

Crossing Professional Thresholds with Networked Learning? An Analysis of Student E-Portfolios Using the Threshold Concept Perspective

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Abstract

Investigations in networked learning often focus on specific educational designs, questions of appropriate supporting technologies, community building issues or social network analysis. In this paper we look at networked learning from a different angle: Students who are working professionals in the social field and who study for a BA degree in social work via networked learning enter the program with a professional background in social work. Faculty in these programs often estimate that these students benefit a lot in their professional development during the course of their studies but so far there is little evidence for this assessment. Also, there is a lot of skepticism as to whether it is possible to integrate scientific knowledge and interweave it with professional experience via networked learning. In our study we use the threshold concept perspective to develop a methodology to analyze whether students do “cross professional thresholds” in the study program. The purpose of this pilot study, therefore, is twofold: Firstly, we want to gain evidence whether or not students are crossing thresholds in the course of the program via networked learning. Such evidence could in the long-term provide important arguments for setting up similar study programs via networked learning for non-traditional student groups. Secondly, we want to describe a methodology that can be used for regular impact studies. We use the case of a distance education BA-program in social work in Germany, delivered via networked learning. We look at students' e-portfolios created to document and reflect on their learning journeys in an online module that comprises the second half of the study program. In addition, we report on our approach to find indicators for “crossing thresholds” in this rich empirical data. Results of the analysis show some relevant examples of students' threshold crossings in the field of social work. Finally, we reflect critically upon the methodology used in order to refine and further develop it. The results of this study will be relevant for higher education stakeholders such as university management, faculty, and students themselves as well as for researchers involved with impact studies of networked learning.

Keywords

Networked learning, threshold concepts, e-portfolios, professional students, impact studies

Introduction

Investigations in networked learning often focus on specific educational designs, questions of appropriate technologies, community building issues, social network analysis or theoretical foundations (Beaty et al., 2010; Dirckinck-Holmfeld & Jones, 2012; Dirckinck-Holmfeld et al., 2009; Goodyear et al., 2004). In this paper we present research on the impact of networked learning using the case of an online degree program that leads to a BA in Social Work (BASA-online) offered by Munich University of Applied Sciences, Germany.

BASA-online is a distance education bachelors degree program offered jointly by a collective of seven higher education institutions across Germany. Students registered in this program constitute practitioners in the field of social work. Students complete the degree in a networked learning setting, studying online modules (75% of the study time) and face-to-face modules (25% of the study time). The online modules are offered in a learning management system and are typically taught over 8-10 week periods. During modules, students usually work

individually, in pairs, or in groups on several tasks that ideally link the content of the module directly with the students' work experience. Furthermore, students are asked to share their individual work experience within the learning community, using various technologies to support these processes.

The distance education program has gone through three iterations so far. During the first two iterations, research was focused on the design, the "nuts and bolts" of program development, and the building of a community of practice to support distance students (Arnold 2011 a and b; Arnold et al. 2012). During the third iteration, the focus shifted to transformational learning outcomes. A basic design feature that runs through the program is the use of students' work experience as a starting point to explore social work theories. Lecturers in the program have often communicated that the students are transformed by their studies and appear to cross thresholds. How does student work provide evidence for the lecturers' "gut feeling"? Which thresholds do students cross and do all students cross them? And what methods can be used to study and shed some light on these issues? These questions formed the backdrop of this research, where we applied the theoretical framework of threshold concepts and transformational learning proposed by Meyer and Land (2003) to study the outcomes of networked learning in BASA-online.

In the course of their study program, students develop e-portfolios reflecting on their learning. As a pilot investigation, twenty-one student portfolios from one cohort were analyzed for incidences of threshold concepts acquired or other thresholds crossed. This pilot serves two purposes – a) it helps to test and refine our methodology to assess the transformational learning outcomes of the program, and b) it will contribute to the assessment of program quality which is important as the program progresses from the pioneering phase to consolidation. For these reasons we describe our methods in detail and in addition to discussing our results, we critically reflect on challenges with analysis. Educators working with professional students and interested in transformational learning, as well as those who are interested in impact assessment of networked learning might find this paper useful.

Threshold concepts as analytical framework

Meyer and Land (2003, 1) liken a "threshold concept" to a "portal" that opens up "a new and previously inaccessible way of thinking" or "a transformed way of understanding, or interpreting, or viewing something." In academia, a threshold concept can represent changes in perception, values or thinking about a certain discipline or subject-matter. According to Meyer and Land (2003, 5), threshold concepts are transformative, integrative, inherently "troublesome", irreversible, and sometimes bounded. They are transformative because they lead to a changed outlook on a discipline or changes in personal identity. They are also integrative because the student connects previously unconnected issues to discover their "hidden interrelatedness" (2003, p. 4). The troublesome nature of threshold concepts is discussed by Meyer and Land (2003) in the context of counter-intuitive, alien, or incoherent knowledge defined by Perkins (1999). When a student is exposed to knowledge from a different area of discourse, knowledge that contradicts what they already know and believe, or knowledge that is incoherent or incomplete, that knowledge becomes troublesome for the student. Students might find themselves "in a state of liminality" (Meyer & Land, 2003, 10) where they struggle to integrate new knowledge or feel a loss of authenticity in their understanding before they can cross the threshold to reach new understanding or let go of old understanding. Meyer and Land (2003) contend that the crossing of a threshold concept is irreversible because the student's understanding is transformed. While students can look back at their transformation, it is unlikely that they will be able to reverse it. Further, the discipline or context in which the threshold concept is situated causes it to be bounded by the socio-cultural, historical and empirical approaches in the discipline.

Literature on threshold concepts is relatively recent, with researchers in multiple disciplines attempting to define threshold concepts in their fields and design curricula to help students acquire threshold concepts in their disciplines (Meyer et al., 2010). While criticizing the descriptive and vague nature of threshold concepts, Schwarzmann (2010) claims that all scholarship related to threshold concepts encounters the unknown. In that vein, in our research, we define threshold concepts in an online degree program in social work, as students' changed way of thinking, perceiving or behaving in their practice, which is the field of social work (in alignment with the approach of Hays 2008). As professionals with several years of work experience, students in the BASA-online program are exposed to theory, research, and scientific approaches in their online modules. By means of online discussion with their peers and systematic reflection, they attempt to understand and integrate the content in the program with their existing beliefs, knowledge and way of work. The final module in the program encompasses four semesters and aims to facilitate threshold crossings or help students reflect on their

threshold crossings in the program. On the lines of a transformative approach or pedagogy for the acquisition of threshold concepts and facilitation of threshold crossings that has been successfully explored by others (Meyer et al., 2010) we describe the design of this module in the next section, before we report how we analyzed students' work from that module to determine whether students acquired the identified threshold concepts.

Context: Scientific Theory and Practice Transfer

Students enter the BASA-online program from a wide range of work backgrounds. This makes it challenging to use their work experience as a starting point and ensure that all students make connections between theory and practice across the multiple modules in the program that are taught by different faculty members. To facilitate the interweaving of academic knowledge with students' professional experience, an online module called "Scientific Theory-Practice Transfer" (STPT) was introduced that runs over four semesters during the second half of the program. Our research focuses on students' portfolios that are developed during this module; therefore this section describes the STPT module in detail.

The STPT module begins with a face-to-face introductory meeting and is designed to evolve into a community of practice where the domain, the academic and professional body of knowledge for social work, is constantly refined. Additionally, the element of practice is facilitated by linking theoretical concepts with work situations and the community results from the network of relationships among students and lecturers. In the STPT module, students work in small groups on authentic tasks that correspond to different aspects of their current and future professional role as social workers in an iterative process of action and reflection. The focus is on a contextualization of theoretical concepts by linking them to students' work experience and students' reflection on their professional practice with a critical distance fostered by academic perspectives. In addition, the student community as such is regarded as a learning resource for all.

In the first semester students explore and test the method of "peer counseling" and a specialized online platform that is also used by professionals in social work organizations. They discuss real-life challenges from their practice in small groups, using the peer-counseling platform with its in-built process model. In the second semester students choose a broad concept in the social field, such as "inclusion" or "empowerment" and are asked to develop guidelines, an introductory reader, or a resource website on their topic aimed at practitioners in the social field. Issues of professional identity are discussed during the third semester, during which students work in small groups on a question that arises due to their changing professional identity. Although students enter the program as practitioners in the field, their academic experience in the degree program in social work might cause conflicts or changes in their identity as practitioners who are still engaged in the field of social work but are soon to complete an academic program.

The fourth semester of the module, as the final semester of the degree program, is designed as "reflection-on-action." Students are asked to look back, reflect, and evaluate their own theory-practice-transfer process during the module. During this semester, students are expected to create a comprehensive e-portfolio in which they document and reflect on their learning trajectory during the four-semester module. In their e-portfolios, students have to select and include three "learning products" where a minimum of two should have been created during the STPT-module and a third could have been created during any other module of the study program. Additionally, students are asked to comment on their chosen learning products, reflect on their overall learning trajectory in the program, and include either feedback from peers, lecturers or a retrospective self-evaluation.

Figure 1: Structure of e-portfolios

*****Comprehensive narrative on personal learning trajectory across the module*****		
Learning Product A	Learning Product B	Learning Product C
Student's comments as to selection, significance, production process and context, etc.	Student's comments as to selection, significance, production process and context, etc.	Student's comments as to selection, significance, production process and context, etc.
Feedback by peers, lecturers or retrospective self-evaluation	Feedback by peers, lecturers or retrospective self-evaluation	Feedback by peers, lecturers or retrospective self-evaluation

Methodology

Students' portfolios developed during their last four semesters in the course represent their reflection on their learning in the program. A pilot analysis of these portfolios was undertaken to answer the research questions, "Do students cross thresholds during this distance education program in social work?" and "Are the students transformed by their learning in the program?" Our approach to the analysis included several steps according to Carley's (1993) recommendations for content analysis, in particular ways to define initial indicators or what constitutes the concepts (Carley, 1993, 82). As a first step we revisited the goals of the program and the comments from lecturers who had previously taught in the program. Based on these goals (e.g. "understand the significance of scientific theories and methods for professional social work") and lecturers' comments (e.g. "students need to understand that social work is not confined to supporting people directly") we created a list of indicators according to which the e-portfolios could be analyzed. The unit of analysis was a sentence or a graphic in the e-portfolio. Titles and headings were included as part of the analysis. Initially, we developed a set of 6 indicators for the initial analysis of e-portfolios:

- Connection to Content 1 (C 1): Relating content to one's own person
- Connection to Content 2 (C 2): Relating content to one's professional experience.
- Academic Knowledge & Social Work Profession 1 (A 1): Commenting on the relationship between theories and practice in social work
- Academic Knowledge & Social Work Profession 2 (A 2): Describing the significance of scientific knowledge for profession.
- Transformation 1: Changed way of thinking
- Transformation 2: Changed way of acting

At the same time we allowed ourselves the flexibility of adding relevant categories not included if they were found in the text (Carley, 1993, 82). This enabled us to analyze the e-portfolios for the specific set of indicators, and yet not ignore any other important material that might be significant to developing a solid set of indicators for future use and for the understanding of students' threshold crossings. In coding the e-portfolios, our focus was on the existence of any of our indicators, and not on a quantitative measurement as to how often each indicator could be found in the portfolio. This entirely qualitative approach seemed to suit our explorative pilot study better than a quantitative approach with counting incidences that might have suggested an accuracy that could really not be reached in this initial stage of inquiry. In order to ensure consistency in the coding and that we were "coding for what we want to code for" (Carley, 1993, 83), we reviewed the coding and especially difficult issues in the coding process between us to add a second perspective and to gain trustworthiness for our study.

Results: Incidents of threshold crossings

Looking at the 21 portfolios analyzed, the following table gives an overview of the results:

Table 1: Overview of e-portfolio analysis

Indicator	No. of e-portfolios with indicator prevalent in total	Illustrating example (P = e-portfolio)
C 1	12	"Method of 'reframing' applied to myself: 'perfectionist' then becomes 'target-oriented'"(P19)
C 2	18	"Team leading skills applied to the team I manage at work" (P6)
A 1	12	"Theory and practice 'feed' each other mutually" (P17)
A 2	14	"Academic knowledge is necessary for professionalization and indispensable for daily professional practice" (P15)
T 1	17	"(I realized that) social work does not only happen face-to-face but also behind desks and within online platforms"(P9)
T 2	15	"Deep change: I tend to ask for the sources of any information presented to me, regardless of the context, even at a party" (P2)

Connection to Content

Many students related the content of the study program to their personal or professional experiences. When studying content like counseling methods or leadership concepts students seemed to have learned more about themselves (“content helped me to understand myself better” – P6) or had tested new models or methods in their job settings (“I presented the online peer-to-peer method in my organization and suggested to use it” - P13). They reflected on their own biographical experiences – e.g. their own family history or their trajectory as an immigrant – in the light of theories and concepts presented in study modules (P1, P2). In their professional environments they particularly tried to apply concepts and methods to counseling or leadership situations. Some students mentioned bringing single new instruments to their work settings, such as a 'learning diary' into an education environment or an 'aid planning scheme' into social care agreements. Some students stated that this transfer was greatly beneficial (“Studying was a treasure for me as I could professionalize my daily work with it”- P19).

Academic Knowledge and the Social Work Profession

Students commented on the intricate relationship between theories regarding social work and real-world practice in social work fields in manifold ways: Often students were initially under the impression that there is a great gap between academic knowledge and professional practice at many job sites, but they nevertheless went on to perceive the strong link between theory and practice (“need to be melded together”, P19). Sometimes a student’s description of the connection between theory and practice in the social work profession still conveys a certain duality: e.g. when being a student is associated with “rationality”, social work with “the heart” and then a yin and yang image is used to claim that “rationality” and “the heart” belong close together (P3).

In other commentaries, the theory studied is harshly criticized when a 90 page script on theories of the family allegedly does not include the word ‘sexuality’ (P2). Different voices highlight the sometimes troublesome nature of incorporating theoretical knowledge into practice situations, e.g. a student reports that her theoretical knowledge initially hindered her during live counseling situations (P10). Often students try to describe the closely interwoven nature of theory and practice, e.g. with an image of two puzzle pieces fitting together nicely (P13) or by quoting Kurt Lewin with his famous statement: “Nothing is so practical as a good theory”. As regards the significance of academic knowledge for the profession of social work, many students reflect that during the course of their studies they began considering academic knowledge as indispensable for professional social work, e.g. “I am convinced that it is essential for practical social work to grasp theoretical concepts. Only this way quality can be generated” (P16) or “Only with theory-based deeper knowledge it is possible to negotiate with authorities on funding...” (P3). Another student points especially to the great value of evaluations to target interventions adequately (P13).

Transformation

Within the e-portfolios we found many incidences of new insights and changed ways of thinking as well as new approaches and patterns of acting that are relevant to students’ future careers as social workers: Changed ways of thinking and new insights found in the portfolios can be basically grouped in 3 categories: a.) explicitly related to the social work profession (e.g. “the role of a social worker as “manager of perspectives” and as a “decathlonist” sticks with me” (P3), b.) related to professional work more generally (e.g. “one’s own biographical experience always influences the way one acts in and perceives work situations (P7) or in teams it is important to play on the strength of the individual members” (P8)), and c.) related to learning strategies and professional development (e.g. “learning for professional development is never finished” (P1) or “we do not need stacks of separate knowledge blocks but rather should strive for networked knowledge” (P2).

Incidences of transformed approaches to acting or patterns of acting also cover a wide spectrum: A student states – and slightly making fun of herself – that now she always requests the exact source of information, even at a party (P2). Others describe how they have developed their own “style” at work, striving to explain their job actions by means of academic knowledge (P4) or report that suddenly dealing with their colleagues at work has become more cumbersome when the colleagues cannot or do not want to connect their work with theoretical concepts (P14). Their changed way of acting also can be seen in statements when students report how they successfully took on new roles: felt competent to do evaluations and were acknowledged for this by their management (P8) or felt they had grown professionally due to their first time acting as a researcher (P13).

An important crossing for the social work profession is also a changed attitude and approach to their own role of a social worker: A student reflected how her own aspirations for the social work profession changed from a "Lichtgestalt" (an all-mighty angel) to a competent human being (P17), another one realized that she would not let herself be instrumentalized as a "buffer zone" in her work as a social worker (P2). A student included an online petition into her portfolio to highlight her grown awareness of the importance for social workers to engage themselves in socio-political issues (P14).

Emergent indicators

In addition to previously identified initial indicators, we found many incidences of "troublesomeness" in students' reflections on their learning trajectories. Students reported their initial struggles to come to terms with a broad concept such as "inclusion" (P5), or with the method of virtual collaboration taught in the program (P 11). They also provided an overall description of a demanding but also rewarding learning journey ("the roots of learning are bitter but the fruits are sweet", a proverb from Latvia, that a student used as a subtitle to her portfolio titled "fruits of learning", P 19)

Discussion

This paper presents a pilot attempt to analyze e-portfolios for the crossing of thresholds, namely new ways of thinking and acting by professionals in the field of social work enrolled in a networked learning bachelors program. A goal of this research was also to refine the indicators and methodology used to analyze the portfolios. This section thus discusses our findings with respect to a) student crossing of professional thresholds via networked learning and b) the refining of the methodology used for portfolio analysis.

Crossings of professional thresholds via networked learning

The general increase in educational opportunities provided by networked learning study programs has been widely acknowledged as such programs open up higher education for non-traditional student groups. Programs such as the study program BASA-online investigated here help working professionals to acquire academic scientific knowledge in their respective fields and provide them with increased possibilities of online interaction and collaboration. Despite these benefits, critical voices regarding the applicability of networked learning for social work education continue to persist.

Our findings offer valuable evidence to "defend" networked learning against such criticism, providing many examples of students' contextualization of learning content and increased reflexivity in respect to professional roles and identity as social workers-to-be, acquired in a networked learning setting. Although the e-portfolios analyzed are self-reports of students' learning during the BASA-online program, students' provision of concrete examples and excerpts from products created during their studies in the program lent credibility to their assertions. The analysis of 21 e-portfolios indicated that students are connecting content to their personal and professional experiences; reflecting on the relationship between academic scientific knowledge and the social work profession as well as the value of academic scientific knowledge for their profession; and have begun thinking and acting in new ways. Students acknowledge that earlier, they did not perceive connections between theory or academic content and their professional work because they were entrenched in their roles as practitioners.

Their studies in the BASA-online program have made them cognizant of the significance of academic knowledge for professional social work. Further, they claim openness for future professional development and realize that learning is never completely at an end. Also students develop a more appropriate level of professional aspirations when they stop striving to be a "Lichtgestalt" (an all-mighty angel) in providing social services, a widely spread misconception in the social work field. The educational design of the networked STPT module provided the students, social work professionals who are embedded in practice, with exposure to diverse perspectives and opportunities to reflect with peers both in practice and on practice (using the differentiation introduced by Donald Schön, 1983) . Studying in a networked learning environment, this increased awareness and knowledge has led these practitioners in the field of social work to changed approaches, new ways of thinking, reframing and questioning of their professional work, which we defined as crossing thresholds in this research.

Refining our methodology

For 16 of the 21 e-portfolios at least one research memo was produced, documenting a question in coding, a reflective note on a potential bias or distortion, or any other issues that arose when applying the pre-defined indicators to the material. Some of these issues arose because the portfolios were a part of the educational design of the STPT module and did not stem from a targeted effort to collect research data. Students had complete freedom with respect to the design, selection of artifacts from their studies in the program and the mode of reflection used in their e-portfolios, leading to two areas of challenges during analysis a) diverse language and writing style, and b) coding multimedia elements.

Diverse language and writing style

Some students used a very personal writing style, using the first person frequently, while others used a rather neutral, distanced language (using the German impersonal “man” or an undefined “we”). It was easier to identify the indicators in portfolios written in a personal language style than in the other portfolios. Also, portfolios differed in levels of explicitness and granularity. Difficulties in coding arose when students alluded to something rather than explicitly stated it. Some students were not native speakers of German which might have also impacted the coding. For this paper, the quotes and in-vivo codes are translated from German to English which might lead to a certain decrease in authenticity.

Coding multimedia elements

Coding multimedia elements, especially images with snappy captions frequently used in the portfolio, presented another challenge: A strong visual effect like an image of a flowering plant in the desert, with a caption of “from dry dust to a flowering plant” as image that is used to encapsulate the students experience of her learning trajectory might be more quickly regarded by the coder as “transformational” than a text passage in a distanced writing style. Nevertheless, the transformational dimension within the learning experience of the student using a text-only description in a distanced writing style could well have been as strong as that of the student using strong visual images. Suggested practices in content analysis such as the use of at least two coders, the coding of an initial sample, and the discussion of how multimedia will be coded can help resolve some of these issues of perception.

Extending set of indicators

Students noted that the new knowledge or their new approaches to their practice are not always perceived as positive by their work environment, and that they sometimes struggle with their new behaviors, reflecting the troublesomeness of crossing thresholds (Land et al., 2010) in the literature. This is an area we did not anticipate when creating the indicators, but will include in the future.

7 Conclusions

In this paper we set out to investigate the impact of a distance education studying program in social work, aimed at practitioners in the social work realm, looking at transformational learning outcomes. Using a threshold concepts perspective for our analysis of students' e-portfolios, we found ample evidence of students' crossings of professional thresholds via this networked learning setting. The program's impact in terms of crossings of professional thresholds could be clearly identified and depicted in its manifold appearances. Networked learning settings, thus, do not only open up higher education to non-traditional student groups but can also contribute to professional transformation.

Furthermore, we should keep in mind that we can only talk here about those crossings of thresholds that manifested themselves in the portfolios - students might have crossed other thresholds that did not appear in the portfolios. Considering this, the impact of the networked learning study program seems to be remarkable. Further research will have to find out in which ways this is related to the educational design approach with integrating students' work experience as a learning resource for all.

As regards methods, this pilot study presented a method of impact assessment that used artefacts generated in an educational environment as a data source, where the artefacts were generated independent of any research activity and preconceived research design. Such a method has the advantage of not requiring any extra time or effort for data collection on students' or researchers' sides. In addition to being thus an economical way of impact assessment, the method also has the advantage of being a non-reactive method. The e-portfolios are an ordinary element of the educational design and were created independent of any impact assessment issues.

As regards the indicators, overall, the selected set of indicators worked fine and seems therefore to provide a valuable approach for impact assessment on a regular basis. As a further step of refinement we will try to incorporate the troublesomeness of the learning experience as a characteristic of transformational learning into the set of indicators. The challenge here is to differentiate between troublesomeness due to transformational aspects and troublesomeness on another, lower level, of coming to terms with the task of creating an e-portfolio, handling the software, etc.

In any case, with some further refinements this method can also be used in the context of quality management for networked learning, an area of growing importance. Furthermore, the results provide evidence for decisions to set up more such academic training opportunities via networked learning in the field of social work, meeting the needs of an increasingly diverse student population and a societal demand of well-trained professionals in the field of social work.

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Acknowledgements

This work was partially supported by the Federal Ministry of Education and Research in Germany (BMBF) within the framework of the “Quality Initiative for German Higher Education” and Munich University of Applied Sciences' research and development project “Well Equipped for the Future” (duration 2011-2016) within this initiative.