

Facilitating Formative Feedback: An Undervalued Dimension of Assessing Doctoral Students' Learning

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The provision of effective formative feedback is a crucial element of enacting quality learning and teaching at all levels of education. In the context of assessing doctoral students' learning, this provision is often unstated and hence undervalued, overshadowed by the formal processes associated with the confirmation of candidature and the examination of the dissertation. Yet those formal processes are unlikely to be successful unless the student's supervisors present helpful feedback on draft versions of the confirmation proposal and dissertation chapters.

This paper focuses on the strategies used by the authors in providing feedback on the written work of their doctoral students, and in so doing elicits some of the underlying educational principles framing that provision. Those principles derive from aspects of the authors' separate and shared value systems and worldviews, thereby constituting an individualised and even idiosyncratic approach to presenting feedback.

In order to link the authors' feedback strategies and principles with the wider imperatives of current practices of doctoral student provision, they are analysed in terms of Lee's (2008) typology of research supervision approaches: functional, enculturation, critical thinking, emancipation and relationship development. Each approach exhibits a different understanding of the student-supervisor relationship and hence of the function of feedback within that relationship. Yet seeking means to distil and deploy the strengths of each type of supervision and feedback is one way to enhance the provision of such feedback.

More broadly, the authors highlight an uneasy but necessary set of tensions attending the student-supervisor relationship, including the provision of feedback: between professional self and personal self; between dependence and independence; and between systemic pressures and individual innovation. Acknowledging the disciplinary, methodological and paradigmatic contexts is also important in maximising the quality of such feedback and enhancing the value of this vital dimension of assessing doctoral students' learning.

Keywords – assessment, doctoral students, formative feedback, student-supervisor relationship.

Introduction

Assessment is rapidly gaining ground as a field of scholarship in its own right (Hayward & Hedge, 2005; Wiliam, Lee, Harrison, & Black, 2004). Within that field, formative feedback continues to win acceptance as a crucial dimension of effective assessment for long-term learning (Black & Wiliam, 2009; Nicol & Macfarlane-Dick, 2006; Ruiz-Primo & Furtak, 2006). Yet the particular role of formative feedback in sustaining learning by doctoral students remains an undervalued dimension of assisting and assessing their learning. We seek here to contribute to redressing that imbalance.

The paper consists of the following four sections:

- A selective literature review and conceptual framework
- The research method deployed in the study
- Strategies and principles that the authors have implemented in providing formative feedback to their doctoral students
- Broader implications for assessing doctoral students' learning.

The argument framing the paper is that facilitating formative feedback can undoubtedly enhance the quality of doctoral students' learning, but only if it is understood from the perspective of the student-supervisor relationship.

Literature review and conceptual framework

The published literature related to doctoral student education is burgeoning. Current trends include the experiences of international doctoral students (Evans, 2007), doctoral student attrition (Golde, 2005), doctoral student socialisation (Mendoza, 2007) and the impact of doctoral student supervision (Paglis, Green, & Bauer, 2006).

A key subfield within this literature is focused on different conceptions of and approaches to doctoral student supervision. Examples include supervising students in a context of managerialism (Cribb & Gewitz, 2006), supervising part-time students (Watts, 2008), supervisor productivity (Crosta & Packman, 2005) and the intersection among doctoral supervision, workplace research and changing pedagogical practices (Malfroy, 2005). Malfroy (2005, p. 177) perceives supervision as more than the student-supervisor relationship and describes it as "the importance of collaborative knowledge sharing environments and collective models of supervision". Lategan (2008a, p. 4) views postgraduate students "as one of the most important sources contributing to the development of new knowledge".

In particular, students should be inspired, encouraged and cared for by their supervisors within a multifaceted and dynamic supervisory relationship. This relationship is usually flexible and will evolve over time "as the postgraduate student moves from being a novice to becoming a competent researcher" (Hay, 2008, p. 7). Boundaries should be made clear and explicit at the beginning of the working relationship to foster lifelong partnerships. Muller (2008, p. 42) emphasises the idea that students should be open to "productive working relationships with the supervisors who provide" the feedback. Sambrook, Stewart and Roberts (2008, p. 82) acknowledge the challenging issue of "giving and receiving feedback". They further state that "genuine constructive critique can often be perceived as being 'negative' (bad and painful) or 'positive' (nice and encouraging) when it could be argued that all feedback is positive in its attempt to improve performance" (2008, p. 82). Kumar and Stracke (2007, p. 466) also note that the "expressive function of feedback, which comprised praise, criticism, and supervisor's opinion" is valuable and benefits the student the most.

Building on these disparate ideas about the doctoral student-supervisor relationship, one recent conceptualisation of doctoral student supervision is Lee's (2008) typology of research supervision approaches, summarised in Table 1:

Table 1: A framework for concepts of research supervision (Lee, 2008, p. 2)

	Functional	Enculturation	Critical thinking	Emancipation	Relationship Development
Supervisor's Activity	Rational progression through tasks	Gate keeping	Evaluation Challenge	Mentoring, supporting constructivism	Supervising by experience, developing a relationship
Supervisor's knowledge & skills	Directing, project management	Diagnosis of deficiencies, coaching	Argument Analysis	Facilitation Reflection	Emotional intelligence
Possible student reaction	Obedience Organised	Role modelling	Constant inquiry, fight or flight	Personal growth, reframing	Emotional intelligence

Each approach exhibits a different understanding of the student–supervisor relationship and hence of the function of feedback within that relationship. The main idea acknowledged in the **functional** approach is one of supervising and managing the project. This implies “active engagement by the supervisor through the research process ... to lead/assist the student to solve ... a research problem” (Lategan, 2008a, p. 4). Lee (2008) regards the strength of the functional approach as its transparency and consistency whereby growth can be monitored. This approach was encapsulated in a statement by one of the interviewees in Lee’s research:

Day One I tell them: ‘you have three years’[.] They are given a schedule. We are geared up for 3 years and know what can reasonably be achieved in 3 years rather than what is a complete piece of work. We have become more focussed. People treat it like a 9-5 job. You have to do something that someone is prepared to pay for. (as cited in Lee, 2008, p. 4)

Supervisors play an important role in guiding and introducing the students to becoming gradually part of the academic community through **enculturation**. This approach requires the students to engage but also to comply with “community formation” and does not leave much room for internal variation (Lee, 2008, p. 13). Cousin and Deepwell (2005, p. 2) concur that the

... virtue of communitarian values of solidarity, mutual respect and so forth comes at a price, because these laudable attributes downplay the more sinister dimensions of community such as low tolerance of internal difference, sexist and ethnicised regulation, high demand for obedience to its norms and exclusionary practices.

The enculturation approach was similarly summarised in a statement by one of the interviewees in Lee’s research (including a definite assumption about the student–supervisor power differential):

I believe they need to get in the lab straight away[;] they learn more by doing practical work and then they will appreciate the literature. Initially I will suggest tasks and introduce them to the technical staff and lay out what I want done to get them started. (as cited in Lee, 2008, p. 6)

Throughout the doctoral journey, students need to reflect and analyse their work through **critical thinking**. Onwuegbuzie (2001, p. 3) notes that “doctoral-level students have significantly higher levels of critical thinking skills, ... that critical thinking skills are related to academic achievement and that doctoral-level students represent more academically-motivated students”. A representative statement about this approach by one of the respondents in Lee’s (2008) research (again with definite views about who was to do what in the student–supervisor relationship) was as follows:

I think my student is more geared up towards reporting than thinking. I told her to shift into second gear. Her thinking is there but it does not come out in her writing. I am going to inspire her to be brave and give her some tips on how to present her data and make her voice more distinctive. I am going to encourage her to use fill in words such as ‘conversely’ to synthesise and structure thoughts. (as cited in Lee, 2008, p. 7)

The power of the **emancipation** approach should be the development and growth of the candidate (Lee, 2008, p.13). Supervisors should foster the partnership with their students and encourage research values with integrity, without overpowering the students (Lategan, 2008b, p. 39). As one of the participants in Lee’s research noted: “At the start you know a little bit more than them, but not much. Your job as a supervisor is to get them to the stage of knowing more than you” (as cited in Lee, 2008, p. 8).

For Lee (2008), **relationship development** is centred on the emotional and relational connections between doctoral students and their supervisors, with emotional intelligence being a key construct. Notions of dependence and independence fluctuate according to context and the dynamics of the particular relationship. This was exemplified in the words of one respondent in Lee’s research:

It is important that students feel cared for. One of my student[’]s father died in their first year. My experience is that there are some students who have a series of problems. When this student arrived here first was so ill he could not attend the induction, then his father died, then his wife went into hospital, then his wife got pregnant and depressed [C]hildren will demand attention [I]t all happened to one person[;] it was traumatic for me too. (as cited in Lee, 2008, p. 9-10)

These five concepts of doctoral student supervision are highly varied, and are accompanied by different goals and intended effects of the relationship on the part of students as well as supervisors. While particular students and supervisors are more likely to gravitate towards some concepts than others, it is feasible that

with different combinations of personalities individuals might dwell on most if not all of the approaches at specific times. This might also occur as certain relationships evolve over time – for example, by highlighting the functional approach at the outset and then by focusing on critical thinking as the relationship gains momentum.

Selectively reviewing the literature cited above and outlining Lee's (2008) typology of doctoral student supervision are helpful in establishing a conceptual framework for understanding specific strategies, and the associated principles, of providing formative feedback on the work of doctoral students. That is the focus of the paper after the next section, where we outline the research method employed in the study.

Research method

This section presents an overview of the research method framing the study being reported here. The overview consists of three parts:

- The corpus of data
- Principles of data analysis
- Procedures and examples of data analysis.

The corpus of data

The corpus of data was constituted by a number of types of information collected and analysed for the purposes of the study. These types included:

- Each author's written feedback on successive draft versions of their respective doctoral students' confirmation of candidature proposals and doctoral dissertation chapters
- Each author's electronic mail correspondence with their respective doctoral students and the other supervisor of each candidate
- Detailed notes taken by both authors during and after a series of meetings held to reflect on the two preceding data types.

For convenience and manageability, the time scale for the data corpus was limited to the authors' current institution and to the period from 1 January 2007 to 30 June 2009, even though the second named author's experience as doctoral supervisor has continued since 1998 across two universities. The corpus focused on formative feedback provided to six doctoral candidates, three of whom have graduated and one of whose dissertation is currently under examination.

Principles of data analysis

Again for reasons of convenience and manageability, although discourse analysis was considered as an analytical frame for the data corpus, and while it might well be deployed in future publications related to this study, the approach selected to guide the analysis was a variation on transformative textual analysis as propounded by Rowan (2001; see also Walker-Gibbs, 2003). According to Rowan, transformative textual analysis consists of the following four steps:

- select a text
- identify the status of the text/genre
- reflect on how the genre traditionally deals with difference
- analyse the text by working through the following questions:
 - who/what is included?
 - who/what is excluded?
 - what are various individuals associated with? Who gets to do what?
 - what is represented as natural and normal?
 - who/what is valued? How is this communicated?
 - how does the text reproduce or challenge mythical norms? (p. 47)

While we have applied this analytical approach in other contexts, on this occasion we departed in two ways from the approach. Firstly, the questions listed above are usually posed about texts written by individuals other than the researcher, whereas each of the texts in our corpus was written by one of us. Secondly, while the principles of transformation are clearly crucial, in this instance we were more interested in what the

textual analysis demonstrated about the relationship between doctoral candidate and supervisor and about how this relationship was connected with the character of the feedback provided by the supervisor. Accordingly in the fourth step we focused on the following questions to frame the analysis of each text selected from the corpus:

- Which assumptions about knowledge construction and the roles and responsibilities of doctoral candidates and supervisors are implied in the text?
- Which specific actions does the author of the text appear to intend the recipient to undertake after reading the text?
- Which power relations have framed the construction of the text?

and specifically for this paper:

- Which concept/s of research supervision (Lee, 2008) is/are evident in the text's construction and intended reception?

Procedures and examples of data analysis

The data analysis procedures consisted of identifying a number of distinct elements, although these were not necessarily linear or conducted separately from one another. The elements included naming the following (each elaborated in the next section of the paper):

- Types of texts
- Strategies for providing feedback to doctoral candidates
- Principles of providing feedback to doctoral candidates
- Links between strategies and principles for and of providing feedback and Lee's (2008) typology of concepts of research supervision.

The examples of how these procedures of data analysis were implemented are taken from the second-named author's feedback to one (subsequently graduated) doctoral candidate about the penultimate version of the dissertation in December 2008 and January 2009. Two texts from the corpus constituted these examples:

- An electronic mail message from the author to the student (144 words)
- The author's track changes and comments on the Word version of the dissertation (82,684 words, including 1,010 words of feedback written by the author).

These two texts conformed respectively to the following textual types:

- Brief, electronic, informal, private communication
- Detailed, electronic, formal and informal, private but amenable to public dissemination (for example, to other doctoral students as an example of doctoral writing and supervisor feedback, but only with both authors' agreement) communication.

The two texts drew on the following strategies for providing feedback to doctoral candidates:

- Building up a sense of rapport and a climate of trust between student and supervisor by starting with more general and encouraging comments
- Both provider and recipient of formative feedback using 'trial and error' to observe and attend to how the other person responds respectively to the feedback or its reception
- The supervisor providing progressively more detailed feedback as the dissertation grows in breadth and length
- The supervisor and candidate having post-feedback meetings devoted exclusively to discussing the feedback and how each person understands and perceives that feedback.

From these strategies the following examples of principles of providing feedback to doctoral candidates were distilled:

- A commitment to the feedback contributing to ongoing learning by student and supervisor alike
- An assumption of mutual regard and respect
- An emphasis on the relational dimensions of the student-supervisor relationship (in this case the student and supervisor were also friends and colleagues; see also Denicolo, 2004).

Finally in this section, all five concepts of research supervision identified by Lee (2008) were evident in the

two texts in different combinations, thereby demonstrating multiple manifestations of the link between those concepts and the provision of formative feedback. For example, the first full paragraph in the electronic mail message read as follows:

I've just had the pleasure of reading your full draft of your PhD thesis. Congratulations on all your hard work – I see what you have written as detailed, carefully conceptualised and designed, convincing and very readable, as well as respectful of the participants' voices and careful about the claims made through the credibility checks and the warranting process – very well done!

While this part of the text can clearly be interpreted in different ways, for us it resonates with the following concepts identified by Lee (2008):

- Emancipation (by focusing on mentoring and supporting constructivism as the supervisor's activity, facilitation and reflection as the supervisor's knowledge and skills, and personal growth and reframing as the possible student reaction)
- Relationship development (by evoking supervising by experience and developing a relationship as the supervisor's activity, and emotional intelligence as both the supervisor's knowledge and skills and the possible student reaction).

Many of the supervisor's comments in the second text (the annotated penultimate version of the student's doctoral dissertation) also exhibited these two concepts of research supervision. In addition, the following comment was included about the final chapter of the dissertation:

Yes, definitely, ... – have two sections, one that synthesises the answers to the research questions, and the other that synthesises your study's significance and original contribution to the three types of knowledge. You have good material here but it's currently hiding!

We see this particular utterance as conforming to the critical thinking concept of research supervision. This entailed evaluation and challenge as the supervisor's activity, argument and analysis as the supervisor's knowledge and skills, and constant inquiry and fight or flight (in the sense of the candidate having the right and responsibility to accept, modify or reject this advice) as the possible student reaction.

We have sought in this section to outline the research method framing the study of which this paper forms a part. We have explained the corpus of data and the principles and procedures deployed to analyse those data, and we have presented examples from two texts of how we have elicited types of texts, strategies and principles of providing feedback to doctoral candidates, and linking the provision of that feedback to Lee's (2008) typology of research supervision concepts. We turn now to consider in greater detail the strategies and principles in providing formative feedback in doctoral supervision.

Strategies and principles in facilitating formative feedback

This distillation of strategies and principles in facilitating formative feedback to doctoral candidates is drawn from our recent and current experiences as doctoral supervisors. While we have not yet worked together as supervisors, each of us has supervised with a number of other colleagues. One of us is an early career researcher who will work as associate supervisor until having supervised at least one student to completion; the other has supervised 14 doctoral candidates to completion, with another candidate's dissertation currently under examination, and has held positions as both principal and associate supervisor.

The following are among the specific strategies that separately or in common we have used in providing formative feedback to our doctoral students:

- We encourage our students, as early as possible in their candidature, to *talk about their developing ideas* about such issues as research problems, research questions and research methods. In doing that talking the students receive formative feedback, whether by means of clarifying questions, suggested references, possible alternative approaches, and identifying the potential strengths and risks of particular approaches.
- Similarly we encourage our students to *start writing their ideas as early as they can*. Initially this is likely to be relatively brief texts; as their thinking develops they write longer pieces, such as sections of their draft confirmation of candidature proposals. Our formative feedback about these texts is

- sometimes verbal, with a few annotations, and sometimes it entails detailed textual commentary.
- We are both members of an *active postgraduate and early career researcher group at our institution*. This group has evolved over time and provides a combination of informal and nurturing gatherings on the one hand and task-orientated processes on the other. The latter have included highly structured writing workshops associated with the production of a series of edited publications (to date two special theme issues of a refereed academic journal and one edited research book, with two more edited books currently in preparation), and an annual research symposium where participants are encouraged to present about their works in progress. The group's formative feedback has been vital in helping many of our students to remain focused and motivated, and also to crystallise their thinking at crucial stages in their doctoral journeys.
 - As the student's candidature progresses, *our formative feedback becomes more focused at critical points along that progression*. These points include immediately prior to the confirmation of candidature proposal presentation, as data collection moves into data analysis, as late drafts of dissertation chapters are being written and as we read the penultimate version of the dissertation. This focused formative feedback is usually detailed and probing while remaining encouraging and supportive.

From these strategies we have distilled the following principles that inform our specific strategies in providing formative feedback to our doctoral students:

- We seek to exhibit *respect* for our students, their studies, and their and our respective roles and responsibilities in progressing those studies.
- We acknowledge that our students' and our *interests* are much more coincidental than they are oppositional; it is to our benefit nearly as much as our students' that they graduate.
- We strive to enact *holistic* supervision that is interested in our students as people and that understands the impact on their intellectual work of aspects of their emotional and personal selves.
- We highlight the *relational* dimensions of supervision such as empathy and trust.
- We value the *long-term elements* of the student-supervisor relationship, looking forward to a continuing association post-graduation.

At first glance it might seem that all five of these principles are clustered around the emancipation and relationship development research supervision concepts outlined by Lee (2008). While we tend to align ourselves with those concepts and with the critical thinking concept, we accept that the functional and enculturation approaches are also important elements of the doctoral student journey. Indeed, we see these principles as helping to reduce the likelihood of those approaches taking on the paternalistic and disempowering potential that could become attached to them if the doctoral student's agency is not valued sufficiently and appropriately.

On the basis of the examples of data analysis outlined in the research method section of this paper, we contend that these strategies and principles encompass in different ways all five concepts of research supervision portrayed in Table 1. While we would like to see ourselves as closer to the right hand end of the table, focused on critical thinking and especially emancipation and relationship development, we realise that the functional approach and enculturation inevitably play a part in our relations with our doctoral students, particularly in the early stages of candidature. We certainly echo Lee's (2008, p. 2) contention that our "concept of research supervision" constitutes one of "two key influences on ... [our] approach to supervision". (We lack the space here to explore the other influence: our "own experience as a doctoral student".)

Moreover, we see the provision of formative feedback as a key element of each concept of research supervision as articulated by Lee (2008) and as enacted by us. For example, we have used feedback to serve the purposes of the functional and enculturation approaches to supervision by highlighting respectively the operational and the immersive expectations of doctoral students (and their supervisors). We have employed clarifying and probing questions in our feedback to extend the critical thinking agenda of supervision. As outlined in the research method section above, we have also implemented feedback designed to facilitate emancipation and relationship development for both our students and ourselves. Indeed, we see the

recognition of these connections between supervision and feedback as crucial to remedying the currently undervalued position of such feedback in effective and quality doctoral supervision.

Implications for assessing doctoral students' learning

What might the preceding discussion mean for understanding the broader implications of facilitating formative feedback for assessing doctoral students' learning? One such implication derives from Lee's (2008, p. 10) identification of "two dichotomies" that encapsulate "a variety of tensions" that supervisors strive "to reconcile". One dichotomy is "between professional self and personal self", indicating that some students and supervisors might feel uncomfortable if their relationship appears to stray too closely into personal matters that they would prefer not to be included in that relationship. Even participants in the relationship like us who take a holistic approach to that relationship accept that role definition and clarity are important in maximising doctoral students' learning and avoiding potentially unproductive and even damaging associations between students and their supervisors. Providing and engaging with clearly delineated feedback are a means of helping the participants to negotiate their way through this dichotomy.

Role definition and clarity are also vital to resolving the other dichotomy identified by Lee (2008, p. 10): "between dependence and independence". As Table 2 demonstrates, these two ends of the dichotomy can be equally associated with any of the five concepts of supervision:

Table 2: Concepts of supervision compared with dependence and independence (Lee, 2008, p. 10)

	Professional Role ←————→ Personal Self				
	Functional	Enculturation	Critical thinking	Emancipation	Relationship development
Dependence	Student needs explanation of stages to be followed and direction through them	Student needs to be shown what to do	Student learns the questions to ask, the frameworks to apply	Student seeks affirmation of self-worth	Student seeks approval
Independence	Student can programme own work, follow own timetables competently	Student can follow discipline's epistemological demands independently	Student can critique own work	Student autonomous. Can decide how to be, where to go, what to do, where to find information	Student demonstrates appropriate reciprocity and has power to withdraw

While dependence might at first glance seem to assume a negative valence and independence a positive valence, value might lie at different stages in the doctoral student's journey in taking on some of the characteristics of dependence (in the sense of maintaining close contact with the supervisors and continuing in dialogue with them). Equally a high degree of independence can be premature and sometimes leads to the student's isolation and even alienation from the supervisors and the doctoral journey itself. The row that is absent from Table 2 is interdependence, which highlights the shared interests and mutual benefits of the student-supervisor relationship. On the other hand, interdependence can sometimes impede doctoral students' learning if it disguises less healthy relationships such as those based on exploitation of one partner by the other. Clearly feedback has a crucial part to play in making explicit what each participant in the relationship perceives about the character, appropriateness and rigour of the developing dissertation as the outward manifestation of both a larger study and the relationship that frames its design and implementation.

Another key implication of this discussion for advancing the assessment of doctoral students' learning is associated with a third dichotomy not identified by Lee (2008). This dichotomy is between systemic pressures and individual innovation. The systemic pressures are driven partly by governments operating in the audit culture of increasing surveillance of and accountability by universities to demonstrate their

efficiency and utility, including by maximising the number of doctoral students who graduate in minimum time. These pressures are felt directly at every level of university and faculty management of doctoral programs, and inevitably affect doctoral students and their supervisors. In such a situation, supervisors' feedback is likely to be less formative and more summative, in order to reduce the time spent on speculation and travelling down potentially fruitful but possibly inefficient byways instead of remaining on the expressway from admission to graduation.

By contrast, and sometimes in explicit defiance of these pressures, students and their supervisors can strive to find ways to retain the capacity for creative, discursive and imaginative thinking. Here supervisors' formative feedback is liable to encourage students to explore potential byways rather than closing them down prematurely. Such an approach, while risky, can enhance the quality of the finished dissertation, and the provision of effective formative feedback is vital to attaining such an outcome.

Finally in this section, it is appropriate to acknowledge that another significant implication for assessing doctoral students' learning is the importance of explicating the disciplinary, methodological and paradigmatic contexts of individual students and their supervisors. For example, it is likely that a feminist poststructuralist exhibition of creative work will require different kinds of feedback (and research supervision more broadly) from a positivist or post-positivist experimental study in a clinical laboratory. At the same time, most students and supervisors are liable to engage with most if not all of the research supervision approaches conceptualised by Lee (2008), *albeit* in different combinations and at different times during the students' doctoral journeys.

Conclusion

This paper has explored selected elements of facilitating formative feedback that we contend is a currently undervalued dimension of assessing and enhancing doctoral students' learning. We have located the paper in a small but growing field of literature to which we seek to contribute. We have also drawn on Lee's (2008) typology of five approaches to research supervision to provide a framework for analysing our strategies for providing formative feedback to our doctoral students and the principles that we distilled from those strategies. Finally, we have considered three key implications of the preceding discussion for wider issues connected with the effective assessment of doctoral students' learning.

From this we conclude that facilitating formative feedback can certainly increase the quality of doctoral students' learning. However, this will occur only if that facilitation is understood from the perspective of the student-supervisor relationship. Or as Lee (2008, p. 13) stated baldly at the end of her article: "... supervisors who are aware of the strengths and weaknesses of all these approaches to supervision will be better placed to develop their skills and enjoy the undoubted rewards brought by working with PhD students".

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