Socialization and Cognitive Apprenticeship in Online Doctoral Programs

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Abstract

Online doctoral programs are gaining in popularity, both among students and institutions. However, research to date on the effectiveness and popularity of such programs has looked largely at either quantitative measures of student satisfaction or of administrative effectiveness and design. Further, previous research has also tended to focus on the early part of doctoral study; in specific, the coursework. This qualitative study reports findings from four online doctoral programs in one UK university, contributing to the literature in two important ways. First, we aim to look specifically at current and recently graduated students' experiences of doing their thesis using a demographic and experiential survey. This will be followed up by in-depth interviews to better understand the kinds of academic experiences and knowledge they both bring to, and receive from their program. Second, we aim to analyse the data through the lens of cognitive apprenticeship to help us better understand the individual trajectories of students in the thesis portion of their programs. By so doing, this research will contribute both theoretically and practically to our understanding of student experience of the thesis process in online doctoral programs. In particular, we conclude that there is a lack of knowledge and frameworks for how to design online/distance post-graduate programmes that best support the cognitive apprenticeship model. We suggest a shift in the research agenda on this issue: Perhaps, the first step towards a more effective direction is to focus less on quantitative measures for success, like enrolment statistics or graduation rate but rather to employ qualitative judgements for the evolution of the post-graduate experience. What might be the guidelines for such qualitative judgments? The answer may lie within the principles of Networked Learning: knowledge is not confined to an individual; rather, it is distributed across individuals within the environment. That is, learning is not an in-the-head phenomenon but a matter of engagement with, participation in, and membership to a community. We argue that it is through this notion of learning that we may develop a more effective framework to reconceptualise the theory and practice of online/distance post-graduate education within the cognitive apprenticeship model of learning.

Keywords

Socialization, Cognitive Apprenticeship, Online Doctoral Students, Online Doctoral Programs

Research Background

Online/distance education programs are increasingly being offered as alternate ways of gaining post-graduate degrees in a variety of disciplines for those who might not otherwise have access to post-secondary education (Brett, Lee, & Oztok, 2016). Online education research have claimed the effectiveness and success of these programs; yet, these claims are often based on generally perceived advantages of online/distance education such as its accessibility, flexibility, or interactivity (McAlpine & Norton, 2006), rather than issues concerned with post-graduate specific programme goals, such as providing opportunities for online/distance students with enculturation of scholarship, who normally do not experience research apprenticeship typically enjoyed by on-campus students. Two of the most common perspectives on this research that appear in the current literature are: 1) student experiences of or satisfaction with their online/distance post-graduate program (Bolliger & Halupa, 2012; Halter, Kleiner, & Hess, 2006), and 2) administrative or institutional reviews of the process and outcomes of the planning, design and implementation (Effken, Boyle, & Isenberg, 2008; Kumar & Dawson, 2012). In these studies, the success of the online/distance post-graduate programme is evaluated based on the attractiveness of the program to prospective student groups who are otherwise unable to pursue a post-graduate

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degree. A growing number of enrolments in the program is often considered as primary evidence of program success.

In addition, studies concerning traditional doctoral student learning experiences in campus-based universities have suggested that post-graduate students tend to acquire more sophisticated research skills or practical tacit knowledge (e.g., interview skills, research ethics) through their apprenticeship with other experienced researchers including their supervisors rather than gaining this knowledge through their coursework. This apprenticeship often requires students to be actively engaged in different research projects and research groups led by their supervisor or mentor, activities which part-time online doctoral students are likely to find challenging (Winston & Fields, 2003). Taking into account both our limited knowledge about how post-graduate students experience thesis work and difficulties faced by online/distance students as reported in current literature, we have decided to explore the nature of online doctoral studies with a particular focus on students' research skill acquisition and academic socialization experiences during the thesis part of their program.

Here, we use the term *socialization* to conceptualize both the implicit and explicit processes by which post-graduate students acquire the knowledge and skills necessary for their scholarly development and professional career. Facilitating socialization differs from the traditional process of providing support, because while support often refers to the planned and formal activities or resources, socialization is a more inclusive concept and considers "every part of the student experience, from the first contacts with a graduate program through the dissertation defense" (Gardner, 2008, p. 126). Thus, through conceptualizing post-graduate students' academic experiences as a process of socialization, and understanding how this socialization may be distributed within and supported by an academic community of online/distance program (i.e., all participants in the program including administrative/academic staffs and peer-students as a whole), we may be able to more effectively help post-graduate students' academic development. In order to examine and articulate how socialization happens throughout online doctoral studies, we also use the notion of *cognitive apprenticeship*. We define and explain how we are using these terms in more detail in the following section.

Theoretical Framework

Post-graduate Education

Post-graduate education, particularly at the doctoral level, is traditionally characterized as an apprenticeship in which students are learning the practice of research by working with supervisors and peers. According to Lave and Wenger (1991), learning occurs through various apprenticeship arrangements through a relational process of legitimate peripheral participation: "activities, tasks, functions, and understandings do not exist in isolation; they are part of broader systems of relations in which they have meaning. These systems of relations arise out of and are reproduced and developed within social communities" (p. 53). The community, Lave and Wenger assert, implies "participation in an activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their communities" (p. 98). However, the ways in which scholarship is learned in face-to-face spaces cannot simply be applied to online programmes. Online/distance programmes are not naturally built on these principles and thus the range of experiences needed for the apprenticeship model of learning may become decontextualized due to the lack of sense of research group.

Cognitive Apprenticeship

The traditional apprenticeship learning model is concerned with specific methods for carrying out solution-oriented activities, where practical skills are fundamental to accomplish real-world tasks (Collins & Kapur, 2014, p. 109). In this model, learning is about acquiring domain-specific methods through a combination of observation, coaching, and practice (Lave, 1991). The concept of cognitive apprenticeship is built on these principles but it goes beyond practical skills and focuses on cognitive skills in two distinct ways:

> First, the term apprenticeship emphasizes that cognitive apprenticeship was aimed primarily at teaching the processes that experts use to handle complex tasks. Like traditional apprenticeship, cognitive apprenticeship emphasizes that knowledge must be used in solving real-world problems. … Second, the term cognitive emphasizes that the focus is on cognitive skills, rather than physical ones. Traditional apprenticeship evolved to teach domains in which the target skills are externally visible, and thus readily available to both student and teacher for observation, refinement, and correction, and bear a transparent relationship to concrete products. (Collins & Kapur, 2014, p. 110).

Cognitive apprenticeship, thus, is concerned with knowledge required for expertise: not only learning subject matter specific concepts, facts, and procedures but also acquiring nuanced knowledge about how to learn and when to apply, new concepts, facts, and procedures.

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Socialization in Graduate Schools

In the case of graduate education, socialization refers to the "process through which individuals gain knowledge, skills, and values necessary for successful entry into a professional career requiring an advanced level of specialized knowledge and skills" (Weidman, Twale, & Stein, 2001, p. iii). As a process, socialization into graduate school requires different level of understanding and commitment depending on individual needs, goals, profession, and the nature of the discipline.

Research Methods

This study was conducted in four different online/distance doctoral programs in a university based in UK. In this study, we only focused on the students who were close to the completion of their thesis project or recent graduates of the three programs within the past five years because our primary focus lies in their post-course (or thesis) phase of the program experiences. 22 students agreed to participate in a semi-structured interview. Here we report on our initial findings from three interviews.

Findings

Students seemed to internalize their isolation as a natural process for their development as a researcher or scholar. The *personal nature of the doctoral thesis* was the main theme in their explanation of the thesis process. For Justin, focusing on his own specific topic means working alone:

> We have to focus on our project, because this is the most important thing in part two. We feel more lonely [sic] in part two compared to part one. … If we are talking about a learning community, so part one we participate, discuss with peers a lot. But part two, not the same way because in part two, we focus on a specific topic.

The concept of cognitive apprenticeship posits that through participating in communities, students not only learn subject matter specific concepts and facts but also acquire knowledge about how to learn new concepts, facts, and procedures (Collins & Kapur, 2014). However, Justin seemed to disregard the benefits of working in a community. Josh's explanation indicates that this is very likely due to the fact that the online/distance programme failed to enculture the cognitive apprenticeship model:

> I think there's a difficulty around … when you get into part two, you're very … you become suddenly very focused on your own project, whereas in part one you've all got a common focus. You have a lot to share. When you get into part two, you are really focused on your own question.

The lack of enculturation of cognitive apprenticeship is evident in how he continues:

> We have had situations where we have had our sort of once a month Skype call. We spent three minutes listening to one of your fellow students talking about their project, and it is very interesting but it is not at all relevant to what you are doing because you are doing a different area and a different methodology. And there is a real sense … It is difficult to find a common interest for everybody. I think it is useful for everyone to listen to each other's projects, but it does become very difficult because you are just really focused on your own research.

For Russell, the personal nature of the doctoral thesis means that he should work alone, where the only support is available through the supervisor:

> Part two there is no sense of community, because everyone is gone off to do their own thing. On the plus side, I study on my own. So, I am actually just working on what I want to do, which is trying to get my data and get my project off the ground. … So, I guess, I should use my supervisor more, but I do not. So that is, again that is just again the way I work.

The results indicate that students lack enculturation in the principles of cognitive apprenticeship. This lack of enculturation is manifest in how they internalized their isolation as a natural process inherent in the thesis work while at the same time they all explained how they could have benefited more from greater interaction with their peers. The result is that they are inaccurately equating the unstructured and personal nature of the thesis work with the experience of working alone which has resulted from the lack of program structure at this phase of the doctoral journey.

Discussion / Conclusion

The results presented in this manuscript illustrated our initial findings; consequently, we should be cautious with our conclusions. However, despite the inconclusive nature of our findings, it is evident that we have to rethink the theory and practice of online/distance post-graduate education. It can be argued that when the technological affordances are coupled with the structural design, post-graduate students in online/distance programmes seem to encounter further challenges due to the lack of cognitive apprenticeship experiences to further guide their learning.

Overall, there is a lack of knowledge and frameworks for how to design online/distance post-graduate programmes that best support the cognitive apprenticeship model. Furthermore, we need to think differently about traditional notions of "apprenticeship [which] requires a very small teacher-to-learner ratio that is not realistic in the large educational systems of modern economies" (Collins & Kapur, 2014, p. 109). We suggest a shift in the research agenda on this issue: Perhaps, the first step towards a more effective direction is to focus less on quantitative measures for *success*, like enrolment statistics or graduation rate but rather to employ qualitative judgements for the evolution of the post-graduate experience. What might be the guidelines for such qualitative judgments? The answer may lie within the principles of Networked Learning: knowledge is not confined to an individual; rather, it is distributed across individuals within the environment. That is, learning is not an in-the-head phenomenon but a matter of engagement with, participation in, and membership to a community (Oztok, 2016). It is through this notion of learning that we may develop a more effective framework to reconceptualise the theory and practice of online/distance post-graduate education within the cognitive apprenticeship model of learning.

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