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Enhancing doctoral learning through virtual communities of practice: an autoethnographic perspective

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This article explores the role of virtual communities of practice in enhancing the doctoral experience, particularly in the contemporary digital era. The author emphasizes the multifaceted benefits, including elevating academic networking, optimizing knowledge management, and supporting the mental well-being of remote learners. The establishment of clear shared objectives, dynamic leadership, and a conducive environment for collaborative innovation are identified as key prerequisites for building successful virtual communities of practice. As remote doctoral education becomes more prevalent, virtual communities of practice not only facilitate academic engagement but also foster mutual support and advocacy among doctoral students. The researcher, as a final year PhD student employed autoethnography as a research method to offer an intimate and reflective exploration of her personal experiences within virtual communities of practice. This unique insider perspective adds depth to the discussion on elevating academic networking, optimizing knowledge management, and supporting the mental well-being of remote learners. Furthermore, her ongoing doctoral research focuses on the socialization process and the development of a sense of belonging among doctoral students. Motivated by her research topics, she commenced her doctoral studies during the epidemic and cultivated the practice of consistently maintaining a researcher's reflection diary. This perspective article examines her diary, elucidating her experiences, opinions, and feelings. The researcher utilized a thematic approach to thoroughly analyze the author's research diaries covering the period from December 2020 to August 2023. The article concludes by calling for further research into the professional identity development of doctoral students within virtual learning communities, exploring potential challenges and effective coping mechanisms to achieve inclusive practices in the complex and diverse digital era of academia.

KEYWORDS

doctoral experience, virtual communities of practice, networking, knowledge management, mental well-being, remote learning

1 Introduction

We all belong to some communities of practice as they are an integral part of our daily lives. A community of practice defines itself along three dimensions: its joint enterprise as understood and continually renegotiated by its members; the relationships of mutual engagement that bind members together into a social entity; and the shared repertoire of communal resources that members have developed over time (Wenger, 1998a, b). Concerning

doctoral learning, communities of practice may enhance the experiences of doctoral students (Lahenius, 2012; Coffman et al., 2016; Cai et al., 2019). In this study, doctoral experience refers to the journey and process of obtaining a doctoral degree, and it encompasses various aspects, including academic study, research, teaching, professional development, and personal growth. Doctoral learning experience is a trajectory of becoming a researcher, negotiating new identities and reconceptualizing themselves both as people and professionals (Mantai, 2017).

In the digital era, virtual communities of practice use the Internet and technology to facilitate their construction, applying contemporary media and platforms to create attractive and conducive online environments. Not all website spaces are considered virtual communities of practice. They must conform to the original definition of offline communities of practice, which consist of three basic elements: domain, community, and practice. The social learning space has moved online, but it still emphasizes that a group of people with common enthusiasm and interests gather voluntarily and regularly to discuss a specific knowledge or technical field, thereby achieving dual growth of individuals and organizations (Hanisch, 2006; Sibbald et al., 2022).

Despite the existence of the community of practice concept for over two decades, there remains a dearth of holistic investigations into their role within doctoral education contexts in the contemporary digital era. Presently, doctoral students, positioned as emerging researchers, engage in research activities utilizing a distinct approach, wherein their educational experiences are intricately interwoven with technological advancements, leading to a profound immersion in online academic environments. This article commences by elucidating the advantageous implications of virtual communities of practice for doctoral students. Following this, the author articulates her viewpoint on the key attributes that contribute to the effectiveness of a virtual doctoral community of practice. Ultimately, the article concludes with a synthesis of conclusions and proposes avenues for prospective research endeavors in this domain.

2 Literature review

2.1 Virtual communities of practice for doctoral candidates/studies

The cultivation of virtual communities of practice holds substantial promise in enriching the doctoral experience through multifaceted advantages. Firstly, the establishment of such communities augments the professional networks available to doctoral candidates, fostering an environment conducive to meaningful collaborations, information exchange, and interdisciplinary discourse. Secondly, the optimization of knowledge management processes within these virtual communities facilitates the seamless dissemination and acquisition of scholarly insights, thereby contributing to the intellectual enrichment of participating doctoral candidates. Moreover, the supportive and collaborative nature of these communities plays a pivotal role in promoting the mental well-being of doctoral candidates, offering a platform for shared experiences, encouragement, and the mitigation of the isolation often associated with the doctoral journey. In essence, the integration of virtual communities of practice serves as a holistic enhancement to the

doctoral experience by addressing not only academic aspects but also the social and emotional dimensions of doctoral candidates' endeavors.

2.2 Elevating academic networking and optimizing knowledge management

The advent of the internet and digital technology affords doctoral students expanded opportunities to engage with academically akin peers and to establish enduring collaborative relationships with them. The inherent worth of any body of knowledge or specific domain is underscored by the recognition that individuals possessing requisite knowledge and skills can be considered social capital. The concept of social capital proves valuable when contemplating collaborative virtual learning environments and dispersed communities of practice. Facilitated by technological interventions, the processes of knowledge exchange, dissemination, and evolution have accelerated, thereby refining the overarching landscape of knowledge management within the context of doctoral education (Daniel et al., 2003; Chiu et al., 2006; McLoughlin et al., 2018). Accordingly, doctoral students must accrue this form of social capital as a strategic imperative for the advancement of their professional development and subsequent level of career preparedness upon the attainment of their degrees. In practical applications, there are many types of doctoral virtual communities of practice. Platforms that can be used include the school's Black Board platform, Microsoft Teams and Zoom meetings organized by students themselves, as well as various practice groups privately established by students based on their majors, cultural and linguistic backgrounds, etc. Groups typically use application software on portable technologies, such as WhatsApp, Telegram, etc. These practice groups can effectively extend and supplement what they learn in formal classes and seminars. Further, online space such as Google documents, for example, provides a convenient place for doctoral students to write together, allowing co-journaling to become an online collaboration among researchers.

2.3 Support for the psychological well-being of remote learners

Numerous doctoral students grapple with feelings of alienation and an inadequate sense of belonging. Consequently, they encounter heightened challenges and impediments that exert adverse effects on their socialization processes and the formation of their identities (Schmidt and Hansson, 2018; Waight and Giordano, 2018; Jackman et al., 2022). Nevertheless, various technologies can help solve these issues. Technology can aid doctoral students in overcoming alienation and enhance members' inclusion by providing avenues for communication and collaboration through online platforms and virtual meetings (Carroll and Mallon, 2021; Hammond et al., 2021). For example, access to digital libraries, online courses, and workshops enables flexible learning, while social media and virtual communities offer peer support. Collaborative tools facilitate remote research collaboration, and technology provides mental well-being support such as regular consulting through telehealth services. Flexible learning environments, virtual conferences, and global collaboration opportunities break down geographical barriers. Apparently, as

remote doctoral education has gained prevalence in the aftermath of the pandemic, virtual communities of practice emerged as valuable platforms for fostering mutual psychological support among remote learners.

The pressures placed on doctoral students are unique since the work and leisure boundaries of doctoral students are blurry. Compared to the structured curriculum-based undergraduate or Master's, doctoral experience is an intensive research practice and it is characterized by a 'plurality of practices' and 'lack of structure' (Elliot, 2023). In addition, many of them were formerly professionals who suddenly found themselves back to being students, often with added pressures such as family financial and caregiving responsibilities at the same time. These stressful doctoral experiences might cause well-being issues and increase attrition rate (Laufer and Gorup, 2019; McCray and Joseph-Richard, 2020). For relatively young doctoral students, they also face various psychological pressures and burnout. These pressures may come from developing independent research, publishing, and future employment considerations. In addition, unlike a master's program, a doctorate takes several years to earn, which is a great test for remote learners' physical and mental health. Online practice communities can relieve the inner tension of doctoral students, allowing them to regularly share the difficulties encountered along the way, by providing opportunities to study with their peers and other scholars, solve problems together, and share the joy of success.

3 Research questions and research method

3.1 Research rationale, aim, and research question

Considering the transformative impact of virtual communities of practice on doctoral education, there exists a research gap that warrants investigation. The current body of literature acknowledges the importance of in doctoral learning experiences. However, there is a noticeable lack of in-depth exploration regarding doctoral learning within the context of post-pandemic academia. As the landscape of academic learning undergoes dynamic changes in the wake of global events, understanding and documenting these strategies become imperative. Therefore, this research aims to fill this gap by systematically examining the strategies to optimize doctoral learning experiences in the post-pandemic era. The research seeks to provide valuable insights into effective practices for building and sustaining communities of practice online, thereby contributing to the enhancement of doctoral education in contemporary digital academic environments. The research question in this study is: What are the key strategies employed by virtual communities of practice in enhancing doctoral students' learning experiences in the digital era?

3.2 Autoethnography

This autoethnographic study was conducted by the researcher, a current doctoral student immersed in the digital era of academia, who delves into the transformative role of virtual communities of practice in enhancing the doctoral experience. Autoethnography emerges as a

robust qualitative research approach, particularly when applied to scrutinizing a reflective diary. This method facilitates a thorough exploration of personal experiences, embracing subjectivity and emotions, and offering valuable insights often overlooked by conventional research methods. By accentuating the cultural context in which these experiences unfold, autoethnography enables researchers to position their reflections within broader societal patterns and historical influences. This contextualization enhances the understanding of the studied phenomenon, fostering a nuanced examination of the researcher's positionality and biases through reflexivity. Furthermore, this approach acknowledges the importance of emotions and embodiment in the research process. Examining a reflective diary through autoethnography allows for a deeper investigation into the emotional dimensions of personal experiences and how these emotions are embodied within the cultural context. In addition, as a form of advocacy, autoethnography empowers researchers to assert their voices, challenging dominant narratives and contributing to a more inclusive comprehension of the studied phenomenon. In essence, employing autoethnography to analyze a reflective diary offers a distinctive pathway for researchers to authentically engage with their own experiences, establishing a profound connection with the subject matter while simultaneously enriching the broader academic discourse (Russell, 1999; Cunningham and Jones, 2005; Marak, 2015; Chang, 2016).

The researcher possessed fluid and dynamic narrative voices during her doctoral trajectory. To deconstruct the competing tensions within the personal self and the social context, the researcher adopted 'multivocality' (Tilley-Lubbs, 2016) that reflects on her subjectivity. The evocative mode was used, and the focus was evoking emotional experiences. The researcher wrote in a descriptive and detailed manner about her experiences in virtual doctoral communities of practice, paying attention to how these experiences shape her learning and identity. The focus was exploring the connections between these experiences and her doctoral learning journey. Some prompts or questions were used for her reflective journals on a weekly or monthly basis: (1) What were the key activities I have engaged within virtual communities of practice recently? (2) How did these interactions or activities contribute to my understanding of doctoral research and learning? (3) What obstacles did I encounter in participating in virtual communities of practice, and how did I navigate them? (4) How did my participation in virtual communities of practice influence my perspectives, beliefs, or practices related to doctoral research and learning?

3.3 Analysis techniques

Going beyond the surface-level content is essential in autoethnographic research. In this study, thematic analysis was chosen to interpret the data, aligning with the narrative review's goal of synthesizing information from various studies. The researcher followed six phases: getting acquainted with the data, creating initial codes, identifying themes, reviewing themes, defining themes, and documenting the findings (Braun and Clarke, 2006). This method is particularly effective in identifying recurring themes or ideas across different studies, aiding the researcher in discerning patterns, trends, and commonalities within the literature. The thematic analysis allows for a more nuanced exploration of broader themes and meanings

emerging across studies, going beyond a simple summarization of individual research findings. To align with the reflective diary prompts, the author began by thoroughly reviewing each entry to identify recurring themes specific to each question. After that, key themes were summarized with supporting excerpts.

Moreover, the flexibility and adaptability inherent in thematic analysis are especially valuable in the context of narrative review. This open-minded approach lets themes emerge organically from the data, avoiding the imposition of preconceived categories and contributing to a comprehensive understanding of diverse perspectives within the literature. By applying the thematic method to her research diaries, the author systematically identifies recurring themes, patterns, and insights related to academic networking, knowledge management, and mental well-being. The thematic analysis serves as a robust framework, offering a nuanced understanding of the multifaceted benefits derived from virtual communities of practice. This method allows for a deeper exploration of the transformative role of these communities in the author's doctoral journey, emphasizing the significance of academic engagement, mutual support, and advocacy. The utilization of thematic analysis enriches the article's discussion by delving into the specific dynamics and evolving nature of the virtual communities over the specified time. Through this introspective approach, the author enhances the scholarly discourse on elevating academic networking, optimizing knowledge management, and supporting the mental well-being of remote learners within the context of doctoral education in the digital era.

4 Findings and discussions

After analyzing monthly research journals, the researcher identified certain useful strategies to create, maintain, and develop a sustainable virtual doctoral community of practice. The strategies resonate with the essence of 'competence, autonomy, and relatedness' in self-determination theory (Ryan and Deci, 2020, p. 5), which are closely aligned to advanced scholarly experience such as in the doctoral and post-doctoral contexts (Elliot, 2023, pp. 39–40). Establishing a thriving virtual doctoral community of practice necessitates several key prerequisites. Foremost among these is the imperative for members to collectively embrace a shared and well-defined objective, acting as a unifying force and guiding beacon for the community's cohesion and efficacy. Dynamic leadership is crucial, not just in appointing leaders but in cultivating a culture where leadership roles can be assumed by various members, thus fostering a fluid exchange of ideas and collaborative spirit. Active contribution by each member is pivotal for the community's vitality, extending beyond participation to a commitment to sharing expertise, experiences, and resources to which doctoral students can obtain equal access.

4.1 Define shared objective goals

The researcher noted that her involvement in self-organized online research conferences, seminars, and workshops, particularly those facilitated by small, informal student practice groups, posed challenges in sustaining community longevity due to a lack of shared objectives. She and her fellow researchers frequently encountered numerous WhatsApp and Zoom discussion groups that lacked clear

distinctions between academic and social purposes. Devoid of explicitly defined shared objectives and enterprises, the utilization of advanced technologies alone would not suffice to establish a meaningful and productive virtual community of practice (Wenger, 1998b; Ardichvili, 2008; Barnett et al., 2012). Accordingly, without explicitly defined shared objectives and common undertakings, relying solely on advanced technologies would fall short of establishing a meaningful and productive virtual community of practice for doctoral students. The efficacy of technological tools hinges on a foundation of collective purpose and well-defined goals. It is the harmonization of these shared objectives that gives purpose to the utilization of advanced technologies within the virtual community, transforming them from mere tools into enablers of collaborative scholarship. In the absence of a clear and shared direction, even the most sophisticated technological platforms would struggle to foster the depth of engagement and intellectual exchange necessary for a thriving doctoral community.

Therefore, the synergy between technological infrastructure and a collectively embraced mission becomes integral, forming the essential groundwork for a virtual space where doctoral students can collaborate meaningfully, share insights, and collectively advance their scholarly pursuits. For example, if an online dissertation writing community is established specifically for students of the Faculty of Education, it is first necessary to stipulate who can participate (such as final year students of the same faculty), the platform used for each online meeting, and the gathering time. More importantly, the organizers should also set plans and goals at the outset, so that members can understand which aspects of academic writing can be explored and discussed at each gathering, exchange online journals and specific books, as well as conduct research with their links that can be shared with group members. Over time, this online writing community will form a rich and substantial reservoir of shared knowledge, transcending the barriers of time and geography.

4.2 Implement distributed leadership

In 2021, the researcher, along with four to six other doctoral students, initiated the establishment of an online reading club. The group consistently exchanged journal articles, organized progress panels, shared ongoing research, and delved into each other's methodologies. Within these virtual communities, there is not a designated leader; instead, everyone takes turns serving as the meeting chair. This shared purpose and recognition foster a supportive environment, encouraging mutual support among peers and contributing to the student's professional development. Ultimately, the engagement in shared goals and collaborative initiatives creates a sense of belonging, especially during the pandemic and fully online programs in post-pandemic.

Cyberspace offers the potential for dynamic leadership in virtual doctoral communities of practice, where participants are categorized as core or partial members. Doctoral students, with varying levels of engagement, include individuals who assume leadership roles by actively contributing to events, planning, discussions, and decision-making processes. Leaders enhance the cognitive progress of the community of practice by offering members a steady and unified vision of its goals. Yet, depending solely on the leader to guarantee the success of a virtual community of practice can be precarious. Leaders

may lack experience in their roles, and even the most enthusiastic ones may benefit from seeking advice. Engaging in a model of distributed leadership plays a significant role in building strong communities of practice, and this type of effective leadership could play a crucial role in the success of online doctoral learning (Bourhis and Duba, 2005; Muller, 2006; Clarkin-Phillips, 2011). For example, when doctoral students from various research societies and practice groups, they can invite prestigious scholars in the field to participate, or school institutions can support students with financial and human resources. However, the long-term operation within the community must achieve the spirit of centralization, social responsibility, and collective learning, rather than being controlled by a few top faculty or specific senior students, who are likely to move on once they graduate leaving a void that needs to be filled. That may, in turn, lead to the collapse of the community.

4.3 Building a conducive collaborative environment

In 2023, the author commenced her contributions to her research center's blog at her university, employing an informal writing style to disseminate research insights to the school's faculty and peers. Furthermore, she established a collaborative Google Document file space for co-editing and writing, engaging in online co-authoring endeavors with fellow doctoral students. Finally, she found that: to build, maintain, and develop a successful virtual community of practice, doctoral students must be provided with a conducive environment to collaboratively cultivate innovative approaches that foster a high level of engagement. These virtual platforms ensure equal opportunities for all participants to articulate their perspectives, promoting an inclusive and participatory atmosphere. This learning model offers doctoral students an unconventional approach to innovation by diverging from traditional top-down methods, creating a supportive environment that accommodates uncertainty and fosters constructive partnerships, and mitigating the impact of power imbalances (Brandon and Charlton, 2011; Botha and Kourkoutas, 2016; Mortier, 2020). The overarching objective is to empower doctoral students to take proactive initiatives in shaping their own learning journeys, concurrently fostering a sense of passion and advocacy within their respective academic institutions.

5 Limitations and future suggestions

5.1 Limitations

The temporal scope of the research diaries, covering a specific period from December 2020 to August 2023, could potentially miss evolving trends and changes in virtual communities of practice. A more extended and continuous observation period is suggested to provide a more comprehensive understanding of the dynamics at play.

Additionally, autoethnography itself is an ethical practice (Ellis, 2007). The main limitation of the autoethnographic study is its individualized and introspective nature. The use of autoethnography may introduce subjectivity and potential bias into the findings, posing a challenge to the study's overall validity. Future research could address this limitation by combining the autoethnographic approach

with other research methodologies or triangulation methods to strengthen the credibility of the study. Furthermore, the absence of a comparison group or alternative research approach makes it challenging to assess the unique impact of virtual communities of practice on the doctoral experience compared to traditional methods.

The article predominantly highlights the positive aspects of virtual communities of practice, potentially overlooking challenges or negative experiences that some participants might face. A more balanced exploration of both positive and negative dimensions is recommended to provide a comprehensive view of the intricacies involved.

5.2 Future suggestions

Future research should consider including a more diverse range of participants, representing different disciplines, demographics, and stages of doctoral studies. This would not only enhance the generalizability of findings but also ensure that the benefits and challenges of virtual communities of practice are understood across a broader doctoral student population. Further, conducting longitudinal studies that span the entire duration of doctoral programs is suggested to offer a more in-depth understanding of how virtual communities of practice evolve and impact the overall doctoral experience over time.

Additionally, comparative studies between virtual and traditional communities of practice are recommended to enable a clearer assessment of the unique advantages and disadvantages of virtual platforms in fostering academic networking, knowledge management, and mental well-being. Lastly, the call for further exploration into the professional identity development of doctoral students within virtual learning communities provides an avenue for valuable insights into the long-term impacts on participants' careers and academic trajectories.

6 Conclusion

To encapsulate the main points, three key strategies are identified to enhance doctoral learning by virtual/online communities of practice. To begin with, establishing explicit and shared objectives and common undertakings is crucial for the success of virtual communities of practice. This involves clearly defining the purpose, goals, and direction of the community, particularly in the context of doctoral studies. The synergy between technological infrastructure and a collectively embraced mission is essential for transforming advanced technologies into enablers of collaborative scholarship.

Moreover, dynamic leadership in virtual doctoral communities of practice plays a vital role, with participants categorized as core or partial members. Leaders contribute to events, planning, discussions, and decision-making processes. Depending solely on a single leader may be precarious, so a model of distributed leadership is advocated. This involves engaging individuals with varying levels of experience and expertise to contribute to the success of the community. Distributed leadership can involve inviting scholars to participate, obtaining support from institutions, and ensuring a balance between centralized guidance and collective responsibility to avoid dependence on a few individuals.

Lastly, providing a conducive environment for collaborative learning is essential for building, maintaining, and developing successful virtual communities of practice. Virtual platforms should ensure equal opportunities for all participants to express their perspectives, creating an inclusive and participatory atmosphere. This approach diverges from traditional top-down methods, promoting innovative approaches, accommodating uncertainty, fostering constructive partnerships, and mitigating power imbalances. The goal is to empower doctoral students to take proactive initiatives in shaping their learning journeys. These three strategies collectively emphasize the importance of clear objectives, distributed leadership, and a supportive collaborative environment in enhancing the effectiveness of virtual communities of practice for doctoral learning.

In essence, this article sheds light on the crucial role of virtual communities of practice in enhancing the doctoral experience, particularly in the contemporary digital era where technology intertwines with academic pursuits. The exploration underscores the multifaceted benefits of such communities, ranging from elevating academic networking and optimizing knowledge management to supporting the psychological well-being of remote learners. It emphasizes the importance of clear shared objectives, dynamic leadership, and a conducive environment for collaborative innovation in building successful virtual communities of practice. As remote doctoral education gains prominence, these virtual platforms emerge as valuable tools not only for academic engagement but also for fostering mutual support and advocacy among doctoral students.

Moreover, with an increasing number of doctoral students embracing an academic nomadic lifestyle, the significance of the social situational learning model within virtual communities of practice becomes noteworthy. The author contends that further investigation into this subject is warranted, particularly concerning the professional identity development of doctoral students within virtual learning communities. There is a need to delve into the potential challenges such scholars might encounter during this process and explore effective coping mechanisms. The aspiration is to gain a deeper insight

into achieving inclusive practices for doctoral students who are both complex and diverse in this digital era.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

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