# Perceptions of occupational therapy threshold concepts by students in role-emerging placements in schools: A qualitative investigation

Vera C. Kaelin, MScOT, BScOT [1,2], Karina Dancza, PhD, PGCLT, MA(SEN), BAppSc(OT)[3]

[1] PhD student, University of Illinois at Chicago, Department of Occupational Therapy, 1919 W Taylor St, Chicago, IL 60612, USA, email address: vera@allofus.ch; phone: +1 312 478 2138; ORCID ID: https://orcid.org/0000-0003-1290-9441

[2] Zurich University of Applied Sciences (ZHAW), Institute of Occupational Therapy, Technikumstrasse 71, 8401 Winterthur, Switzerland

[3] Assistant Professor, Singapore Institute of Technology, Health and Social Sciences Cluster, 10 Dover Drive, Singapore, 138683, email address: karina.dancza@singaporetech.edu.sg. ORCID ID: https://orcid.org/0000-0003-3291-4467

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Corresponding author: Vera Kaelin, University of Illinois at Chicago, Department of Occupational Therapy, 1919 W Taylor St, Chicago, IL 60612, USA; phone: +1 312 478 2138; email: vkaeli2@uic.edu

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# Perceptions of occupational therapy threshold concepts by students in role-emerging placements in schools: A qualitative investigation

## Abstract

Introduction: Traversing threshold concepts has been identified as crucial in becoming an occupational therapist. To support this learning, previous research has emphasized the value of students engaging in practice-based learning, accompanying reflection, and a curriculum which makes threshold concepts explicit to students. Role-emerging placements form part of students' practice-based learning in many universities and could offer a valuable opportunity for students to learn threshold concepts. Understanding the value of threshold concepts to enhance role-emerging placement learning from both the students' and educators' perspectives warrants further research. The aim of this study was to examine how occupational therapy students on role-emerging placements in school settings experienced applying threshold concepts and how it impacted on their learning.

Methods: An epistemological position of social constructionism and a qualitative research design was used. This included semi-structured focus group interviews and reflective logs that enabled exploration of 13 student's and one supervisor's perspectives of learning during the placement. Template analysis was used to analyse the data.

Results: Students spoke of their learning of the threshold concepts of client-centeredness, occupation, and understanding and applying occupational therapy theory in practice. These are expressed within the three emergent themes; "curriculum supports in placement", "uncertainty when applying their own knowledge", and "placement context and expectations".

Conclusion: Results suggest that learning happens within the liminal spaces which occurred from an intersection with the threshold concepts, the curriculum, knowledge generation and use, and the context and expectations of the role-emerging placement. Engaging with uncertainty may be considered a vital part of this process and something which should be valued.

# Introduction

Traversing threshold concepts has been identified as a critical step in becoming an occupational therapist (Nicola-Richmond, Pépin, & Larkin, 2018; Rodger, Turpin, & O'Brien, 2015). Threshold concepts are unique ways of knowing and practicing within a profession (Land, Rattray, & Vivian, 2014). Commonly proposed threshold concepts for occupational therapy are client-centeredness, occupation, and understanding and applying occupational therapy theory in practice (Fortune & Kennedy-Jones, 2014; Hooper, King, Wood, Bilics, & Gupta, 2013; Nicola-Richmond, Pépin, & Larkin, 2016; Rodger & Turpin, 2011; Tanner, 2011). Progression through these thresholds are transformative; not only are they about integrating new information, but also about letting go of some previously held and prevailing beliefs, which is often an uncomfortable and emotional experience (Meyer & Land, 2005). If students do not effectively traverse threshold concepts, it could lead to superficial understanding and students' imitating occupational therapy practice, instead of deeply understanding it (Rodger et al., 2015). Thus, threshold concepts are important to address in occupational therapy education.

Fortune and Kennedy-Jones (2014) proposed two key questions for educators in designing pedagogy for learning threshold concepts in occupational therapy education "(i) Do we create, and how do we maintain opportunities for learners to work in the liminal space? (ii) How consistent is the use of an occupational perspective across all aspects of our curricula and in fieldwork learning contexts?" (p. 297). Previous studies on the use of threshold concepts in occupational therapy education have supported the value of practice-based learning (i.e. placement), accompanying reflection, and making threshold concepts explicit to students within the curriculum (Nicola-Richmond et al., 2018; Rodger et al., 2015). These strategies go some way to addressing the opportunities for students to learn threshold concepts, however, because of the wide variability in how threshold concepts are addressed in the different placements, educators frequently remain challenged in making threshold concepts explicit to students during practice-based learning (Nicola-Richmond et al., 2018). Some studies have also suggested that educators themselves are uncertain about some threshold concepts such as occupation, as it can become intertwined with related terms like function and purposeful activity (Krishnagiri, Hooper, Price, Taff, & Bilics, 2017; Rodger et al., 2015).

Challenges in learning and teaching threshold concepts during students practice-based education may be even more evident when students conduct their placements in a setting with no established occupational therapy service (often called role-emerging) and an on-site supervisor which is not an occupational therapist (Hunter & Volkert, 2017; Tanner, 2011). For example, in Switzerland, school-based practice is a role-emerging setting (Kaelin et al., 2019), despite it being established in other countries. In these types of placements, students have more autonomy to design and enact their practice than in a placement with established occupational therapy procedures and supervisors (Dancza, 2015). Thus, students may require different strategies to engage with, and traverse learning thresholds (Dancza et al., 2013).

One strategy which has been developed to support students' learning during role-emerging placements is a learning tool which is based on the Occupational Therapy Intervention Process Model (OTIPM; Fisher, 2009; Dancza, Copley, & Moran, 2019; Dancza, Copley, Rodger, & Moran, 2016). This learning tool makes explicit the threshold concepts of client-centeredness, occupation, and understanding and applying occupational therapy theory in practice. It does this by guiding the student and supervisor through the OTIPM with activities and examples of each stage (Dancza et al., 2013). The OTIPM (Fisher, 2009; Fisher & Marterella, 2019) and its German translated version (Fisher, 2014) is widely known within the Swiss community of occupational therapy. It serves as the foundation of the occupational therapy education in one of the three Swiss educational programs. The OTIPM has been applied in countries such as Sweden, Switzerland, and United Kingdom (UK; Dancza et al., 2019, 2016; Gantschnig, Nilsson, Fisher, Künzle, & Page, 2016; Sirkka, Larsson-Lund, & Zingmark, 2014; Sirkka, Zingmark, & Larsson-Lund, 2014), and has been shown to support professional reasoning and occupation- and client-centred practice (Sirkka, Larsson-Lund, et al., 2014).

Previous research on guiding students in role-emerging placements by using the learning tool based on the OTIPM (Dancza et al., 2016) has shown benefits to student learning of conceptual knowledge (i.e. use of theory in practice), procedural knowledge (i.e. how to enact the occupational therapy process) and dispositional knowledge (i.e. use of criticality and reflection; Dancza et al., 2019). While role-emerging placement could offer valuable opportunities for students to learn threshold concepts (Tanner, 2011), how they learn, and what strategies are helpful to this process are less well understood. Therefore, the aim of the study was to examine how occupational therapy students on role-emerging placements in

school settings experienced applying threshold concepts and how it impacted on their learning.

# Methods

For this research, an epistemological position of social constructionism was used. In social constructionism, one believes that multiple ways of knowing exist and that truth or meaning is created through social interactions with the world (Crotty, 1998). In the words of Crotty (1998) "meaning is not discovered, but constructed" (p. 9). In this study, knowledge about student learning experiences was collectively generated from the occupational therapy students and the supervisor involved in the research.

## Design

This study utilised a qualitative research design (Patton, 2015), including the use of focus groups that enabled exploration of the student's perspectives of learning during their placement. The supervisor perspective was captured through detailed reflective field notes completed following interactions with the students and critical discussions with the external research collaborator (second author; Patton, 2015). The study was presented to the Ethics Committee of Canton Zurich and was formally identified as not within the scope of the Human Research Act (Req-2018-00605) and therefore low risk study in accord with Swissethics.

## Context

This research was carried out between May 2016 and December 2017 with students undertaking the Bachelor of Science (BSc) in Occupational Therapy at the Zurich University of Applied Sciences in Switzerland. The BSc in Occupational Therapy is a three-year degree program, where students undertake ten weeks placement in their first year, 12 weeks in the second year and 12 weeks in their third year. In addition to their regular placements with an on-site supervisor who is an occupational therapist, in the third semester (beginning of second year), students could elect to undertake a role-emerging placement in a school setting. The placement lasts eight weeks and the students are in the setting 1.5 days per week. In this BSc program, the OTIPM (Fisher, 2009, 2014) plays a major role and is the main model used during students' education.

Supervision was provided by an occupational therapist (the first author) who was not based in the placement setting, but at the Zurich University of Applied Sciences (called the long-arm supervisor). All students were in groups of two or three students per placement site. They were in five mainstream school settings working with children between the ages of 4-11 years old. Students met all together for supervision with their long-arm supervisor at the university once before the role-emerging placement to discuss their existing knowledge of school-based occupational therapy and any questions or concerns they may have. During the placement, students met all together on five occasions, each time dedicated to a step in the occupational therapy process (i.e., identifying and prioritizing occupational challenge, observation of identified occupation, setting goal, planning intervention, re-evaluation). Additionally, students met four times as a whole group for peer-support (without the long-arm supervisor, but with written guidelines for discussions), and twice in their individual placement groups with the long-arm supervisor.

For on-site supervisors an optional information evening was organized. In 2016 none of the on-site supervisors could participate because of time conflicts with other meetings. In 2017 both on-site supervisors participated.

All supervision sessions with the long-arm supervisor and peer-supports were guided by the learning tool (Dancza et al., 2016). Emphasis was intentionally placed by the long-arm supervisor on how the practical strategies the students were using related to the threshold concepts of client-centeredness, occupation, and understanding and applying occupational therapy theory in practice. The learning tool was in English and not translated into German, as students involved in the study were proficient in using English. The sessions used group discussions with the focus to augment and scaffold learning and enhance reasoning in the school setting. The practical examples in the learning tool were used as a basis for these discussions, such as the ways for establishing priority areas with the teachers, how to undertake detailed observations, documenting results and carrying out interventions.

### Participants

Purposive sampling (Patton, 2015) was used to recruit all occupational therapy students who had elected to do a school-based role-emerging placement. The inclusion criteria were (a) occupational therapy students undertaking a role-emerging placement in a Swiss German

mainstream school, (b) confident in English, and (c) agreed to participate in supervision sessions and peer-supports guided by the learning tool (Dancza et al., 2016).

The sample consisted of 13 female Swiss occupational therapy students, aged between 20 – 43 years, who were in their second year of the occupational therapy education and one long-arm supervisor for all student groups (the first author of this study). Eight students were part of the first group of role-emerging placements in 2016 and five students participated in the second group in 2017.

The participants were informed verbally and in writing about the study and gave their written consent. Their partaking in this research did not influence their grades as they were finalized before the interviews took place. They were made aware that they could withdraw at any time without penalty. To preserve the participants' anonymity, all names were replaced with pseudonyms.

### Data collection

Semi-structured focus group interviews (Patton, 2015), conducted by the first author, were used to gather data. Focus groups were selected so that students could share their experiences with others who were on similar placements, consistent with the social constructionist perspective of the research (Crotty, 1998). All students from the first group participated in a focus group, which lasted two hours. A second focus group was run with all students from the second group, which lasted one hour. Both focus groups were carried out in a quiet room at the Zurich University of Applied Sciences.

The interview guide used by the first author was based on Dancza (2015), covering five main areas including (1) the experience of the occupational therapy students doing their role-emerging placement in a school, (2) the insights they gained into the placement sites, (3) what the student felt they learnt, (4) what learning strategies they found helpful, and (5) their views about long-arm supervision. Probes were used to encourage participants to amplify certain areas. The first focus group was audio-recorded and transcribed verbatim. The second focus group was documented immediately afterwards by the first author in reflective field notes (Patton, 2015).

The first author's reflective field notes were kept throughout each of the placement periods as recommended by Patton (2015). These notes covered the supervisor's perceptions of the student learning process, thoughts about the supervision process and own feelings and reactions to being a long-arm supervisor.

**Data analysis**

All focus group interviews and reflective field notes were transcribed fully or noted in Swiss German. Template analysis (King, 2004) was used to analyse the perspectives of the students and supervisor. An initial template was created by the first author. These preliminary codes were identified based on initial reading and the previous experiences of both authors, consistent with social constructionist perspectives (Crotty, 1998). Initial data analysis was undertaken by the first author and further developed in discussion with the second author. All the data was read and re-read, assigning codes where they reflected the initial template. Codes were adapted or created to reflect the entire data set, as is recommended by King (2004).

To increase the confidence of the interpretation of the data in the codes and themes, consensus coding was undertaken, where an independent Swiss German paediatric researcher coded approximately 20% of the data (Crabtree & Miller, 1999). The coding was compared with the first author's coding of the same data to ensure agreement. There was agreement between the researchers for 75% of the data. Where discrepancies occurred, discussions were held until a consensus was reached. The final version of the template and data was then translated into English by the first author, as recommended by van Nes, Abma, Jonsson, and Deeg (2010), where translation is suggested at the very end. The data was then shared and discussed with the second author to further calibrate and review the analysis.

# Results

Overall, students valued the learning experienced during their placement in a school setting. From the data gathered, students spoke of their learning of the threshold concepts of client-centeredness, occupation, and understanding and applying occupational therapy theory in practice within the three emergent themes; "curriculum supports in placement", "uncertainty when applying their own knowledge" and "placement context and expectations".

## Curriculum supports in placement

Students reported on how this placement brought meaning to the theory they learnt at university, as they were able to use it to guide their practice. Students reported on how they followed the curriculum through using the learning tool (described by students as 'the workbook') to help them know what to do and to try out their ideas in a real setting. They commented on how this helped them to understand the usefulness of theory to guide practice.

> "*We learned [about occupation-centred practice] theoretically and yeah we knew what it was, but this time we really used it in practice and saw how the different steps [in the occupational therapy process] can be done and that they actually make sense and that they are needed. Yeah, it gave me this understanding; the practical side actually.*" *(Elin)*

Students reported how explicit guidance and use of reflective activities through the learning tool provided a framework for their placement, that still enabled them to develop their own skills and ways of practising.

> "*The workbook helped me to really go through the [occupational therapy process] step-by-step. The reflection questions were helpful. The workbook helped me especially for the observations and with talking [prioritising occupational challenges] with the teachers.*" *(Daniela)*
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> "*[The workbook] provided us with a frame of what to do, but what we did was our work and we can say it was something we did. The workbook doesn't say anywhere exactly what we will do in this placement, it is a framework*" *(Bea)*

The structure of the learning tool also supported the supervision of students, with the long-arm supervisor noting how it was used as a prompt during supervision sessions and reassured her that both students and supervisors were on the same track.

> "*Knowing that we go from one step to the next within the OTIPM makes the process so nice and clear for everyone and so predictable for everyone.*" *(long-arm supervisor perspective from reflective diary during placement of first group)*

## Uncertainty when applying their own knowledge

Having no established occupational therapy procedures to follow meant students needed to think for themselves and justify everything they were doing. Students expressed how much time they had spent finding out what the occupational needs were and evaluating these priority areas using the performance analysis, without having a clear idea of how to describe the client's goal and how to address them.

> *"I have the feeling that the start was for me very much extended [slow] and nothing was concrete." (Kathrin)*
>
> *\*\*\**
>
> *"I felt like the role-emerging placement was well guided but […] as it came closer and closer to the moment when we needed to do the first intervention, I was wondering what the first intervention will be?" (Bea)*
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> *\*\*\**
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> *"I would have liked to plan the intervention earlier, but you cannot if you do not have a goal yet." (Andrea)*

After they had set the goals, students reported how they were more settled in their occupational therapy student role and that they could finally begin their work implementing an intervention. With a clear goal, they expressed more confidence in what they were doing and felt that the teachers were also more comfortable with the occupational therapy role in the school setting.

> *"[after having set the goal] you could really start working…because before that you were like 'what shall we do?'" (Fabienne)*
>
> *\*\*\**
>
> *"When it was like clear we have a plan and I know what we need to do, I believe this gave us self-assurance and therefore also [assured] the teacher… From then on it went a lot better because she knew we had it under control." (Elin)*

The supervisor noted how uncertain the students were feeling about their occupational therapy role and the value of their contribution to the school setting. The students required ongoing support to reflect on their practice and manage what at times felt like a lonely experience. Despite the challenges and anxieties felt during their placement, at its conclusion students expressed how worthwhile and beneficial it was to their learning.

> "*One student was questioning whether their perspective as occupational therapy students made a difference or whether the intervention would have happened without them being in the classroom.*" *(long-arm supervisor perspective from field notes following the second focus group)*

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> "*Sometimes students felt lonely on the journey. They reflected how this might be similar to working as an occupational therapist after graduation and how it was a valuable learning experience.*" *(long-arm supervisor perspective from field notes following the second focus group)*

## Placement context and expectations

Students were aware of the impact of the perceived slowness of their progress might have had on how the teachers thought about occupational therapy. The students spoke of how they thought the teachers were unsure of what they were doing, particularly when there was nothing tangible (such as a piece of equipment or new technique introduced to the children) that the students could present.

> "*I think [the teacher] really had the impression that we did not at all prepare for our placement or [she thought] 'why are they doing this observation? Why are they not doing anything?'*" *(Elin)*

The long-arm supervisor was critical in liaising with the teachers and students so that teachers could understand the slower pace of placement was needed to give time for the students to think about each step of their practice and reflect on what they were learning.

> "*It was good to be able to meet with the teachers before the students started their placement. It allowed to talk about what students experienced the last year and to talk*

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*about expectations and student learning." (long-arm supervisor perspective from field notes during placement of second group)*

The students had expectations for their role and what they thought they would do during the placement. While they were able to work together with the teachers to prioritise the occupational needs, some students expected that they would direct the goal setting and provide the ideas for intervention. The students did not always see their role as collaborating with teachers on finding solutions for the occupational challenges together. The long-arm supervisor talked about how anxiety provoking it was to support the students to collaborate with the teachers on joint solutions and how at times she wished to reduce the anxiety for students by intervening.

> *"And then we [occupational therapy students] really considered each goal we set and asked ourselves 'does that goal help the class?'. If the answer was 'no', well then, we moved on to the next goal. We did this until we found a goal which helped the class." (Sina)*

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> *"Collaboration is so difficult to teach – how do you do this? Of course, you can talk about it and even practice parts of it in role plays, but when it comes to really do it, it's much more complex. And then the students felt pressure because they thought they would need to come up with an intervention. That made it very challenging for me as a supervisor, especially to not just try to release this pressure from the students but by focussing on learning and really doing collaboration during the intervention phase, which is essential here." (long-arm supervisor perspective from field notes during the first group placement)*

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> *"The students felt like they themselves needed to set up an intervention within a very short time frame which was all their ideas. They did not always see their role as supporting the teacher to find solutions which worked for her in her classroom." (long-arm supervisor perspective from field notes following the second focus group)*

Even though it was challenging for the students, through explicitly following the occupational therapy process and collaborating with the teachers to understand their perspectives, students reported on how they valued the experience of a client-centred approach. Students felt like it was something they would do again and take up in their future practice.

> "*For me [a highlight] was also the client-centredness. We really assessed what the teacher needed and what was important to her. Then we really set goals together and worked towards them. At the end we even were successful!*" *(Andrea)*
> \*\*\*
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> "*One student said that she would definitely follow the workbook process again because the other students who conducted a project did a package of interventions and in the end, they did not fit quite well the clients. For her it seemed like their approach on the role-emerging placement was closer to real client-centred occupational therapy practice.*" *(long-arm supervisor perspective from field notes following the second focus group)*

## Discussion

The aim of the study was to examine how occupational therapy students experienced applying threshold concepts in a role-emerging, school-based placement, and how this impacted on their learning. While engaging with threshold concepts formed part of the students' learning, it did not capture other elements which were evident from the results. These can be summarised as, "the curriculum", "knowledge generation and use", and "the placement context and expectations" which were also influential to the learning process and will be discussed in turn.

### Threshold concepts

The placement was set up by the long-arm supervisor with the intention of encouraging students to engage with three threshold concepts commonly identified for occupational therapy: client-centeredness, occupation, and understanding and applying occupational therapy theory in practice (Fortune & Kennedy-Jones, 2014; Hooper et al., 2013; Nicola-Richmond et al., 2016; Rodger & Turpin, 2011; Tanner, 2011). Students and the long-arm

supervisor spoke of how learning about all three threshold concepts were evident in their placement. What was interesting about their discussions, however, was that while the three threshold concepts are listed separately, they were discussed as interconnected concepts. For example, students and the supervisor described how they used theory to guide their practice as it was articulated in the OTIPM and learning tool, to establish occupational priorities which were meaningful for the teachers and children. Thus, each threshold concept was not given individual focus, but they were interconnected. This is consistent with the proposal by Neve (2019) where it is suggested that educators need to help students see the connections between threshold concepts, as well as the links with threshold concepts and clinical experiences.

## The curriculum

The educators involved with this placement created the curriculum with the intention of focusing students on the three threshold concepts previously mentioned. To do this, they used the OTIPM, as an occupation- and client-centred model that was familiar to the students. The curriculum also included the learning tool (Dancza et al., 2016), which provided supplementary materials based on the OTIPM, to support student placement learning. The benefit of making the curriculum overt to students and the long-arm supervisor enabled students to justify what they were doing and make explicit connections with theory. Using the learning tool meant that students and the long-arm supervisor could be on the same page in their supervision discussions. This provided scaffolding for the students' learning (Chaiklin, 2003), without the long-arm supervisor being constantly present with the students. It also reassured the long-arm supervisor that guidance for students reflected contemporary occupational therapy theory.

## Knowledge generation and use

Students' learning experiences were described as positive at the conclusion of their placement. Students did, however, reflect on how slow they felt they were progressing, as they had to think for themselves and justify everything they wished to do. Students could not replicate an occupational therapy supervisor as they had done in previous placements, so they were forced to find their own ways of working, make decisions and reflect on their actions. This is a similar finding to another study investigating student learning experiences on role-emerging placements in the UK (Dancza et al., 2019). The UK study identified that the procedural knowledge (e.g. the pre-determined assessment tools, intervention protocols,

documentation formats etc.) students most heavily relied upon in role-established placements was not available on the role-emerging placement. In the current study, while the learning tool and long-arm supervision sought to supplement some of this procedural knowledge, students had to rely on occupational therapy conceptual knowledge (e.g. the OTIPM and other theories) and dispositional knowledge (e.g. reflection and critical conversations with their peer and long-arm supervisor) to guide their practice. These experiences may have resulted in a feeling of a slower initial pace of working, as students struggled to understand what it was they were going to do and how to work meaningfully with the teachers.

## Placement context and expectations

What was also a key influence on student learning in the current study was the placement context of the school setting and the expectations from the teachers and students themselves regarding what the students would do. Students experienced the evaluation and goal-setting phase as a time-consuming struggle as they expected they would be the ones to come up with the goals and interventions, rather than work collaboratively with the teachers. On reflection, however, they expressed how working on the teachers' priority was the highlight of their placement. This learning was transformational for some students as they expressed how they would continue to practice in a way that is client-centred in their future placements and work.

Supporting students' collaboration with teachers was also challenging for the long-arm supervisor. Negotiations were required between the students and teachers about the time it takes for students to understand their role, establish relevant goals and intervention options. At times, the long-arm supervisor also had to give the students' time and space to work with the teachers, rather than intervein to expedite the process. How collaboration between students and teachers could be further facilitated by long-arm supervisors could be an important aspect to consider for future studies.

## The intersections

The results of this study highlighted that while identifying relevant threshold concepts to focus on during the placement offered a valuable starting point to supporting student learning, it was, however, not the complete story. Barradell & Kennedy-Jones (2015), proposed that identification of threshold concepts alone is insufficient for supporting student learning and that focus should be placed on what is happening in the in-between spaces when threshold

concepts, the curriculum and student learning intersect. This reflects the results of this study where, although students were introduced to the threshold concepts and the OTIPM throughout their course, it was only when they attempted to apply their theoretical knowledge in an authentic practice situation (Lave & Wenger, 1991), did they appreciate what it meant to be occupation- and client-centred. Not relying on established procedures or an occupational therapist to model their practice also forced students to engage with theory and reflection to work out what they were meant to do. This is reflective of the shift in emphasis of knowledge in role-emerging settings from procedural knowledge to conceptual and dispositional knowledge (Dancza et al., 2019). In these intersections, learning was uncomfortable. From a threshold concepts perspective, this could be described as student learning happening in liminal spaces, where students challenge their existing conceptualisations and embrace new understandings (Figure 1; Meyer & Land, 2005).
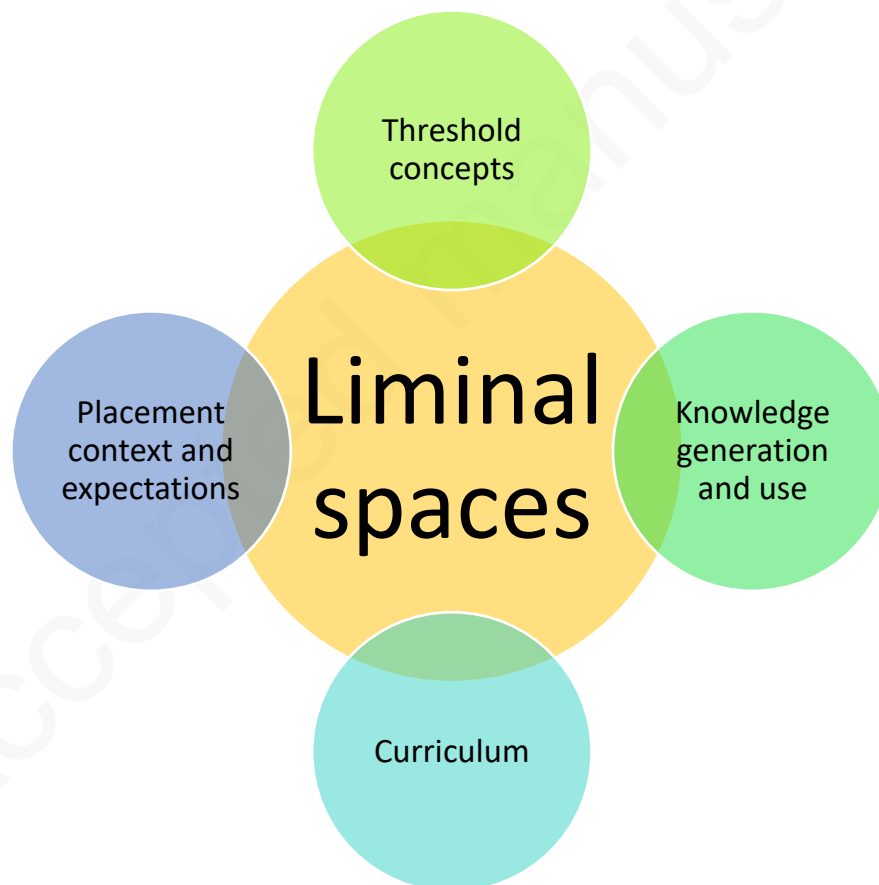
**Figure 1: Student learning in the liminal spaces between threshold concepts, knowledge generation and use, curriculum and context**

## Liminal space

The role-emerging placement appeared to create many spaces for the students to experience provocation and uncertainty (Barradell & Kennedy-Jones, 2015). The creation of this opportunity and ongoing support for students through the learning tool and supervision, is one example of how students were supported to learn in liminal spaces as recommended by Fortune and Kennedy-Jones (2014). Perhaps unsurprisingly, students did express anxiety particularly during the first half of the placement where they were attempting to negotiate with teachers on the priorities for their involvement while trying to assert their developing professional identity through making their own decisions about their practice.

Cousins (2006) highlighted that learning frequently requires a shift in the students' identity and that this is both cognitive and affective process. In the current study, anxiety was provoked as students' experienced liminal spaces during their placement. During these times, students sought reassurance from long-arm supervisors to settle their concerns. This indicates that while important learning was achieved at the end of the placement, students may not value uncertainty as a learning process. Moreover, the long-arm supervisor also sought at times to reduce the students' anxiety by intervening with the situation, indicating a level of discomfort for the supervisor as well. This has important implications for long-arm supervisors. At times, supervisors will need to hold the students' anxieties as they are engaging with threshold concepts during placement. Barradell and Kennedy-Jones (2015) caution that the uncertainty experienced should not be seen "as a problem to be rectified, rather than perhaps as a necessary part of the learning process" (p. 542). A careful balance of support and guidance is required which allows learning to occur through exploration of uncertain situations.  This is an interesting finding as the research relating to long-arm supervision is still in its infancy (Warren et al., 2016). Guidance for long-arm supervisors is an important aspect for supporting students on role-emerging placements and warrants further investigation.

## Limitations

This study was carried out in one university setting with two groups of occupational therapy students, which may mean the findings are specific to this local context. The similarities with other international studies, however, does indicate that the findings may be more widely applicable.

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The long-arm supervisor was the primary researcher for this study, so she was known to all the students. Care was taken to minimize any potential impact for the students and it was made clear that their participation did not affect their grades as they were finalized before the interview took place. Knowing the long-arm supervisor may have influenced what students chose to share during the focus groups. From a social constructionism perspective, however, this dynamic was acknowledged within the analysis. The close involvement with the students allowed for a rich understanding of their experiences across the entire placement period and supported the development of the results. The lack of audio recording for the second focus group was also a limitation, however, the detailed notes of the researcher and her close involvement with the students throughout the placement meant that students' views were constantly monitored and noted.

Finally, translation of the findings could have affected the content of this study since the interviews and analysis were done in Swiss German and then translated into English. However, to minimize any impact the procedure outlined by van Nes and colleagues (2010), where translation was suggested at the very end, was followed.

## Conclusion

Threshold concepts is a useful educational perspective to frame student learning on role-emerging placements. Threshold concepts may, however, only be the starting point. Considering how threshold concepts interconnect and intersect with the curriculum, knowledge generation and use and the context may help realise the potential of this educational perspective. These intersections create liminal spaces for students where learning appeared to be more apparent. Importantly, through understanding how students learn, engaging with uncertainty may be considered a vital part of this process and something which should be valued rather than lessened. This study gave valuable insight into learning experiences of students on their role-emerging placement, however, to support students best in their practical learning, more investigations are needed, specifically focusing on thfe supervisory experiences.

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