The Role of Peer Teachers in Dental Skills Education - A Phenomenological Study

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Abstract

Learning a new clinical skill in dentistry is stressful as it is, coupled with large student to teacher ratios, this can sometimes lead to students being overlooked. Peer teaching was piloted at The Faculty of Dentistry, Oral and Craniofacial Sciences (FoDOCS) and seemed to be positively received amongst the students. Furthermore, cross collaboration with data from Harvard School of Dental Medicine (HSDM) helped to understand the lived experience of the students in relation to peer teaching from both the student's point of view and the peer teacher's point of view. The hope was to identify from the student's perspective, if the scheme had any benefits and/or if improvements were needed. The study group consisted of 10 students from FoDOCS and 9 students from HSDM who were interviewed after clinical skills sessions with both staff teachers and peer teachers. Data was analysed using interpretive phenomenological analysis to identify key themes. A number of important themes were identified that highlight the overall positive effect that peer teaching has had on both students and peer teachers.

Keywords: peer teaching, dental education, phenomenology, peer assisted learning

1. Introduction

The idea that learners are actively involved in their education instead of acting as passive spectators has long been a topic of discussion in education (Rubin and Herbert, 1998). Student involvement in learning has been shown to also foster and increase problem-solving skills (Bloom, 1953). Collaborative peer teaching and learning is supported by the theoretical underpinning that teaching a peer allows a student to process the information themselves and understand it before they impart this knowledge to a fellow student (Svinicki, 1991). This process of peer teachers learning the material and then problem solving with fellow students, is a way of placing students in control of their own the learning (Rubin and Hebert, 1998). Critical thinking, problem solving and the ability to work as a team to achieve a common goal are all fundamental characteristics required of a dental professional and encouraging students to work within these dimensions at an early stage in their studies can help form the basis of collaborative clinical teamwork. Solving highly complex problems, especially like those found in dental scenarios, requires a vast array of knowledge that can only be provided by a group of students rather than an individual student (Wang, Woo and Zhao, 2009).

The relationship between a student and teacher is a critical factor in determining whether a student continues through the course, and combined with this, the sociological environment in which they learn is crucial in creating a sense of belonging (O'Keeffe, 2013). Feeling a sense of belonging in the classroom and within groups of peers is essential to academic success (Strayhorn, 2018). A feeling of disconnect with the classroom, peers and teachers and therefore an unwillingness to engage in the activity could be the reason behind a student's feeling of lack of belonging and hence lack of motivation. If a student feels alien in the environment they are in, they cannot connect with the activity, this ultimately results in poor performance. A student's sense of belonging is directly proportional to their engagement and performance when the task assigned is difficult (Goodenow, 1992). In other words when they feel the task is getting difficult, and they are already disconnected from their peers, teachers and environment, they will stop putting the effort in to achieve a good outcome.

Communication between students and staff can be restricted due to the student's belief that they may be judged, and this fear of judgement can have a knock-on effect with academic performance (Luzio-Lokett, 1998). When trying to understand this behaviour, the only way that can yield any meaningful information, is to look at the experience from the eyes of the students (Luzio-Lokett, 1998).

2. Methodology

In education, we seek to modify a student's private world, their way of thinking and their learning process so that there is a deeper knowledge gained of the subject at hand (Bolton, 1979). No two people experiencing a situation will come out with the same learnings and meanings (Tenenbaum, 1967). Given this emphasis on the notion of 'experience' in learning, a meaningful place to start would be with phenomenology, as it examines human behaviour as a product of their experience of the world around them (Bolton1979). Interpretive phenomenology understands that the theoretical underpinnings of purist phenomenology still exist in understanding the experience and views of participants in a particular phenomenon, however, it further recognises that the analysis and interpretation is dynamic, and a researcher's conceptualisation of the data is paramount to understanding the personal world of the participant (Smith and Osborn, 2015).

2.1 Sample Procedure

Sessions were chosen where researchers were not tutors to avoid bias, fear of judgement and to aid researcher bracketing. As per Finlay (2009), emphasis should be placed on reduction making the researcher noninfluential and neutral. Students perceive that if a phenomenon on their behaviour is being researched it is because their performance is outside of what is considered normal competence (Paterson and Hughes 1999). In addition, having prior knowledge of the respondents can influence the data collected (Chew-Graham, 2002). Ethical approval was obtained from Kings College London to include ethical approval to collect Data at HSDM. In accordance with ethical guidelines from The British Educational Research Association (2018), on selected sessions, information leaflets were given to potential participants. Year 4 Students who were acting as peer teachers along with the year 2 students who were learning clinical skills in the lab were then asked if they would like to take part and consent was obtained. Following this, students were also offered the option of declining participation up to two weeks after the session.

2.2 Sample Size

The participants were both junior students undertaking the clinical skills training and senior undergraduate peer tutors from both institutions to enable a 360-degree view of the scheme. There were 10 participants from FoDOCS and 9 Participants from HSDM, using purposive sampling to allow for a sufficient amount of variations on emergent themes to be identified across a range of interviews and observations (Giorgi, 2011). Sampling started and continued until saturation was achieved, (interview to redundancy). It is felt that in health sciences qualitative research there is a lack of rigour due to questionability of the whether the research can be reproduced (Mays and Pope 1995).

2.3 Methodology

Interview questions were piloted and checked with other staff tutors to ensure external validation that the questions would elicit the information we are seeking to achieve. Interviews were transcribed and the transcription was then reviewed in accordance with Smith, Flowers and Larkin (2009), tables were drawn for each transcript, to arrive at detailed themes and interpretations around linguistic, conceptual and descriptive notes. The emergent themes were then identified and grouped into recurrent themes throughout the interviews. In line with interpretive phenomenological analysis (IPA), threads of familiarity between the different thoughts and values expressed by the participants could be classed into emergent themes (Willig and Rogers, 2017).

3. Results and Discussion

Data analysis conducted in detail looking for linguistic, conceptual and descriptive meaning and a few very clear themes emerged, many congruent with the literature, but some new themes emerged across both institutions.

3.1 Negative Emotions with Task

Many during the interview used words such as:

"I got really stressed out just because our demonstrators explained it really well but there were parts where you don't really get to ask them questions".

"so often you don't fully get it until the day after the sessions".

"So, like I said, it's hard to keep up"

Stress in students has been shown to reduce academic performance in particular the constant attention and feedback given by dental clinical teachers has been shown to increase stress in dental students (Sanders and Lushington, 2002). This link between stress and academic performance has been shown to occur at higher levels in clinical and laboratory learning for dental students. Students reported receiving critical feedback, and a lack of personal help during sessions as factors that cause stress for them. Stress and anxiety with the work being asked of them can be directly linked to wellbeing and subsequently academic performance (Chambel and Curral, 2005). Continued academic stress in situations such as learning a new clinical skill can have a diminishing effect on academic performance and can affect whether the student engages in that activity or not (Murff, 2005).

3.2 Approachable

Many of the students reported that they felt the peer tutors were more approachable. The phenomenon of approachability can be identified as characteristics displayed by someone that emulates warmth and care and someone who is easy to talk to (Perrine,1998). In the teacher and student relationship there is a power dynamic whereby the student is considered metaphorically one step lower on the power ladder. This can in turn affect communication and approachability (Porter, Wrench and Hoskinson, 2007). Characteristics defining approachability from a student's perspective are fundamentally a perception of caring (Porter, Wrench and Hoskinson, 2007). If a student perceives that their teacher cares about their progression and understanding they are more likely to conclude that this teacher is more approachable. The following statements made during interview highlighted this:

"I think it's been good because they're quite open and friendly and you can like ask them anything really."

"I think the openness really, cos they were like literally "ask me anything, whenever like you feel stuck like ask me". They were just like quite approachable even if I didn't know them, they were like quite approachable."

"Just to be compassionate and….understanding of the level we're at and if they can relate and not look down on you for asking certain questions

"I definitely have a friendlier relationship with some of the students than with all of the faculty...I feel comfy just being like 'I have no idea what I'm doing'"

Students seem to be viewing a teacher's personality traits as a reflection on approachability.

3.3 Disconnect from Staff

A positive relationship between teacher and student will encourage students to engage further and enable a deeper learning (Bandura, 1977). Many of the students interviewed felt that the staff teachers did not understand them and this reflected in their learning potential. Comments were made such as:

"Whereas with a demonstrator, because they're so experienced and high in their field it's sometimes hard to see it from a student's perspective."

"tutors have been doing it for years and years like it's really easy for them to know what they're talking about but students have just done it like a couple of years ago"

It appeared that most of the students felt that the peers understood them more as they had done the course more recently than the staff tutor. This made them more relatable and subsequently easier to approach. It has been found that students can identify better with the peer tutors because they are "less threatening and more readily accepted" (Mandoli, Mandoli and McLaughlin, 1982). When peer tutors are a similar age as their tutees, their cognitive framework is similar and this means that they can deliver their teaching in a way that students will understand, something that staff teachers, due to their age gap, may not be able to do (Cohen, 1986). Too great a gap in age and therefore experience between tutor and tutee can result in minimal cognitive engagement (Topping, 2005). This was reflected in comments such as:

"more but it's kind of like they're more tailored towards our level of information that we're at now"

"you know you're not really sure if you're doing the right technique and its quite handy to just have someone walking around, who's kind if a similar age to us so it's kind of a more casual chat which is easier for us."

"Whereas with a demonstrator, because they're so experienced and high in their field it's sometimes hard to see it from a student's perspective".

A lack of connection with a teacher can lead to decline in academic performance as students are unable to connect with the teacher (Hamre and Pianta, 2019). Supportive relationships between a teacher and a student can lead to a

positive emotional experience which in turn enables the student to be more competent in the task (Hamre and Pianta, 2006).

3.4 More One to One Attention

Students felt that due to the large class sizes having the peer tutors there enabled more interaction and therefore more one to one attention, as opposed to just a staff teacher being present. Students consider large group settings with a teacher as more self-directed learning where the teacher is just a delegator or facilitator, whereas in a closer one to one setting, the teaching is more personal and directed towards individual student needs which creates a more positive outcome (Grasha, 2002).

"Also, maybe because there's only a few tutors, and quite a lot of us compared to them. So sometimes like they're busy and it's good to have an extra person. Cos some weeks that they're there its quicker to talk to someone."

"The fact that they can come around to everyone individually, give everyone individual attention alongside the clinical tutors."

Students left to their own devices with no direction often lack insight and this can limit their learning and progression. Those left to self-directed learning experience difficulties structuring the information they are trying to learn which in turn results in lower levels of knowledge (Schellens and Valcke, 2005).

3.5 Poor Communication with Staff

Many of the students I interviewed reported that they did not feel an affinity with the communication between the staff teacher and the class. With such quotes as:

"With the demonstrators they give us the overview, which is detailed, but you don't always understand everything in that half an hour that they speak for. And because they speak for so long you focus on the first half maybe for like a tiny bit and then not realise what's going on."

"sometimes some of the clinical tutors kind of go off on a tangent when they're speaking so they talk about kind of their own experiences, so that's why a lot of the people tend to ask the student more"

"every now and then I can feel maybe a little bit lost with what the tutors have told us a lot of information and I kind of feel a little bit overwhelmed"

Poor teacher communication has been shown to result in negative emotions from the students such as anxiety and hopelessness which eventually can lead to boredom and reduced productivity (Mazer et al, 2014). A lower effort on the teachers' part to communicate effectively with students can result in poorer performance from the students (Cooper, 1979).

3.6 Fear of Being Judged

Students often avoid interaction with teachers due to a fear of judgement and negative evaluation and they therefore try to avoid a situation where they perceive they may be evaluated (Watson and Friend, 1969). This means that often when they are struggling to perform an assigned task, they may not call the teacher over for fear of being judged as incompetent.

"it was an informal casual sort of chat with him which was quite nice."

"I could ask any question and I didn't feel as though there was anything embarrassing to ask."

"It's also less intimidating I feel asking the students questions."

Those who report higher levels of social anxiety have lower self-esteem and are less likely to achieve goals that they are expected to reach (Kocovski and Endler, 2000). Clinical teachers are considered role models to students and therefore should always display positive cognitive characteristics (Jarski, Kulig and Olsen, 1990). Intimidating teachers tend to foster students who are fearful of approaching them and therefore academic low achievers. Positive interpersonal relationships between teacher and student fosters a positive learning environment and therefore better progression (Jarski, Kulig and Olsen, 1990). The peer tutors interviewed also felt that the interpersonal relationship that they had with the students were more positive than the staff teacher and student relationship. This was reflected in such comments as:

"I feel like it provides the students the opportunities to ask questions that they might not otherwise be able to ask or feel confident enough to ask tutors"

"And they actually actively seek us out to ask a question. I think particularly the more unconfident ones seek us out more because they don't want to come across as not knowing stuff"

"You're in like close proximity and you feel more comfortable with the peer tutor."

3.7 More Information from Peers

Many of the students felt that the peer tutors were offering extra information that the staff teachers were not offering. Students also felt that the peer tutors understood them more and therefore were able to identify their needs better;

"students have just done it like a couple of years ago, so they can, I don't know if they remember more but it's kind of like they're more tailored towards our level of information that we're at now."

"but also, you can ask them about stuff that's not sort of relevant to what you're doing like about the course or exams"

Providing supportive information help learners engage in the study material they are learning (De Smet, Van Keer and Valcke, 2008). This sense of belonging can increase a students feeling that they are a valued member of the academic community they are in (Hagerty et al, 1992) and this can then help them feel connected with the subject matter they are studying (Levett-Jones et al, 2009).

""and the benefit was that the peers would give you, you could argue that they were shortcuts, but easier techniques that we could implement and then we could explore our options."

3.8 Quality of Teaching

As a potential disadvantage to the peer tutoring scheme, students identified that they were unsure of whether the quality of teaching provided by the peer tutors was adequate. Comments made included:

"quite often techniques and methods they would teach you, they were aware that they were ones that your tutors wouldn't recommend"

"someone said once that they don't actually know, well they do know but sometimes the information they give might not be correct"

Quality of teaching that is fit for the purpose in which it is intended is paramount to achieving a good learning experience for the students involved (Biggs, 2001). A student's cognitive and behavioural outcome in an academic setting can be influenced by the quality of teaching that they receive (Rowe, 2003).

Students rate teacher knowledge as most important to a classroom session, and a student's feeling of success or failure is reflected by the quality of teacher they perceive (Davidhizar and McBride, 1985). Teaching ability has been noted as some of the factors that can affect student learning and gaining practical experience (Tang, Chou and Chiang, 2005). It is interesting that both the students and the peer tutors highlighted that there was a limitation to peer-tutor knowledge content and what they could deliver when teaching.

4. Conclusion

One of the key areas of peer teaching that the students found most beneficial were the approachability of the peer tutors. Students that find teachers more receptive to interaction are more likely to perform better academically (Jacob, 1957). This approachability of teachers was viewed in this study as a very positive experience and one that students felt improved the skills sessions. Visibility and approachability can go hand in hand, the lack of visibility can lead to lack approachability which can in turn lead to lack of trust (Ruder, 2006). This provides useful insight for teaching staff at both faculties especially when dealing with situations such as poor attendance and student failure to answer questions in class.

Having identified teacher approachability as a key factor in academic performance from the student's perspective, the data pointed to the importance of good and regular communication between staff and students. Teachers who communicated better were perceived as being more effective teachers and subsequently achieving a more positive outcome form the students (Andersen et al, 1981). Knowing that good discussions between teacher and student can contribute to student performance (Kopcha and Alger, 2014), can help highlight and educate staff in the pedagogical development of their communication styles. It has also been found that the presentation of success of a peer can help other students to foresee what they too can achieve, and this has in turn increased success (Gockhale, 1995).

An important disadvantage to the scheme that was raised was that students felt that the information being provided by the peer tutors may not be accurate. There was a limitation to peer tutor knowledge that both students and peer tutors were aware of. In line with constructive alignment, learning outcomes will need to be devised for the peer tutors, so that the desired outcome of such training sessions reflects the learning outcomes and students derive meaning from the training activity (Biggs, 2003).

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