Understanding Academics' Conceptions About Teaching Practice: The Role of Professional Learning Conversations

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ABSTRACT: The aim of this study is to identify the characteristics of early-career academics' professional learning conversations with mentors during their teaching practicum, which forms part of a professional development programme. As academic developers, we are interested in the degree to which such guided conversations can support early career academics in improving their teaching practice, in particular within the context of inquiry into their own teaching and learning.

This paper draws on the current research on professional learning conversations to examine the dialogues between mentors and two early career academics in a research-intensive university in Asia. An analysis of four audio-recorded transcripts of guided professional learning conversations revealed that three conditions were present in most effective conversations for early career academics–a focus on tasks that have a high cognitive demand, the dialogue is structured to allow for elaborative interactions, and the presence of continued guided support.

The findings of this study will inform academic developers' work on incorporating learning conversations in the professional development programme to promote and enhance the learning experience of participants.

1 INTRODUCTION: CONVERSATION FOR LEARNING

There is general consensus that professional conversations amongst teachers can promote the learning of participants by examining the effectiveness of their practices and identifying ways to make improvements (Timperley, 2015). Professional conversations refers to "formal and informal dialogue that occurs between education professionals including teachers, mentors, coaches, and school leaders and is focused on education matters" (p. 6). Stoll, Harris and Handscomb (2012) emphasized the importance of *learning* during the conversation,

> "In focused learning conversations, educators make meaning together, and jointly come up with new insights and knowledge that lead to intentional change to enhance their practice and pupils' learning" (p. 4).

While studies have shown that engaging teachers in professional conversations can lead to learning that influence thinking and practice, the need for conditions and processes that support teachers in deep sustained conversations about matters of teaching and learning remains a concern for academic development (e.g. Vescio, Ross, & Adams, 2008). The purpose of this study is to identify the characteristics of early career academics' (ECAs) professional learning conversations with mentors, and how this may help academic developers to better understand the use of professional learning conversations to guide and support ECAs in improving their teaching practice. In particular, the research questions for this study are:

- What are the characteristics of guided professional learning conversations in a mentoring programme?
- What conditions of professional learning conversations will support participants in developing their understanding of teaching practice?

2 THEORETICAL FRAMEWORK

This paper drew on four theoretical models to identify the conditions for examining the characteristics of professional learning conversations and to design question prompts that were used by mentors (academic developers) in learning conversations with participants. The theoretical models were chosen for their evidence-based approaches to study professional learning conversations with teachers and the attention to applying the models in changing teaching practice at higher education.

The research on teachers' use of evidence in their thinking and decision-making has provided fertile ground for the study of learning conversations (Earl & Katz, 2006; Earl & Timperley, 2008). By examining and understanding how teachers approach, engage with, interpret and use a range of data sources in making educational decisions, Earl and Timperley (2008) revealed that conversations grounded in evidence and focused on learning from that evidence have "considerable potential to influence what happens in schools, and ultimately enhance the quality and the efficiency of student learning" (p. 2). Grounded on the work of Argyis and Schon (1974), Robinson (1993), and Timperley (2001), three interconnected qualities for evidence-informed conversations are proposed–*having an inquiry habit of mind*, *considering a broad range of relevant evidence*, and *developing relationships of respect and challenge*. These qualities help shape the conversations in productive ways, moving through an iterative "series of decisions, actions and feedback loops" (p. 5). The key characteristics of these conversations involve getting to the heart of teaching and learning issues identified in the evidence, developing insights into improving practices, negotiating the steep learning curve in moving from producing and examining data to using it to inform practice, and the instrumental role of leading successful learning conversations.

Roxa and Martensson (2009) investigated the conversations of teachers on their understanding of teaching and learning through a socio-cultural lens, with the assumption that university teaching is individually constructed as well as socially influenced. They found that learning conversations is most effective when university teachers engage in sincere conversations about teaching within a specific group of colleagues or 'significant network' (p. 556). Three key characteristics of such 'significant' conversations are–*trust*, *privacy* and *intellectual intrigue*. Trust and privacy are necessary to create a safe and secure environment for conversations that may involve personal issues and challenges, while intellectual intrigue takes the form of interpreting teaching and learning experiences and using these interpretations for planning and teaching. This study highlights the need for identifying and recognizing these significant networks of teachers, and finding ways in which external messages (such as policies and scholarly teaching approaches) can enhance the quality of the conversations and eventually, the teachers' understanding of teaching and learning and their teaching practices.

Another line of research that considers the importance of learning conversations is about the study of being a reflective practitioner or learning conversation as reflective practice. Ward and McCotter (2004) developed a reflection framework that identified four levels of reflection–*routine*, *technical*, *dialogic* and *transformative*, and directed the focus of teachers' conversation towards three dimensions: "What is the focus of concerns about practice?", "What is the process of inquiry?", and "How does inquiry change practice and perspective?" A reflection rubric was designed and used for formative assessment of teachers' meaningful reflection. Both authors alluded to the need for reflective conversations that emphasize the connection between teaching practice and students' learning outcomes, i.e. moving towards dialogic and transformative levels of reflection.

The literature on building professional learning communities recognises the value of learning conversations and the social context of collaborative reflective inquiry. In a study of university teachers developing conversation communities, McCormack and Kennelly (2011) attributed the development of sustainable conversation to three key factors–*connection*, *engagement* and *safety*. Connection is envisaged as the diversity and expertise that participants bring with them to the discussion. Participants are engaged through a common purpose involving the construction of a teaching philosophy statement and a teaching portfolio, to "bring into consciousness participants' mental models and subject them to reflective investigation with others" (p. 523). Safety takes the form of a physical as well as social space for facilitating critical discussion and feedback on teaching and learning. These three factors are seen as important for participants in increasing their skills in talking about teaching with colleagues, writing about their teaching, personal reflection skills, and confidence in talking and writing about their teaching.

The summary of theoretical models above was not meant to be exhaustive, but intended to provide a brief overview of the evidence-based studies that underpin our current approach to examine professional learning conversations. What emerged from the review above are four necessary conditions for engaging participants in learning conversations:

- **Cognitive demand of learning task**–the task for conversation should be seen as personally challenging, relevant and worthwhile for sustaining the effort to bring about a change in practice

- **Multiple ways to engage productively**–structuring the discourse to allow for cognitive elaboration (e.g. talk that promotes interactive cognitive activities, metacognitive processes and scaffolding each other's learning)
- **Building trusting relationships**–relational attributes that support and enhance the learning conversations (e.g. commitment to collaborate and make a difference, taking ownership of the discussion, trust and mutual respect, openness to confirmation and disconfirmation)
- **Guided support**–resources that are applicable to the participants' context (e.g. tools, expertise, peers as a source of knowledge and skills)

We believe that academic developers should consider the four conditions for engaging participants and bringing about productive learning conversations. However, we recognize that these conditions are not exclusive or prescriptive; they have to be negotiated with the participants as part of the dialogic interaction. We also realise that all communication, including dialogue, involves tensions (e.g. about people, perspectives, power, and politics), and constraints (e.g. time for discussion and workload) and acknowledge the need to work with the tensions/constraints rather than ignoring them or hoping they will go away.

3   CONTEXT AND METHODOLOGY

In this study, the learning conversations took place within the context of a professional development programme for ECAs, specifically in preparation of their teaching practicum. To enable participants in this study to make critical inquiry into their teaching practice, a set of ACTIVE question prompts were designed and used to guide the learning conversations (see Appendix A). The activities during the conferencing sessions are shown in the flow diagram below (Figure 1).
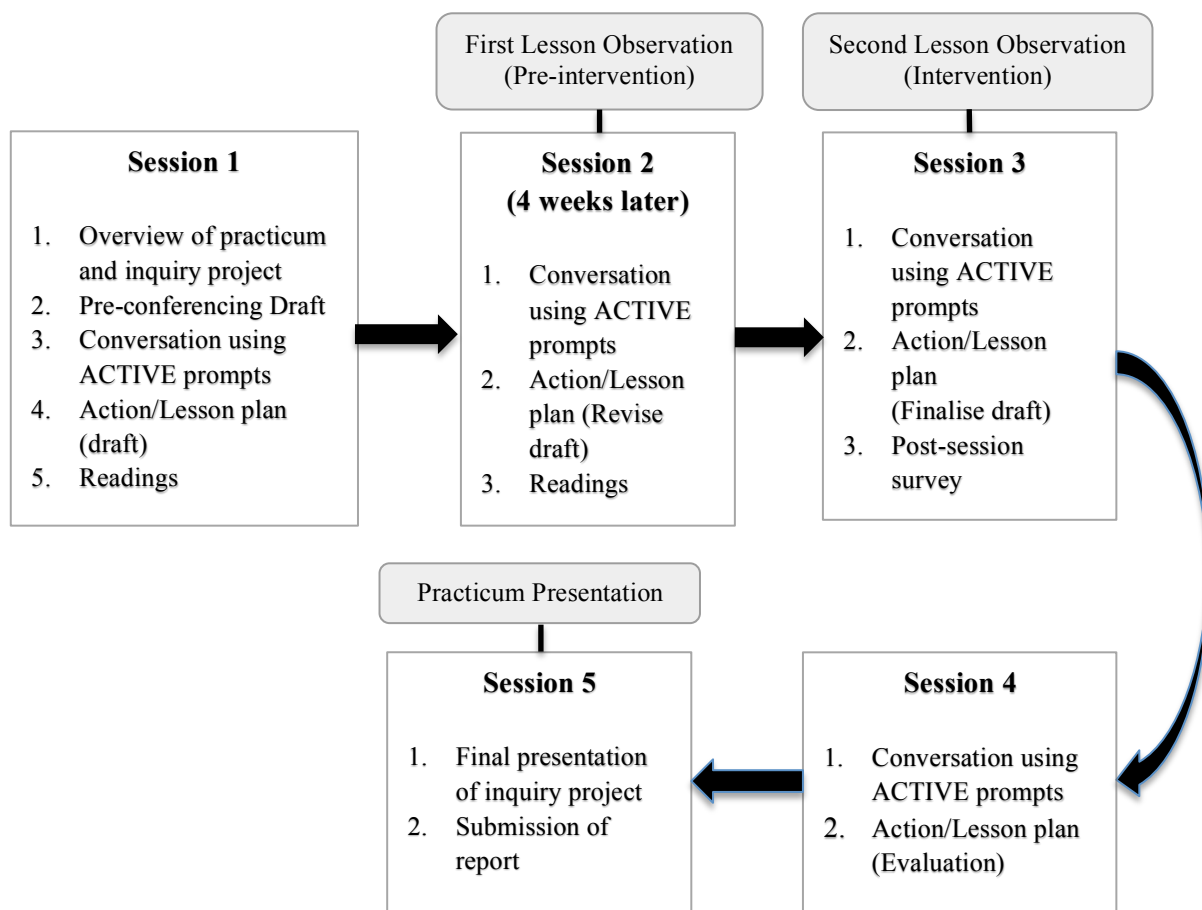

Figure 1. Workflow of the five conferencing sessions for the study.

The participants were selected based on the following criteria –They had participated in the core professional development programme within the last three academic years, they had not completed their teaching practicum, nor arranged a practicum proposal discussion with their practicum facilitator.

Upon confirmation of the invitation, the participants will meet with the mentors for a series of five conferencing sessions (5 x 2 hours) to develop and implement an inquiry study into their teaching practice. A total of six participants took part in this study. In this paper, we will focus on the dialogues of two participants (ECA1 and ECA2) that took place in Sessions 1 and 2. Both are teachers at a research-intensive university in Asia.

The analysis of the professional learning conversations between participants and mentors was based on 4 transcripts of conversations carried out during the first and second conferencing sessions, two from each participant. The transcripts were independently analysed by each of the authors, through an iterative approach of identifying themes and categories. The authors came together to negotiate the categories, resolve any differences, and to further identify the common patterns (Miles & Huberman, 1994).

4   THE LEARNING CONVERSATIONS

The analysis of the transcripts across the three conditions revealed that cognitive demand, elaborative discourse, and guided support were key factors that led to productive and deeper inquiry into one's teaching practice. A trusting relationship between mentor and participants was implied but not studied in this paper.

4.1   Cognitive demand: Orientating to problems of professional practice

ECA1 arrived at the conferencing sessions intending to try out a team-based collaborative learning approach in her third year pharmacokinetics class, as an alternative to didactic lectures. As such, a bulk of her sessions focused on discussing the mechanics of the team-based learning sessions, specifically, ways of making the collaborative learning activities productive for students. To orientate ECA1 towards an inquiry-focused approach, the mentors pointed out the need to draw a connection between learning difficulties observed and the collaborative learning approach.

Mentor: *What [do] you want students to know and be able to do, as a result of collaborating together?*

ECA1:   *[Students] can learn from one another, which they won't get from didactic lectures. For this activity, they're grouped according to their house (i.e. Pharmacy have a house system) instead of by class list, so they may work with peers they aren't familiar with. It's an opportunity to work with people they may not know.*

Mentor: *How does the Jigsaw learning activities lead to better learning?*

EAC1:   *The emphasis is on teamwork…initially in their expert groups, they all may not chip in, since everyone read the same thing…however, in their home groups, each would have read according to the assigned A/D/M/E group, hence they're supposed to share and discuss. This activity would expose them to teamwork-based activity before they graduate.*

While ECA1 arrived intending to implement a learning activity, ECA2's point of departure was trying to fix a learning issue. ECA2 was intent on seeking help to resolve some challenges he was facing in his teaching. Specifically, he was experiencing problems with a second year core module on microprocessors, and sought our input on strategies to raise interactivity during the lectures and enhance student interest in the subject. Instead of focusing on the answer to the problem, we drew his attention to re-defining the learning problem faced by his students.

Mentor: *What are some of the learning issues students face in your class?*

ECA2:   *One of the main difficulties is that the students have to really try it out to understand the functions of the parts and how the electrical systems are connected as a whole. They might have to struggle, and may respond negatively if told that the real way to learn [this topic] is to try it out.*

Mentor: *Have you tried other strategies and how do they respond?*

ECA2:   *I tried MCQs during lectures, but there are 2 problems. First, it can be time-consuming for such a content-heavy module…Reducing the content is an easy option but not a good*

one, because eventually students lose out if I cut too much. Second, students may take MCQs like a lucky draw...try their luck rather than try to really solve the problem.

Mentor: *Coming back to learning issues, what do you think makes learning this subject difficult?*

ECA2:   *There is a lot of content to cover...Students also have to apply lecture content in their practicals. Often, students fail to see the link between the [lecture]...with the components to assemble during practicals.*

4.2 Elaborative discourse: Promoting deeper processing

In terms of her teaching and learning beliefs, ECA1 strongly believes that students should be actively engaged in class, and be equipped with the ability to collaborate with their peers and not be afraid to ask questions. In this regard, we discern a connection between her beliefs and the team-based learning approach she plans to try out. However, there was little reflection about teaching and learning issues in her class, and more importantly, no links were established between these issues and her own teaching practice. This does not mean she has not considered them; it was more that her focus was mainly on refining the learning approach for her classes. We decided to probe deeper into how she structured the collaborative learning activity to bring about more productive student discussions.

Mentors: *What do you want students to do in their expert groups?*

ECA1:   *They should [produce] the key points of the expert content; compare [and] summarise it as a group.*

Mentors: *Are students in the expert group equipped with appropriate instructions on how to collaborate?*

ECA1:   *Students have 10 mins to summarise the content before returning to their home groups for 20 mins of discussion.*

Mentors: *Is this too rushed for the expert and home groups?*

ECA1:   *You are right. I'm still thinking how to streamline this workflow...Perhaps, I can get the expert groups to discuss the similarities/differences of these 3 populations, then they share immediately in their home groups, especially the differences.*

With his keen focus to solve the issue at hand, it was evident that ECA2 had to be consciously steered towards thinking about his teaching and learning beliefs, which was done using the question prompts. These were also applied in helping to reframe ECA2's thinking towards finding out the teaching and learning issues his students were facing; knowing what these issues were would enable ECA2 to gain a clearer understanding of the reasons behind the low response and interest levels for this module. While ECA2 was open to these suggestions, he was quick to point out prevailing challenges within the module which would hamper their implementation (e.g. MCQ lecture prompts might not work because module was content-heavy and constrained by time). To promote a deeper processing, and move away from a 'deficit' view, we attempted to help ECA2 draw connections between the instructional approach and students' understanding, which eventually, led to ECA2 commenting on re-looking at his teaching approach.

Mentor: *How do students learn in the laboratory?*

ECA2:   *They have to interpret diagrams and assemble different components for the system to function properly, with guidance from the lab instructor.*

Mentor: *Are your students able to apply knowledge from the lectures to solve the problems in their practicals?*

ECA2:   *Students tend to have problems with the connections and components. During lectures, I teach the functions of the components and the principles...of different types of processors. I show diagrams of how the parts work together. Perhaps, I should reconsider the presentation of the lectures and practicals, and establish a stronger link between lecture materials and practical manuals.*

4.3 Guided support: Sharing tools and expertise

The mentors shared an article with ECA1 that described a study using a similar collaborative learning approach within her discipline. ECA1 commented that this article was useful to help guide her planning and evaluation of her students' learning. For ECA2, the mentors were able to get him to share the instructional materials, laboratory manual, and students' practical tasks. These learning resources were used to engage in further conversations on how best to change the instructional approach to help his students see the link between content knowledge and procedural knowledge.

5   REFLECTIONS

Both mentors agreed that the question prompts were useful to guide the learning conversations. The characteristics of participants' conversations were similar to what have been identified in the literature (e.g. Timperley, 2015):

- Articulation of learning problems experienced by the participants
- Reaffirmation of observations of students' learning behaviour
- A focus on searching for solutions to problems
- A willingness to engage in conversation to bring about improvement to current practice

Two interesting observations of ECAs' conceptions of teaching practice that warrant further investigations are:

(a) While the ECAs were keen to improve their teaching practice, they tended to approach the conversations with a view of fixing the problem with an alternative teaching or learning strategy or activity. They appear to fall into "activity traps" (Katz, Earl, & Ben Jaafar, 2006), whereby teachers move too quickly to "doing", feeling busy and occupied without sufficient understanding of the underlying issues that the evidence is saying and not being able to work on the key things given the circumstances. Instead of focusing on new strategies, perhaps, participants can be guided to identify concrete evidence related to their students' learning issues. This implies going beyond incorporating data into the conversations. It also involves a conscious effort of asking questions, examining evidence, and considering what the evidence means in the particular situation or context, and in relation to their own teaching practices.

(b) Another important observation is that the learning conversations need to help ECAs to move away from being passive to becoming agents of their own learning. The key question to ask ourselves as academic developers is: Do the conversations develop in the participants the kind of agency and responsibility for their own learning–actively seeking feedback on their teaching practice and engaging in inquiry to develop better ways to address students' learning issues?

In conclusion, this paper has demonstrated the purposeful use of guided professional learning conversations to support the learning of ECAs' inquiry into teaching practice, and the need for academic developers and mentors to create the enabling conditions to bring about elaborative and interactive dialogue.

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APPENDIX A. 'ACTIVE' QUESTION PROMPTS

In this study, we worked with the participants using the 'ACTIVE Question Prompts'. This model incorporates 6 cognitive processes (**A**nticipating, **C**larifying, **T**hinking, **I**nteracting, **V**isualising, and **E**valuating) to help participants inquire into their teaching practice and engage in professional learning conversations with the mentor (academic developer) as well as peers. Details of each cognitive process and the question prompts are described below:

- **Anticipating**. In which the participant envisions what or how they should approach the lesson, learning task or activity. Examples of question prompts include:
    - o What are your beliefs about learning?
    - o What do you want your students to know/do as a result of this course/module?

- **Clarifying**. In which the participant identifies, sets, and communicates clear learning goals and success criteria. Examples of question prompts include:
    - o How will students demonstrate that they have acquired the essential knowledge/skills?
    - o How will you select and design an instructional task?
    - o What do students already know?)

- **Transferring**. In which the participant develops a critical understanding of his/her role as a teacher. Examples of question prompts include:
    - o How will you intervene for students who struggle and enrich the learning of proficient students?
    - o How do you maintain high cognitive demand of the tasks during enactment?
    - o How do you create a positive learning environment?

- **Interacting**. In which the participant considers using multiple instructional strategies and feedback to engage the learner. Examples of question prompts include:
    - o How can students better use cognitive strategies in their learning?
    - o How do you design opportunities for productive discussion?
    - o How do you use questioning and feedback effectively?

- **Visualising**. In which the participant makes learning/teaching practice visible. Examples of question prompts include:
    - o What does students' learning look like?
    - o What can you do to make your own practices visible?

- **Evaluating**. In which the participant reviews, reflects, and refines learning tasks and practice. Examples of question prompts include::
    - o How do you use evidence of student learning to improve your own practice?
    - o How to bring about assessment for learning?