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Acknowledging conflict in communities of practice: A case study from doctoral education

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When Communities of Practice (CoPs) are discussed in the literature and in everyday settings, the spotlight is invariably positioned to highlight collegiality and cooperation. By subjecting contemporary theory and practice to greater scrutiny, however, the role of conflict in CoPs becomes increasingly evident. After constructing a conceptual framework, this paper provides examples from the literature and recent research that feature tension and disharmony in doctoral education. Central to the paper is a case narrative of doctoral practice in the field of Astronomy. This is used to illuminate aspects of conflict by providing a detailed and nuanced account in which the voices of candidate, principal supervisor and international adviser are integrated. The paper concludes with a discussion of the implications arising from the material presented for stakeholders in doctoral education as well as advocates of the CoP approach. It cautions against viewing conflict in terms of the conventional dyadic relationship between candidate and supervisor. Instead, it advocates an approach that acknowledges a broader range of individuals, organisations and structures beyond the academy that constitute sources and sites of potential conflict, as well as harmony.

Keywords: communities of practice, doctoral education, case narrative

Introduction

This paper addresses the issue of conflict in Communities of Practice (CoPs). It is set in the context of doctoral education and draws on research conducted as part of a national project on reconceptualising the doctoral experience. (Funded by the Australian Research Council, the aim of this Linkage Project was to develop detailed information about the contemporary doctoral experience. Three chief investigators (Evans, Pearson and Macauley), two doctoral scholars (Ryland and Cumming), and three postgraduate student associations contributed to the project that was implemented during 2004-07.) The main argument advanced is that the incidence of tension, disharmony and contradiction is masked in much of the current literature on CoPs. This is not to suggest that researchers are overstating the importance of collegiality and cooperation, but to advocate that greater scrutiny be applied to the theoretical underpinnings and contemporary practices associated with CoPs.

The first objective of the paper is to identify the role of conflict as delineated by the original proponents of CoPs; second, to illustrate the nature and extent of conflict in contemporary doctoral practice; and third, to discuss the implications arising from the totality of this material. The paper begins with an outline of the theories on which CoPs

are based, along with their recent application in doctoral education. This is followed by an extract from a case narrative that constitutes a fine-grained analysis of contemporary doctoral practice in the field of Astronomy at a research-intensive university in Australia. The paper concludes with a discussion of emerging issues and possible implications for stakeholders in doctoral education as well as advocates of the CoP approach.

Communities of practice

Formulated originally by Lave & Wenger (1991) and developed subsequently by Wenger (1998, 2000, 2002), the concept of a CoP is often described as a social process—or discipline—of learning. Three dimensions of CoPs have been identified, namely, mutual engagement, a joint enterprise, and a shared repertoire (Wenger 1998, pp.72-85). Essentially this means that on the basis of a common interests(s), members of a CoP interact and participate in meaningful activities that are embedded in socio-cultural-historical contexts. Given the relative familiarity of these dimensions and the positive connotations associated with ‘community’, it is not surprising that the CoP concept has resonated with many – especially those engaged in continuous professional learning across a diverse range of sectors.

However, it is important to highlight three factors that are not always acknowledged in contemporary discourse around CoPs. First, the concept draws on a sophisticated linking of theories around learning, practice and identity, with its roots firmly planted in efforts to reconceptualise apprenticeship. Individuals are seen as developing knowledge and expertise by working with others on common tasks in authentic settings. In their initial research, for example, Lave & Wenger (1991) developed the notion of Legitimate Peripheral Participation (LPP) – a process whereby individuals become empowered through their membership of an experienced group of practitioners. They conceived of this in terms of providing “a way to speak about the relations between newcomers and old-timers, and about activities, identities, artifacts, and communities of knowledge and practice” (p. 29).

Second, the intention of these researchers was to construct LPP and CoPs in terms of a “broad conceptual framework” to inform those interested in supporting the development of effective learning. For example, in their 1991 publication they used terms that included ‘approach’ (p.35), ‘perspective’ (p. 39) and ‘conceptual bridge’ (p.55). Hence, these concepts were envisioned primarily as analytical tools to deepen understanding of learning rather than as structures or entities per se. This distinction is often overlooked by ‘CoP converts’ who frequently hasten to facilitate the grouping of individuals deemed to possess particular knowledge or expertise.

Third, considerable emphasis has been placed by both researchers on the need to avoid ‘romanticising’ the CoP concept and to accept the inevitability of conflict. They regarded competition and contradiction as part and parcel of regular participation in a joint enterprise. Lave & Wenger (1991, p.116) refer, for instance, to “the tensions of the continuity-displacement contradiction” associated with newcomers and old-timers holding differing views and beliefs periodically (p.116). Subsequently, Wenger (1998) is

unequivocal when he states, “I have insisted that shared practice does not itself imply harmony or collaboration” (p. 85).

Doctoral education

A number of studies have employed the concept of CoPs in the area of doctoral education. Some have tended to emphasise their value as a practical strategy for supporting doctoral candidates and their learning. For example, fostering the development of communities to promote the sharing of experience, knowledge and practice around doctoral research and development has been identified as highly productive (Leshem 2007; Wisker 2007). Other studies have focused on the analytical, explanatory or interpretive power of LPP to make sense of data obtained from doctoral candidates and supervisors (Hasrati 2005). It should also be mentioned in passing that similar approaches have been explored in postgraduate and higher education more broadly (Tight 2004; Cousin & Deepwell 2005; Pare & Le Maistre 2006; Zimitat 2007). Invariably, the focus has been on the positive features of CoPs and LPP.

Significantly, however, two studies have pointed to disharmony in the context of doctoral education. One by Kramer (1996) explores the issue of trust in hierarchical relationships. Framed by three theoretical perspectives, this research focuses on the asymmetrical nature of the candidate-supervisor relationship: “the present research imports insights from three streams of theory and research: (a) social information-processing theory ..., (b) research on categorization and mental accounting ..., and (c) research on paranoid cognition” (Kramer 1996). A key finding was that for candidates, “when faculty are out of sight they are far from out of mind”, whereby the supervisor remains a constant and dominant figure in their lives. For supervisors, however, “when students are out of sight, they tend to be out of mind as well” (Kramer 1996, p.235). Reflecting on another study of negative relationships established between supervisor and candidates (Lee & Williams 1999), one researcher has embraced Kramer’s finding in the following comment: “For students the PhD candidature is their major focus, while for supervisors the student candidature is only one of many responsibilities” (Pearson 1999, p.188).

The second study by Lee & Roth (2003) uses LPP as a frame to explore ‘becoming and belonging’ in two rival communities – researchers and environmentalists. This research identifies three thematic struggles, namely, expression, balancing multiple identities and doing explicit identity work (paras. 13-53). The integration of candidate and supervisor perspectives enables the reader to consider the dynamics and interplay occurring in particular sites for struggle at specific points during this PhD candidature. A glimpse of this dynamic is revealed in the statement, “by embracing struggle and negotiation as part of the entry to a community of practice, both of us have seen ourselves transform the community, and noticed ourselves being transformed” (para. 53).

Case narrative

Having established a conceptual framework and its relevance to doctoral education, I shall now draw on material drawn from a case study that I have conducted recently in the

field of Astronomy. (Additional information about the processes and outcomes associated with this research can be found in (Cumming 2007b).) My purpose in doing so is to illuminate aspects of disharmony from multiple perspectives by providing a detailed and nuanced account in which the voices of candidate, principal supervisor and international adviser are integrated. In order to contextualise the extract some background information about the main characters is necessary. (In order to maintain the confidentiality of informants, certain aspects of this narrative have been modified. For example, fictitious names have been used with regard to characters – Lisa, Phillip and Stefan, and a tertiary institution – Galileo University. In addition, the collective terms – Europe, Asia, the Pacific and the Americas – have been used rather than identify particular countries.) Lisa was completing an honours degree in Europe when she successfully negotiated a period of work experience in the Astronomy department at Galileo University in Australia. She became attached to a number of research projects for twelve months or so, and then with the support of Phillip – a senior staff member – gained entry to the PhD program. Phillip was involved in an international project in which Stefan – a researcher based in Europe – was a partner and became one of Lisa’s advisers. Building on outcomes generated from her work experience, Lisa conducted research that was embedded in the work of Phillip and Stefan. Through various arrangements, she spent about three months in any given year of her candidature at observatories and research centres in the Americas, Europe, Asia and the Pacific.

During her initial work experience with Stefan, Lisa observed many and varied constellations across the southern sky. At one point she noticed a phenomenon that looked unusual, but in her words, “I wasn’t quite confident given my limited experience, and this just slipped into the drawer and sat there”. Some months later when she was in the Americas she showed the object to Stefan who responded, “Oh my God, you’ll have to follow that up”. In doing so, she set in train a series of events that resulted in the making of a significant contribution to scientific knowledge.

Having established that the phenomenon was demonstrating abnormalities, Lisa’s first task was to observe the object again through a more powerful telescope than existed in Australia at that time. Given that submitting an application for individual observation is such a lengthy process, a decision was made to explore the possibility of working collaboratively with researchers who had access to a more advanced facility. In May 2004, a researcher in Asia who was part of the international syndicate to which Phillip and Stefan belonged, and who happened to have time scheduled on a larger telescope, agreed to observe the object. Subsequent observations conducted by this researcher and his team confirmed Lisa’s discovery of a stellar phenomenon.

Common practice in scientific research is to release information in two stages – an initial paper heralding the discovery, followed by a second paper with explanatory material. Although the procedure was followed in this case, there are aspects associated with authorship worthy of illumination. For example, Phillip revealed that, “fairly careful judgments have to be made, and one needs to consult widely in order to get something that is acceptable to all parties. It is usually clear who will become the senior authors, and who will play junior roles, on the basis of the contribution made. In this case, it was made clear that the [phenomenon] had been discovered as part of Lisa’s thesis, following a

process that had been established previously. While Lisa had been working a little to the side of our existing research, her discovery became central to it, so we sought to bring that into the international arena and the [Asian researchers] were very pleased to do that”.

He continued, “After some careful discussion with them, we came to an arrangement whereby Lisa would be the first author of the discovery paper, to be followed by a second paper whose first author would be the [Asian] astronomer. There would be a footnote to indicate that, as the second author, the PhD candidate had contributed equally to this piece of work. This has to be handled with care in this case because doctoral theses at Galileo University require a statement pertaining to the candidate’s own work, with the capacity to acknowledge other contributions, so that examiners are aware of the particular circumstances or arrangements”.

Stefan’s take on these arrangements confirmed the sensitivities involved: “Authorship of papers is always a very difficult issue; sometimes it is even more difficult than writing the paper. There exist certain guidelines in the scientific community as to who should be first author or co-author of a paper. The first author is the person who has invested the largest amount of work into producing the results which are presented; usually this person also writes the paper, and he/she has a couple of duties, like dealing with the editor of the journal, responding to the referee report, taking care of the page proofs, and so on”.

Noting that the issue of joint authorship is “a bit more difficult”, Stefan went on to explain that in this case, “a decision has to be made as to who has made important contributions and, therefore, needs to be awarded co-authorship, and who made only minor contributions, which is compensated by an acknowledgement. All these issues have to be decided on a case-by-case basis by means of an open discussion with all people involved. A difficult question is sometimes also to decide who will be offered the *chance* [Stefan’s emphasis] to work on a problem so intensively that it will later result in being the first author of the relevant paper”.

“One also has to take into account that there exist cultural differences between [e.g. the Americas, Europe and Asia]”, he adds. “In [one Asian country] there is a much stronger sense for the identity of research groups, which basically means that once a major part of a research group is awarded co-authorship, the rest of the group has to be offered co-authorship, too, even if these persons have contributed only marginally. We have to respect these cultural differences, and it is also important to note that one sometimes has to make compromises for the sake of healthy collaboration.”

Lisa’s perspective on authorship, however, differed from her supervisors. With a noticeable change in tone she volunteered, “Stefan took this [phenomenon] and said to his [Asian] colleague, ‘Here, please observe it’. And he went ahead and made all these observations and I wasn’t really consulted when the [Asian] researcher kept observing the [phenomenon] because it was so interesting. Apparently there is a rule that if something interesting pops up, then you just do it—for the sake of the community, or something like that. I wasn’t happy at all, because as a new and inexperienced researcher in the discipline I wasn’t told all those details. I am very particular about things like that. You

can do anything with my material as long as you ask me for permission before it is published. Because the [Asian] researcher observed it, it wasn't clear to me that there would be fifteen other people included as authors of any papers resulting from these observations. Essentially a deal had been struck by a group to which I had not yet been admitted as a member."

The outcome of these events was that the discovery paper was published as a refereed article in a scientific journal citing Lisa as first author, the [Asian] researcher as second, Stefan as third, followed by 16 others – including Phillip – who are listed in alphabetical order (i.e. a total of 19 authors). It was a short article of less than three pages, which included around half a page of endnotes (30), and a paragraph of acknowledgements.

In the short term, the publication of the discovery paper was followed by a wave of publicity. Lisa and other team members were interviewed, resulting in multiple accounts of the discovery in local, national and international media reports. As Lisa recounted at Galileo University, "I tried to ensure that I maintained a low profile because I didn't want anyone to feel intimidated". While a small number of senior staff offered personal congratulations, the general reaction was muted. "A few referred to my celebrity status, employing a bit of humour to deal with the situation", she revealed with a laugh.

Meanwhile, Lisa and Stefan's working relationship became destabilised in the light of the authorship issue. From Lisa's perspective, "even though the discovery paper has higher scientific impact, and he [Stefan] tried to sort things out on my behalf for the best possible outcome for me and my career, I was still very upset in a highly personal way". Summing up the situation she added, "while I'm still very good friends with Stefan, I just felt that this was too much". Acknowledging the sensitivity of the issue, Stefan remained optimistic that a resolution had been reached. "It resulted in a major conflict between us. However, this is resolved now—I hope", he says. For Lisa, it was a case of becoming wise after the event. By her own admission she is now "extremely cautious with everything", especially in terms of "sorting out the issue of authorship" before any new research involving her is initiated. She also revealed with a degree of hindsight that the incident "encouraged me to work more independently".

Discussion

While my rationale for using narrative has been outlined elsewhere (Cumming 2007a), its power to create new perspectives and insights is central to the following discussion. Lee & Roth (2003) also used narrative as a means of documenting their struggles not only over expression, but also power and identity. They employed a two-column format "to rally our different ways of writing and accounting for experience without having to filter what we want to say through the collective author's voice" (para. 19). This is a highly effective strategy that enables the reader to gain access to the individual perspectives and practices of a candidate and his supervisor in a variety of settings.

In the context of doctoral education, however, their co-authored paper risks being interpreted as perpetuating the perception that the locus of conflict is the 'inherently contradiction-laden relationship' between master and apprentice. Although it is clear that there are two communities involved—researchers and environmentalists—and that

transformation is occurring at various levels, the struggle is portrayed primarily as one between two individuals (i.e. Lee and Roth). Another significant aspect of the relationship is that their conflict is resolved satisfactorily over time. In concluding, however, these writers point to the potential of “more collective forms of studying and supervising” leading to the development of multiple relations and collective decision making.

The case narrative in this paper should be seen as building on the work of Lee and Roth. It endeavours to illustrate the extent to which conflict in communities of practice at the doctoral level extends beyond candidate and supervisor. While tension between Lisa and Stefan is palpable at certain points – with the relationship not restored to its original standing – other sites of struggle involving multiple players can be identified. There is competition between candidates (e.g. to excel); between individual researchers (e.g. for telescope time); between research teams (e.g. to publish); between external agencies (e.g. to back winners); and between countries (e.g. to lead).

A major insight gained from the case narrative is the importance of compromise. Stefan’s comment that, “one sometimes has to make compromises for the sake of healthy collaboration” acknowledges the reality of conflict as well as a strategy for dealing with difficult situations. It demonstrates how political forms of compromise extend not only beyond the dyadic relationship between candidate and supervisor, but also the academy. Clearly, there is much more at stake than the reputations and egos of individuals and includes various issues pertaining to resourcing, further research and the like. It is not hard to imagine that certain courses of action in the international arena of Astronomy (e.g. failure to respect cultural difference) could have serious repercussions for future projects or continued access to infrastructure, for example.

The narrative reveals a number of processes employed by Phillip and Stefan as acknowledged experts in the field. For example, both refer to the importance of careful/open discussions and judgements in relation to co-authorship. The concept of LPP formulated by Lave & Wenger (1991) would suggest that this constitutes an instance of ‘becoming a full participant in a socio-cultural practice’. In other words, Lisa is a doctoral candidate who is being sponsored by more experienced researchers in order to facilitate her entry to various post-doctoral communities. However, Lisa interprets their actions with regard to negotiating authorship arrangements on her behalf as a betrayal of trust. The asymmetries between trust and distrust identified by Kramer (1996) suggest that in her ‘subordinate’ role of doctoral candidate, Lisa could be more susceptible to experiencing vulnerability and uncertainty. However, other theories such as the “enterprising self” (Tennant 2004), “skilful performer” (Pearson & Brew 2002) and “self-organising agent” (Boud & Lee 2005) suggest a much higher level of personal agency on her part.

What then are the implications of this narrative for key players involved in doctoral education? It would appear that greater understanding of the role of conflict in doctoral candidature needs to be developed by candidates, supervisors and others who are influencing the process in significant ways. Rather than maintaining a narrow focus on interpersonal conflict, efforts to develop broader perspectives in relation to contemporary

practices associated with doctoral learning and research should be pursued. As Lave & Wenger (1991) have argued, “knowledge and skill and their significance to the subject and the community, are never unproblematic” (p. 116). Hence, greater attention needs to be directed towards articulating possible sources of tension that are likely to emerge during candidature. Being aware of potential flashpoints and understanding the factors that can exacerbate conflict are vital to the development of more strategic approaches.

When evidence of disharmony emerges, then a set of strategies needs to be in place to assist those involved to address the situation as efficiently and effectively as possible. Wherever possible, dealing with conflict should be viewed as a learning opportunity as distinct from a form of crisis management. Lee and Roth (2003) have suggested an openness to ‘cogenerative dialoguing’ as a means by which individuals and communities can expand the range of actions available. In the context of addressing unprecedented challenges such as global warming and international terrorism, Brown (2007) has argued in a similar way for placing greater emphasis on collective thinking and action.

Finally, the continuously evolving nature of CoPs and LPP needs to remain in the foreground of contemporary approaches to doctoral education. Lave and Wenger (1991) have argued, for example, that “the move of learners toward full participation in a community of practice does not take place in a static context” (p. 116). The extent to which the practices of those actively engaged in a community are constantly changing can be identified in the account by Lee & Roth (2003) as well as the narrative about doctoral practice in Astronomy. In both cases, candidates and those with whom they interact undergo degrees of change and/or transformation that impact on their communities as well as themselves. The implication for supervisors is to acknowledge and respect candidates along with the contributions they are making to the doctoral enterprise. At the same time, candidates need to acknowledge and respect the capacity of supervisors and significant others to appreciate the wider context in which their doctoral research is being implemented.

Conclusion

Three main conclusions can be derived from this paper. First, promoting an uncritical view of CoPs can risk reducing complex theoretical understandings to simplistic descriptors or slogans. Second, given that conflict is – and is understood by those who developed the concept as such – part and parcel of the developmental process, it is important to ensure that this is more widely acknowledged at the doctoral level and beyond. Third, when conflict does arise, stakeholders need to have access to a repertoire of strategies that will enable them to deal with emerging consequences. At the same time, however, we must avoid throwing the baby out with the bathwater. Cooperation and conflict need to be viewed as complementary components of a broader concept of doctoral enterprise.

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