very busy. I didn't want the group not to present anything, so I had to do virtually all the work.

Prof. Umar compared his individual work in the E-Learning Program to working collaboratively on the group project. He explained his process for completing weekly tasks: “I go to the website, look at what your post said, download all the instructional materials, then read through between Monday, Tuesday; by Wednesday, I'm through whatever assignments I need to do.” He then compared it to his experiences with the group project, “but in the group assignment, you have members who are, who don't act the same way that I do. Individually, some people would procrastinate; some will not even do the assignment.”

Despite these challenges, participants persevered through the E-Learning Program. When asked to describe his group in one or two words, Prof. Okafor replied, “Perseverant.” He
explained why he chose that word, “because we persevered through all the hurdles of the challenges of life and social challenges, and internet problems, and political problems.”

Summary

Results from discussion forum posts, self-reflection activities, and interviews provided a deeper understanding of participants’ learning outcomes, experiences, and their interactions with colleagues in the E-Learning Program. To report the findings associated with each of the research questions, this chapter was organized into three main sections: Outcomes of the E-Learning Program on Participants’ Application of Instructional Design Strategies, Changes to Perceptions About Online Teaching, and Cultural Values in the Knowledge-Building Process. Findings revealed that the E-Learning Program enhanced participants’ instructional design knowledge and skills. Participants reported personal insights they gained related to instructional design strategies and addressed their misconceptions and preconceived notions about online teaching and learning. The E-Learning Program fostered a social constructivist approach to learning. Participants were guided by their colleagues through feedback provided, and active in the development and enhancement of their own knowledge and skills. Through their self-reflection submissions and during interviews, participants revealed the significant importance of coming to a consensus and ensuring that all have an opportunity to contribute and share their opinions and perspectives. Additionally, it was evident that participants were members of a close-knit and supportive community. They shared that maintaining harmony and supporting colleagues was something that was highly valued.
Conclusions drawn from the data, a discussion of the findings, implications for practice, limitations of the study, and recommendations for future research are included in the following chapter.
Chapter 5. Discussion

This chapter presents a discussion of the conclusions of this study in the context of the current literature and theoretical frameworks. Furthermore, the chapter includes implications for practice, a discussion on the limitations of the study, and concludes with recommendations for future research.

Conclusions

The conclusions of this study are organized in two key areas: (1) impact on instructional design and teaching practices and (2) cultural values in knowledge-building and interactions among participants.

Impact on Instructional Design and Teaching Practices

This case study supports previous findings that the use of communities of practice provides members with an environment that creates opportunities for structuring knowledge and developing teaching skills (Ekici, 2018; Zheng et al., 2011)—leading to advances in teaching practices and professional growth and development (Golden, 2016; Khalid et al., 2014; Reilly et al., 2012; Richardson et al., 2020). The social constructivist learning environment provided opportunities for participants to reflect on their learning, engage in authentic activities, and interact and collaborate with colleagues—facilitating the “sense-making process that is necessary for long-term retention” (Paulus et al., 2020, p. 194). Participants’ reflections on the activities of the program revealed their enhanced and increased knowledge of instructional design and online teaching strategies.

Developing Expertise in Online Instruction. Participants in the virtual community of practice developed expertise in online instruction—specifically, in developing instructional activities that incorporated the three types of interaction (student-student, student-content,
student-instructor) that are critical for an effective and quality online course (Moore & Kearsley, 2012). Through engaging in activities such as the discussion forums and the group project, participants were able to move beyond increasing theoretical knowledge about pedagogy and put theory to practice in their own courses. The importance and benefits of involving faculty in activities they deem relevant are supported by findings revealed in research conducted in developing countries (Kasule et al., 2016; Shiddike & Rahman, 2019). For example, Kasule et al. (2016) explain that although faculty at universities in Uganda perceive professional development activities as important, they rarely participate in them. Shiddike and Rahman (2019) assert that positive attitudes towards faculty professional development can be obtained if delivery mechanisms are centered on andragogy. The sudden shift to remote and online teaching and learning due to the COVID-19 pandemic created a timely opportunity for participants to adjust their online teaching approach and practices. Participants immediately applied the knowledge and skills gained through the program, which was indicative of the intentional design of the E-Learning Program curriculum that met learners’ needs at their specific stage of development (Knowles, 1980). Similar to the findings revealed in various studies (Bosman & Voglewede, 2019; Hajisoteriou et al., 2018; Reilly et al., 2012), participants were inspired to make changes to their courses based on their experiences in the program. Participants described enhancements they made to their online courses such as adjusting the delivery of their synchronous online lectures and making changes to group activities. One participant shared, “I’ve been teaching for 15 years now, but I just feel like I’m beginning to learn how to teach, and it’s amazing.”

**Confronting Misconceptions.** One of the most noteworthy outcomes of the E-Learning Program and conclusions of this study was that participants confronted their misconceptions or preconceived notions and concerns regarding online teaching and learning. Misconceptions
included thinking they had to spend the same amount of time lecturing in an online class as they would in a face-to-face class, believing all activities should be delivered in a synchronous format, and presuming that discussion and group activities would be too difficult to facilitate online. This is not unusual as faculty with limited experience with online teaching and minimal training tend to have negative or skewed perceptions of online instruction (Herman, 2012). However, participants mentioned that they experienced having moments of insight during the E-Learning Program, which allowed them to consider how they would improve their current teaching strategy or understand an aspect of e-learning from a different perspective. These shifts in viewpoints can be seen in research by Borup and Evmenova (2019), whose study demonstrated that engaging in activities and interacting with colleagues within communities of practice can lead to “eye-opening” moments that prompt transformative thinking and changes in perspectives, attitudes, and beliefs.

**Cultural Values in Knowledge-Building and Interactions Among Participants**

Culture played a significant role in shaping the way participants engaged in the community of practice. Similar to findings of other studies (Ardíchvili et al., 2006; Khalid et al., 2014), members’ cultural values influenced what they shared, how they shared it, and how they perceived others’ comments and contributions. In this study, the impacts of culture were evident in how participants learned through providing and receiving feedback, how they collaborated on activities and compromised to make decisions, and in the way they maintained a supportive and harmonious learning environment.

**Providing Feedback in the Knowledge Building Process.** This study demonstrated that participants learned from and valued the input and contributions of their colleagues within the community of practice. Learning occurred passively through reviewing examples of colleagues’
work in discussion forums, as well as the result of direct feedback given on their work (Golden, 2016; Lackey, 2011). It was evident that culture had an impact on the way feedback was communicated and received. Participants provided feedback to colleagues on the activities they designed for their courses in an effort to provide encouragement and guidance to improve their work. Interactions exhibited spoke to participants’ values to avoid using language that had the potential to offend or adversely affect self-esteem, and maintain a collegial and respectful community and promote good relationships. However, participants did not seem hesitant to comment on colleagues’ work with critical feedback in the open discussion forum activities, which is contradictory to findings in other studies (Chydenius & Gaisch, 2014; Khalid et al., 2014). Chydenius and Gaisch (2014) explain, “each feedback situation is different depending on the context, participants, and purpose of the feedback given” (p. 2). It was apparent that participants knew each other personally—some were from the same faculty/department and had known each other for years. Due to established rapport and relationships, it is possible that they were comfortable providing critical and direct feedback to their colleagues. Amoako-Agyei (2009) explains the African principle of maintaining harmony in interpersonal relationships and avoiding saying negative things to save the embarrassment and humiliation of others. She shares for new and formal relationships, the use of tact and diplomacy will be of utmost importance, but if the relationship is intimate, the communication style will become more direct (p. 337).

Participants appreciated the feedback received and reported it helped support their learning and enhance their work. These findings support those of Molloy and Boud (2014) that in a constructivist environment, learners view feedback as a system of learning that acts to improve performance and helps the learner self-regulate. Participants were vocal about their appreciation for their colleagues’ input and shared it was helpful, useful, and encouraging. Research shows
that while positive feedback is universally perceived to be of higher quality than negative feedback, those in collectivist cultures are more responsive and willing to accept negative feedback than those in individualist cultures (Gelfand et al., 2007; Gelfand et al., 2002). It is suggested that collectivists are more likely to focus on failure feedback and exhibit a desire to improve because of their awareness of norms and standards, coupled with the belief that there is value in adjusting to the environment and maintaining interdependence with others (Rhee et al., 2020, p. 352).

**Compromising to Build Consensus.** It was evident that cultural values influenced how participants collaborated and made decisions, in particular, as they engaged in the group project. Participants reported that decision-making within their groups was an inclusive and collective process. The process of ensuring all members are included and have an opportunity to be heard and reaching a decision through consensus is seen as crucial in many African organizations (Amoako-Agyei, 2009; Khomba & Kangaude-Ulaya, 2013). Barron et al. (1993) explain, “Knowledge is a dialect [sic] process, the essence of which is that individuals have opportunities to test their constructed ideas on others, persuade others of the virtue of their thinking and be persuaded” (p. 10). Participants shared that although they gave their opinions, proposed specific ideas, and shared their viewpoints, their priority was coming to a consensus to achieve the collective’s goal. Therefore, each member was willing to compromise personal interests and work towards an agreement shared by everyone in the group. Those in collectivistic cultures have a great concern for others and the image of their relationships, leading them to consider others even more so during times of disagreement or conflict (Rhee et al., 2020, p. 351).

**Maintaining a Harmonious and Supportive Learning Community.** The interconnectedness and communal relationships that existed in the community of practice
provided a pathway for knowledge sharing and capacity building across the institution. It was apparent that participants were part of a close-knit community and valued maintaining harmonious and supportive relationships with their colleagues. The positive environment created within the virtual community of practice proved to be conducive to and effective in supporting participants in their pursuit of knowledge and professional growth. Some participants referred to their colleagues as family and disclosed that their closeness extended to life outside of the workplace. Khomba and Kangaude-Ulaya (2013) share, “traditionally, African societies tend to be cohesive and productive, working together as one family in their social grouping….even in a working environment, the spirit of extended family systems is practiced” (p. 679). These values and social beliefs created a cohesive learning community that cultivated positive relationships among its members. As found in previous studies (Baran & Cagiltay, 2010; Sprute et al., 2019), participants revealed one of their motivators for participating in the E-Learning Program was to be able to share the knowledge they gained with colleagues. They discussed their commitment and passion for helping and teaching others, and their plans to share what they learned from the program with other colleagues at KASU. One participant reported that she began sharing what she learned to advise colleagues in her department on online teaching challenges they were experiencing. These findings reflect African cultural values and norms of supporting and helping one another in times of adversity (Khomba & Kangaude-Ulaya, 2013). Triandis (1995) explains that in many collectivist cultures, helping is considered a moral obligation (p. 120). These findings demonstrate that communities of practice can have implications that extend beyond its boundaries.

Based on findings from this study, and consistent with conclusions from similar studies (Borup & Evmenova, 2019; Golden, 2016), participating in a community of practice bolstered
participants’ confidence and motivation to enhance and transform their teaching practice. This study supports the idea that online communities of practice can be effective in facilitating faculty professional development and in supporting faculty in their efforts to enhance their instructional design and online teaching practices. This study’s findings contributed towards filling a significant gap in the literature and addressed the call to further the research on the outcomes of and extent to which faculty at higher education institutions participate in professional development activities (Horvitz et al., 2015; Kasule et al., 2016). The findings of this study provided much-needed insight into understanding the influence of culture on knowledge building and interactions among participants. Although this study was specific to faculty members in an educational context, insights gained could be used to better understand other virtual communities of practice.

**Implications for Practice**

The benefits of implementing distance education within institutions of higher education in Sub-Saharan Africa are abundant—for example, allowing institutions to maximize resources, save costs, increase flexibility in class scheduling, and reach a larger audience of students (Lei & Gupta, 2010). However, many significant challenges exist in developing countries that can negatively affect the quality of education and the student experience. One such challenge is the absence or limitation of adequate training or professional development available to faculty on e-learning and online teaching (Asuman et al., 2018; Tarus et al., 2015). Online teaching requires competencies well beyond traditional instructional methods; therefore, it is critical for higher education institutions to “nurture a sustained environment of professional development for online teachers” and support them as they navigate the significant shift in their teaching practice to the virtual environment (Golden, 2016, p. 85). Using communities of practice is a promising and
effective way to accomplish that goal. This study has several practical implications—not only for academics and administrators in educational institutions, but also for the facilitators of communities of practice.

It is important to design and include meaningful and authentic activities that encourage engagement and provide members with opportunities to learn from one another. Participants are more likely to be motivated to participate in activities they deem relevant and immediately applicable to their practice (e.g., developing instructional resources or activities they can implement in their course). Additionally, opportunities to interact with colleagues fosters a culture and community of sharing and support, and facilitates collaboration in learning and acquiring new knowledge and skills.

One advantage of virtual communities of practice are the affordances technology provides in facilitating both asynchronous and synchronous activities. In addition to the use of discussion forum activities to foster interaction and meaningful conversations among participants, facilitators can avail themselves of synchronous tools (e.g., web conferencing programs) to conduct group sessions with members on various topics. These sessions can be facilitator-led, led by a member or a group of members from the community, or a guest speaker.

When designing and facilitating online communities of practice, it is important to be mindful of technological and internet connectivity challenges members may encounter. Although it is not possible to account for all technical issues, several strategies can be used to limit disruptions to members’ learning and engagement. For example, limiting the length and frequency of live synchronous online sessions. Participating in a virtual meeting requires a stable internet connection; otherwise, attendees will experience audio and video issues, or can drop out of the meeting entirely. If synchronous sessions are conducted, recording them will allow
members to view them at a later time. Additionally, providing content or instructional materials (e.g., files, videos) in downloadable formats will allow members to download and access them later. Once downloaded, members will be able to review the resources, even if they do not have access to the internet.

Although the E-Learning program was delivered virtually, participants had the ability to meet with each other face-to-face. Given that they were in the same geographic region, several participants liked having the option to meet in person with their group members. A hybrid model (a combination of face-to-face and online activities) may be optimal for some contexts of communities of practice. This would provide members with flexibility and options to decide how and when they would like to participate. These decisions can be made based on what best fits their schedule, geographic proximity, and personal preferences.

A common challenge to participating in faculty professional development is finding the time while balancing competing responsibilities and duties (e.g., research, administrative, and personal obligations). It is recommended that program organizers and facilitators be upfront with participants about the time commitment needed to participate fully so they can plan accordingly. Conducting a pilot of the program can help determine how much time participants can anticipate spending on related tasks each week.

**Limitations**

This study is limited by its context-specific focus (i.e., a faculty professional development program designed to support instructional design and online teaching efforts) and by the academic setting of faculty participants (a single university in Kaduna, Nigeria with leaders who are dedicated to supporting teaching excellence and instructional innovation). While
some similarities may exist with other institutions and communities of practice, the findings of this study may not be transferable.

A limitation of this study was the brevity of the six-week E-Learning Program, which did not offer much time for participants to develop further their relationships and in-group cohesion or engage in more meaningful dialogue. It should be noted that due to the unprecedented and unfortunate circumstances presented by the COVID-19 pandemic, several participants had to drop out of the program. Additionally, several participants were not fully engaged in all program activities (e.g., participating in all the discussion forum activities, submitting all self-reflection assignments, and completing the final portfolio). The lack of access to reliable internet may have contributed to the limited engagement of some participants. Although the duration of the program was limited and challenges occurred, I was able to observe significant gains in knowledge and insights and notable and consistent relationships between the collectivist orientation and the perceptions of participants’ experiences.

Despite the quantity of various qualitative data collected, I may not have captured a full range of participants’ opinions and perceptions. Those who did not participate in the interviews may have had strong and contradictory perceptions about their experiences. Additionally, the group project was conducted between the participants outside of the Moodle course, so there was no documentation of their interactions. The processes and intricacies of interactions between group members were understood from self-reflection responses and personal interviews with a couple of members from each group.

**Recommendations for Future Research**

Several recommendations for future research resulted from this study in efforts to examine outcomes of a virtual community of practice and understand the cultural values in
knowledge building and interacting with colleagues. Although there is substantial research conducted on communities of practice in the business context and K-12 educational settings, there is a need for further research on the impact of participating in communities of practice on the professional development of faculty in higher education. Additionally, similar studies involving participants from other universities across various developing countries would be valuable contributions to the literature and practice. Further studies examining multiple cultural values, (i.e., rather than only focusing on individualism-collectivism) are recommended to better understand the cultural aspects that influence members’ participation, behaviors, and interactions in communities of practice. Lastly, future research could examine if engagement in communities of practice has an impact on participants’ instruction over time.
Appendix A. IRB Approval Documents

ACTION ON EXEMPTION APPROVAL REQUEST

TO: Hala Esmail  
Education

FROM: Alex Cohen  
Chair, Institutional Review Board

DATE: May 6, 2020

RE: IRB# E12260

TITLE: Examining Faculty Experiences in a Virtual Community of Practice and Impacts on Online Instructional Approaches


Review Date: 4/24/2020

Approved X Disapproved

Approval Date: 5/6/2020 Approval Expiration Date: 5/4/2023

Exemption Category/Paragraph: 1.2c

Signed Consent Waived?: Yes

Re-review frequency: Three Years

LSU Proposal Number (if applicable):

By: Alex Cohen, Chairman

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING – Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*.
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
8. SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.

* All investigators and support staff have access to copies of the Belmont Report, LSU’s Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb
This is to certify that:

Hala Esmail

Has completed the following CITI Program course:

Social & Behavioral Research - Basic/Refresher (Curriculum Group)
Social & Behavioral Research (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Louisiana State University

Verify at www.citiprogram.org/verify?w6fa03e7b-1649-401b-9360-e5aad01423b8-32962610
Security of Data Form

**Please sign and submit this document with your IRB application**

Security of Data

Number: PS06.20

SECURITY OF DATA

PURPOSE

I certify that I have read and will follow LSU’s policy on security of data – PS06.20 (http://sites01.lsu.edu/wp/policiesprocedures/policies-procedures/6-20/) and will follow best practices for security of confidential data (http://www.lsu.edu/it_services/its_security/best-practices/sensitive-data.php).

This Policy Statement outlines the responsibilities of all users in supporting and upholding the security of data at Louisiana State University regardless of user’s affiliation or relation with the University, and irrespective of where the data is located, utilized, or accessed. All members of the University community have a responsibility to protect the confidentiality, integrity, and availability of data from unauthorized generation, access, modification, disclosure, transmission, or destruction. Specifically, this Policy Statement establishes important guidelines and restrictions regarding any and all use of data at, for, or through Louisiana State University. This policy is not exhaustive of all user responsibilities, but is intended to outline certain specific responsibilities that each user acknowledges, accepts, and agrees to follow when using data provided at, for, by and/or through the University. Violations of this policy may lead to disciplinary action up to and including dismissal, expulsion, and/or legal action. It is recommended that all personnel on your project be familiar with these policies and requirements for security of your data.

In addition it is recommended that PIs review any grant, non-disclosure/confidentiality agreement, or restricted data agreements before publishing articles using the data.

I certify that I have read and understand these policies

Name: Hala W. Esmail

Date: 4/22/2020
Appendix B. Consent to Participate Script

**Study Title:** Examining Faculty Experiences in a Virtual Community of Practice and Impacts on Online Instructional Approaches

**Study Procedures:** Participants will engage activities as part of a six week faculty professional development program. The program activities include: synchronous meetings via Zoom, discussion forums, self-reflections, and submitting a final portfolio. Brief follow-up interviews will be conducted. The synchronous meetings and interviews will be recorded.

**Purpose of the Study:** To examine how faculty share knowledge in a community of practice, as well as how that knowledge is applied in the design of instructional activities.

**Participant Inclusion:** Administrators and professors from Kaduna State University

**Exclusion Criteria:** Any person who is not an administrator or professor from Kaduna State University

**Risks:** A risk is the inadvertent release of the participant’s identity. Every effort will be made to maintain the confidentiality of the participant’s identity. A pseudonym will be used in all written reports. There is a potential risk that a meeting via Zoom can be accessed by an outside party. Efforts will be made to maintain the privacy and security of Zoom meetings. Unique Zoom meeting links and meeting IDs will be shared within a secure password-protected environment (i.e., the Moodle course) to mitigate privacy and security risks. All data will be kept in secure files in which only the investigators have access.

**Investigators:** The following investigators are available for questions pertaining to this study:

- Dr. S. Kim MacGregor, College of Human Sciences & Education, LSU (225)578-2150 smacgre@lsu.edu
- Hala W. Esmail, Online & Continuing Education, LSU (225)578-8866, hesmai1@lsu.edu

**Right to Refuse:** Participation is voluntary and the participant has the right to withdraw from the study at any time without penalty.

**Privacy:** Participant’s identity will remain confidential unless disclosure is required by law.

This study has been approved by the LSU IRB. For questions concerning participant rights, please contact the IRB Chair, Dr. Dennis Landin, 578-8692, or irb@lsu.edu. I may direct additional questions regarding study specifics to the investigators. By continuing to participate in the study, I give my consent to participate. Click “yes” to confirm.
Appendix C. Outline of the E-Learning Program

- Getting Started: Overview & Introduction
  - Overview of the E-Learning Program
  - Consent to Participate Script
  - Forum: Introduce Yourself
- Week 1: Writing Course Outcomes
  - Week 1 Resource: Backward Design, Alignment, & Course Outcomes
  - Discussion Forum: Drafting Course Outcomes
  - Recording of the Online Synchronous Group Meeting via Zoom [Length: 51 minutes]
- Week 2: Promoting Student Interaction
  - Video: Week 2 Overview [Length: 20 minutes]
  - Week 2 Resource: Types of Interactions to Support Active Learning
  - Discussion Forum: Incorporating Three Types of Interactions
- Week 3: Engaging Students in Online Discussions
  - Video: Week 3 Overview [Length: 10 minutes]
  - Week 3 Resource: Engaging Students in Online Discussions
  - Discussion Forum: Designing Online Discussion Learning Activities
  - Assignment Self-Reflection #1
- Week 4: Creating Online Group Activities
  - Video: Week 4 Overview [Length: 20 minutes]
  - Week 4 Resource: Designing Group Activities
  - Group Project Overview & Group Member Assignments
  - Assignment: Group Agreement Form Submission
  - Assignment: Self-Reflection #2
- Week 5: Facilitating & Evaluating Group Activities
  - Video: Week 5 Overview [Length: 7 minutes]
  - Week 5 Resource: Facilitating & Evaluating Group Activities
  - Assignment: Group Slideshow Presentation Submission
  - Discussion Forum: Designing Online Group Activities
  - Assignment: Self-Reflection #3
- Week 6: Bringing it All Together!
  - Video: Week 6 Overview [Length: 13:34 minutes]
  - Video: Recording of the Group Meeting via Zoom: Presentation of Group Projects [Length: 1:09]
  - Assignment: Final Portfolio Submission
  - Assignment: Self-Reflection #4
Appendix D. Background Questionnaire

Please respond to each item by selecting the applicable answer(s) or entering your response in the field provided. This questionnaire will take approximately 10 minutes to complete. Only Ms. Esmail and Dr. MacGregor will have access to these results.

1. First and last name: _______________

2. Gender:
   - Male
   - Female

3. Highest degree completed:
   - Bachelor's degree
   - Master's degree
   - Doctorate degree
   - Other (please specify): _______________

4. Total number of years employed in higher education: _____________

5. Total number of years at Kaduna State University: _____________

6. What faculty are you associated with? _____________

7. Within your discipline, what courses have you taught in the last three years? _____________

8. What is the average class size in your discipline (number of students per class)? _______

9. From the list below, select the online learning or teaching experiences you have had. Please select all that apply.
   - Taken an online training (e.g., for a certification or professional development)
   - Taken an online course (e.g., a course through an education institution)
   - Taught an online course
   - None

10. (If an option was selected in 9, this question would be displayed) In the field below, please describe your online learning or teaching experiences.

11. As you consider online teaching, which of the following types of learning environments is most preferable to you?
• One with no online components
• One with some online components
• About half online and half face-to-face
• One that is mostly but not completely online
• One that is completely online
• No preference

12. Please select the top three factors that would motivate you to incorporate more or better technology-enabled instruction in your course(s).
  • Working in a faculty cohort or community that is adopting the same types of practices
  • A better understanding of the types of technologies that are relevant to teaching and learning
  • Enhancing the student learning experience
  • Increased student expectations of technology integration
  • Increased institutional expectations of technology integration
  • Other (please specify) __________________________________

13. Please describe what you hope to gain as a result of participating in this e-learning training program (e.g., solutions to specific teaching or course design challenges you have experienced, ideas or strategies related to effective course design and online instruction, opportunities to connect with colleagues).

14. Do you have internet access at the following locations? Please select all that apply.
  • Work
  • Home
Appendix E. Group Agreement Form

Group Agreement Form due in Moodle: Friday, June 5th
Project presentation due in Moodle: Friday, June 12th

**Project Title:** [Enter the title of your group project]

**Project Description:** [Enter a brief description of the problem your group has chosen to focus on for this project]

<table>
<thead>
<tr>
<th>Group Member Name</th>
<th>Role</th>
<th>Responsibilities</th>
<th>Contact Information (email &amp; phone)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Facilitator</td>
<td>Moderates group discussion, coordinates decision-making, keeps the group on task, and distributes work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recorder</td>
<td>Takes notes summarizing team discussions and decisions, and keeps all necessary records. The recorder also submits in Moodle the group agreement form on June 5th, and the final project on June 12th.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innovator</td>
<td>Encourages imagination and contributes new and alternative perspectives and ideas. Creates the slide show presentation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presenter</td>
<td>Serves as group spokesperson, summarizing the group’s activities and/or conclusions (i.e., presenting the group’s project during Week 6 of the E-Learning Program).</td>
<td></td>
</tr>
</tbody>
</table>
### Project Plan Timeline & Components

[List all project tasks; for each task include the team member(s) responsible and an agreed upon due date; add additional rows as needed]

<table>
<thead>
<tr>
<th>Step</th>
<th>Component</th>
<th>Group Member(s) Responsible</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conduct an initial group meeting/communication <em>(decide on the topic/problem to focus on for this group project; choose role each group member will take, etc.)</em></td>
<td>Facilitator (all group members participate)</td>
<td>[Enter date]</td>
</tr>
<tr>
<td>2</td>
<td>Submit the completed Group Agreement Form in Moodle</td>
<td>Recorder</td>
<td>Friday, June 5&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>3</td>
<td>Create project outline</td>
<td></td>
<td>[Enter date]</td>
</tr>
<tr>
<td>4</td>
<td>Conduct research and share/discuss findings</td>
<td><em>All group members</em></td>
<td>[Enter date]</td>
</tr>
</tbody>
</table>
| 5    | Develop a slideshow presentation (8 to 10 slides) that includes the following:  
  - Title slide  
  - A description of the problem (1 slide)  
  - Who is impacted by the problem (1 slide)  
  - Consequences if the problem is not addressed (1 slide)  
  - Ways the problem is being addressed; include 3-5 examples (3 to 5 slides)  
  - Conclusion/summary (1 slide)  
  - Resources (1 slide) | Innovator (all group members submit their content to Innovator)           | [Enter date]                 |
| 6    | Submit final presentation slideshow file in the Moodle assignment activity | Recorder                                                                  | Friday, June 12<sup>th</sup> |
| 7    | Present group project in group meeting via Zoom during Week 6              | Presenter                                                                 | *Date/time to be announced*   |
Appendix F. E-Learning Program: Final Portfolio Assignment

Use this worksheet to add your two instructional activities for your course. Please keep in mind that the two activities can be the ones that you developed during Week 3 and Week 5. Consider incorporating feedback provided by your colleagues in the discussion forum activities in previous weeks. An example is provided below.

Upon completion, please submit this document within the assignment in Final Portfolio Submission assignment in Week 6 of the E-Learning Program Moodle course.

Example Instructional Activity

<table>
<thead>
<tr>
<th>Title of the Activity</th>
<th>Discussion Forum Activity: Renewable Energy Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of activity including the following:</td>
<td></td>
</tr>
<tr>
<td>• A brief overview and instructions</td>
<td></td>
</tr>
<tr>
<td>• The discussion forum prompt</td>
<td></td>
</tr>
<tr>
<td>• Consider the following:</td>
<td></td>
</tr>
<tr>
<td>o How the activity will foster student-to-content interaction- Include the instructional materials students will need to engage in this activity (e.g., readings, videos); indicate in parenthesis.</td>
<td></td>
</tr>
<tr>
<td>o How the activity will foster student-to-student interaction- Describe how students will interact with each other throughout the activity; indicate in parenthesis.</td>
<td></td>
</tr>
<tr>
<td>o How the activity will foster student-to-instructor interaction- Describe how you plan to interact with students in the facilitation of the activity; indicate in parenthesis.</td>
<td></td>
</tr>
<tr>
<td>• The discussion forum rubric</td>
<td></td>
</tr>
</tbody>
</table>

Description of the Activity

Overview and Instructions
Prior to participating in this activity, students will be asked to

• view a 5 minute video overview video by the instructor on renewable energy sources (student-to-instructor interaction)
• read a chapter on renewable energy sources in the textbook. (student-to-content interaction)

Discussion Forum Prompt
Renewable energy sources have experienced explosive growth in many markets over the past decade. In a total of 150-200 words, please answer the following questions:

• Why are renewable energy sources so prevalent right now?
• What are their advantages and disadvantages and how might some of those disadvantages be overcome?

After making your initial post, please take some time to reply to one of your classmates' posts. Please think about the questions and your peers’ responses and reply thoughtfully and courteously. (Student-to-student interaction)

Rubric for Evaluating Discussion Forum Posts

The rubric below will be used to score your discussion posts. (Student-to-instructor interaction)

<table>
<thead>
<tr>
<th>Points</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of post</td>
<td>Appropriate comments: thoughtful, reflective, and respectful of other’s postings</td>
<td>Appropriate comments and responds respectfully to other's postings</td>
<td>Responds, but with minimum effort. (e.g. &quot;I agree with Adam&quot;)</td>
<td>No posting.</td>
</tr>
<tr>
<td>Relevance of post</td>
<td>Posts topics related to discussion topic; prompts further discussion of topic</td>
<td>Posts topics that are related to discussion content</td>
<td>Does not make effort to participate in learning community as it develops</td>
<td>No posting.</td>
</tr>
<tr>
<td>Contribution to the learning community</td>
<td>Aware of needs of community; attempts to motivate the group discussion; presents creative approaches to topic</td>
<td>Attempts to direct the discussion and to present relevant viewpoints for consideration by group; interacts freely</td>
<td>Does not make effort to participate in learning community as it develops</td>
<td>No feedback provided to follow student.</td>
</tr>
</tbody>
</table>


Technology/tool(s) needed to complete the activity

List any technology you and/or your students will need to complete the activity.

• Discussion forum tool in the Learning Management System
• A video creation tool to create the brief overview video
Course Information

<table>
<thead>
<tr>
<th>Name &amp; Faculty</th>
<th>[Insert your full name and faculty]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of the Course</td>
<td>[Include here the title of the course you focused on for the duration of the E-Learning Program.]</td>
</tr>
<tr>
<td>Description of the Course</td>
<td>[Include here a course description in 3-5 sentences]</td>
</tr>
<tr>
<td>Course Outcome</td>
<td>[Include here the course outcome you focused on for the duration of the E-Learning Program.]</td>
</tr>
</tbody>
</table>

Instructional Activity #1: Discussion Forum Activity

<table>
<thead>
<tr>
<th>Title of the Activity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of activity including the following:</td>
<td></td>
</tr>
<tr>
<td>• A brief overview and instructions</td>
<td></td>
</tr>
<tr>
<td>• The discussion forum prompt</td>
<td></td>
</tr>
<tr>
<td>• Consider the following:</td>
<td></td>
</tr>
<tr>
<td>o How the activity will foster student-to-content interaction- Include the instructional materials students will need to engage in this activity (e.g., readings, videos); indicate in parenthesis.</td>
<td></td>
</tr>
<tr>
<td>o How the activity will foster student-to-student interaction- Describe how students will interact with each other throughout the activity; indicate in parenthesis.</td>
<td></td>
</tr>
<tr>
<td>o How the activity will foster student-to-instructor interaction- Describe how you plan to interact with students in the facilitation of the activity; indicate in parenthesis.</td>
<td></td>
</tr>
<tr>
<td>• The discussion forum rubric</td>
<td></td>
</tr>
</tbody>
</table>

Description of the Activity

Overview and Instructions

Discussion Forum Prompt

Rubric for Evaluating Discussion Forum Posts
Instructional Activity #2: Group Project/Activity

<table>
<thead>
<tr>
<th>Technology/tool(s) needed to complete the activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>List any technology you and/or your students will need to complete the activity.</td>
</tr>
<tr>
<td>•</td>
</tr>
<tr>
<td>•</td>
</tr>
</tbody>
</table>

Title of the Activity

Description of activity, including the following:

- A brief overview and instructions (include a list of components and tasks, relevant information students would need to engage in the activity, and a brief description of how students will be assigned to groups.
- Consider the following:
  - How the activity will foster student-to-content interaction- Include the instructional materials students will need to engage in this activity (e.g., readings, videos); indicate in parenthesis.
  - How the activity will foster student-to-student interaction- Describe how students will interact with each other throughout the activity; indicate in parenthesis.
  - How the activity will foster student-to-instructor interaction-Describe how you plan to interact with students in the facilitation of the activity; indicate in parenthesis.
- Rubric for evaluating the group project

Description of the Activity

Overview and Instructions

Rubric for Evaluating the Group Project
Appendix G. Interview Protocol

Thank you for your willingness to participate in a follow-up interview. This interview should take about 30 to 45 minutes. I will be recording the interview. Only I and Dr. MacGregor will have access to the recording, and a pseudonym will be used in all written reports. Do you have any questions before we get started?

Questions

1. What interested you in participating in the E-Learning Program?

2. What outcomes were you hoping for or anticipating as a result of your participation in the E-Learning Program?

3. Prof. Musa shared that as participants of the E-Learning Program, you and your colleagues would serve as E-Learning Ambassadors at Kaduna State University—extending your support to your colleagues at the University. In your opinion, why do you think you were selected to participate in the program?

4. Collegial connections are an important aspect of faculty professional lives.
   a. Thinking about your interactions with colleagues in general, to what extent in your daily practice do you perceive your colleagues to be supportive of you and your work?
   b. In what ways was this evident or apparent as you were interacting with your colleagues in the E-Learning community? Please provide an example.

5. I’d like to get a better understanding of your experiences in completing the group project. How did your group approach the task of developing the group project, from the initial assignment to finalizing the project?
a. How would you describe your contributions to the group project?

b. If you were to give your group a name that would describe it in one or two words, what would it be? Why did you choose that name?

6. How will your experience of engaging in the group project inform how you will design group activities in a course you might create or teach in the future?

7. What were some of your most challenging moments while participating in the E-Learning Program?
The Challenge of Access and Quality of Education in West Africa: How to Overcome the Obstacles

A DESCRIPTION OF THE PROBLEM

- Access to Education and the quality of education are major challenges in African countries.
- Countries in West Africa are especially not left out of these challenges.
- Many of the states in the sub-region have taken steps to address the educational crises at all levels in their countries.
- This presentation will focus on the state of affairs, and what states are doing to put in place mechanisms that will improve education both in terms of access and quality.
- The intellectual abilities of citizens towards the accelerated development of the individual countries in the sub-region.
A DESCRIPTION OF THE PROBLEM (con’t)

- Access to quality education is also intricately linked to ethical issues and decision making.
- There are fundamentally two basic means of accessing education at primary, secondary, and tertiary levels which involves public funded school and privately funded entrepreneurial schools.
- These differences influences the ethical issues and the right decision making markedly.
- While the private school are profit oriented, the public schools might be poorly funded and staff poorly motivated.

WHO IS IMPACTED BY THE PROBLEM

- Children of school age but not in school
- Children who are in school but lack of proper funding is affecting the access of quality education in school
- Parents of the children who bears the brunt of the problem
- The Communities that will bear the security challenges as a result of the problem
CONSEQUENCES IF THE PROBLEM IS NOT
ADDRESSED

• Insecurity due to
  1. Insurgency
  2. Kidnapping
  3. Banditry
  4. Prostitution for the female child
  5. Armed Robbery

WAYS THE PROBLEM IS BEING ADDRESSED

Ethical Leadership in Practice:
➢ What is needed today to truly make a difference in society is strong moral leadership. As institution of learning represent the foundation for a successful nation, this moral leadership should be firmly rooted in education.

➢ Ethical behavior entails doing what is most appropriate for a given situation even when there is no direct law or rule to govern the activity. Those charged with crafting the curriculum for learning, and those who enact the curriculum, are both responsible for obedience to this unspoken rule, as their students who will face many difficult decisions throughout adult life.
WAYS THE PROBLEM IS BEING ADDRESSED (cont’)

Current Ethical Challenges for School Leaders:

➢ Over the years, by far the majority school leaders have strived to maintain the highest ethical behavior as advocates for student, teachers and parents, and have been committed to providing the highest quality education for students.

➢ Much of their efforts have been based on their highest moral and ethical conscious and commitment. Despite their ethical efforts, school leadership and administration have become more daunting challenges for the most talented school leaders, who have come under increased pressure to achieve much higher expectation for improved student academic regardless of circumstances.

WAYS THE PROBLEM IS BEING ADDRESSED (cont’)

Ensuring effective management of the organization, operation, and resources for a safe, efficient, and effective learning environment:

➢ An education leader promotes the success of every student by ensuring management of the organization, operation, and resources for a safe, efficient, and effective learning environment.

➢ Collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources. An education leader promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources.

Understanding, responding to, and influencing the political, social, legal, and cultural contexts:

➢ An education leader promotes the success of every student by understanding, responding to, and influencing the political, social, economic, legal, and cultural context.

➢ In addition to promoting consistent leadership behavioral standards for school leaders, the goal of the school Officers was to promote effective leadership instead of school managers.
WAYS THE PROBLEM IS BEING ADDRESSED (cont’)

Combining Moral Character and Standards Based Leadership Decisions:
➢ There is no question that teachers, counselors, school board members, or school leaders who lie, cheat, steal, show dishonesty, deception or theft, as well as those who show excessive cultural, ethnic, religious, or gender bias are ill-suited to be school leaders or have any direct contact with students. These people would have been prepared for decent moral and ethical leadership if they had learned the virtues of good moral and ethical living.

Shared Decision-Making:
➢ Similar to a vision for moral and ethical leadership is shared decision-making. In this manner, the principal or superintendent identifies a leadership team, which is composed of lower level administrators and/or teachers who are able to communicate with each other to see the “big picture” for school/district improvement. The principal finds a way to formulate a leadership team for regular and on-going communications for school improvement and other operations.
➢ There is no question that principal or superintendent is the ultimate decision-maker at the school/district and assumes responsibility for these decisions.

CONCLUSION/SUMMARY

The perceptions that school leaders create are based on the results of their decision making practices for students, staff and the community. All of these stakeholders hold school leaders ultimately accountable for the results of the moral and ethical nature of their decisions. They hold their school leaders in the highest esteem to be role models for the students, teachers, staff, parents and the community. Wrong or right decisions by these leaders will shape the school and community toward a “good school” or a “bad school” that is not easily changed unless there is a leadership change. School leaders have a built-in opportunity of enhancing a positive community and school image because local communities generally support their district and schools. It is their effective, professional, and creative decision making skills that will maintain this “good” school image and reputation, or create a “bad” image with the students, staff, parents, and community.
RESOURCES

➢ Today’s Challenges and Dilemmas for Ethical School Leaders, Clifford E. Tyler, Ed. D., E-Leader Bangkok 2014

➢ An Assessment Of The Contributions Of The Private Sector To The Provision Of Access To Primary Education In Kaduna State Nigeria, Ayuba Guga (PhD), International Journal of Education and Research Vol. 2 No. 3 March 2014

➢ Challenges of Quality Education in Sub-Saharan Africa—Some Key Issues Daniel N. Sifuna, (Kenyatta University, Kenya) Nobuhide Sawamura, (Osaka University, Japan) Education Law, Strategic

➢ Policy And Sustainable Development In Africa, Edited by A.C. Onuora-Oguno, W.O. Egbewole, T.E. Kleven Agenda 2063
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Damjanovic, V., & Blank, J. (2017). Building a professional learning community: Teachers’ documentation of and reflections on preschoolers’ work. *Early Childhood Education Journal, 46*(5), 567-575. [https://doi.org/10.1007/s10643-017-0888-0](https://doi.org/10.1007/s10643-017-0888-0)

Desruisseaux, L. R. (2016). *Communities of practice: The shared experiences of higher education faculty* [Docotral Dissteration, Southern New Hampshire University]. [https://academicarchive.snhu.edu/handle/10474/3129](https://academicarchive.snhu.edu/handle/10474/3129)


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Vita

Hala Walid Esmail is the Assistant Director of Faculty Professional Development within the Online & Continuing Education division at Louisiana State University (LSU). In her role, she creates and implements strategies for faculty professional development in online learning environments—focusing on pedagogical best practices. She works to design, develop, and deliver a range of professional development opportunities for faculty across the various LSU institutions. Her research interests include educational technology, online education, faculty development, and international education.