

Factors likely to impact the effectiveness of research writing groups for off-campus doctoral students

Olga Kozar

Department of Linguistics, Macquarie University, Australia

Email: olga.kozar@mq.edu.au

Juliet F. Lum

Office of the Dean, Higher Degree Research, Macquarie University, Australia

Email: juliet.lum@mq.edu.au

(Received 12 July, 2013; Published online 30 November, 2013; with correction 2 December, 2013)

Research writing groups (RWGs) have been heralded as an ideal environment for developing research students' writing and critiquing skills and rhetorical awareness, and for counteracting the sense of isolation and self-doubt that many PhD candidates experience. While the literature to date has promoted RWGs as an attractive alternative or addition to more traditional forms of doctoral writing support, little has been published on how they are best implemented, or how such groups could be designed to cater for geographically dispersed participants such as off-campus doctoral students. In this paper, we focus on the latter, outlining the challenges faced specifically by doctoral students studying at a distance from their host institutions and suggesting ways in which RWGs could be run using various forms of computer-mediated communication (CMC). After outlining mode of delivery and facilitation options, we identify factors of CMC-enabled RWGs which may affect students' perceptions and levels of satisfaction with the RWG experience. We argue that factors related to group implementation and members' perceptions of the interpersonal and cognitive gains and group logistics are likely to impact the effectiveness of CMC-enabled RWGs and should be taken into account by those designing learning resources for off-campus doctoral students.

Key Words: research writing groups, doctoral students, off-campus, computer-mediated communication, distance education.

1. Introduction

In Australia and other jurisdictions following the British model, PhD degrees are less “spatially-defined” than coursework degrees, which can pose both challenges and opportunities for doctoral students and those responsible for their support and training. Because doctoral candidature is time-based rather than course- or unit-based¹, doctoral students are usually not obliged to be physically on campus to fulfil requirements of the degree, and many of them –

¹ “Time-based” means that the award of the degree is based not on the completion of a series of discrete coursework units along with a dissertation, but on the accomplishment, within a set amount of time, of “an independent supervised study that produces significant and original research outcomes culminating in a thesis, dissertation, exegesis or equivalent” (Australian Qualifications Framework Council, 2013). Note that this description applies to research doctorates rather than professional doctorates.

including students with “internal” enrolment status – choose to conduct much of their research in locations other than their host institution, such as interstate or overseas, in their place of paid employment, or simply at home. Because official enrolment status does not reflect what is happening in practice, it is difficult if not impossible to determine the number or proportion of PhD students who are studying off-campus for most or even some of their candidature; however, in a higher degree research (HDR) student satisfaction survey conducted at the authors’ institution (a large metropolitan Australian university), almost a third of respondents surveyed in the last two years have indicated that their mode of study for that year was “wholly or mainly off campus” (Macquarie University Higher Degree Research Student Annual Survey (MUSEQ-R) 2011 and 2012)², suggesting that off-campus study is the preferred option for a significant proportion of students.

Studying at a distance has been made even more feasible with modern information technology providing relatively quick and easy remote access to primary and secondary data, such as academic publications, data sets, and legal, government, corporate and historical documents. However, there are drawbacks with this spatial flexibility for both the student and HDR staff. Although supervisor-student communication may be readily facilitated via email or telephone, the option for doctoral students to conduct so much of their research in private can lead to social isolation, lack of accountability, self-doubt and loss of motivation. It is true that on-campus students, particularly those in Arts and Social Science whose research does not rely on laboratory work or collaborating with other researchers, can also experience this kind of social isolation and self-doubt. However, when doctoral students are also physically located far from their institutions, there are fewer opportunities for them to become part of an academic community, which typically come with being physically present with other researchers (Lai, 2011; Winston & Fields, 2003). Off-campus doctoral students also tend to have lower self-esteem or self-confidence than their on-campus counterparts. A study on doctoral students’ perceptions of their competencies revealed that distance students tend to “have lower perceived written-expression ability” (Lindner, Dooley, & Murphy, 2001, p. 37), which the authors attributed to their limited access to library, peers and faculty. These disadvantages and deprivations can lead to extended completion times or candidature discontinuations for off-campus HDR students (Albion & Erwee, 2011).

Although the adoption of computer-mediated communication (CMC), such as email, forums, instant messaging or audio-chat, has considerably improved the experience of many off-campus doctoral students, institutions still face challenges in providing them with equal access to adequate research training and support (Albion & Erwee, 2011; Lai, 2011; Tuñón & Ramirez, 2010; Winston & Fields, 2003). This is evidenced not only by the studies listed here, but also by survey responses of off-campus doctoral students. For instance, the HDR student satisfaction survey mentioned above revealed that, over the last two years at least, off-campus doctoral students were less satisfied than their on-campus counterparts with many aspects of their candidature, including intellectual climate, skills development and infrastructure³. The only area with which on-campus and off-campus students exhibited a similar level of satisfaction was the quality of their supervision (MUSEQ-R 2011 and 2012); this finding is consistent with those of prior studies that indicate that distance PhD students often perceive themselves as working *only* with their supervisors (Albion & Erwee, 2011) and as having limited contact with other members of the academic community.

One important doctoral training or skills development resource that seems to have precluded the participation of off-campus doctoral students is the research writing group (RWG). Running

² This annual survey is sent to all enrolled HDR students (approximately 2000 students) at this institution and the response rate for the last two years has been over 55%. In 2011, 29% ticked the box stating that that their mode of study for that year was “wholly or mainly off-campus”, and in 2012, 31% ticked that box.

³ In 2011 and 2012, the satisfaction rate of off-campus students with these three items (intellectual climate, infrastructure and skills development) was 6 percentage points lower than that of on-campus students.

RWGs has been heralded as a highly effective method not only for developing HDR students' thesis and publication writing skills, but also for combating social isolation issues by offering them an opportunity to join an academic community (Lee & Boud, 2003; Aitchison & Lee, 2010; Aitchison, 2010; Ferguson 2009; Maher et al., 2008). However, existing reports on doctoral RWGs focus on those run in face-to-face (FTF) settings, suggesting that most groups are currently being run only on campus or at least with members situated in the same physical location. Very little has been published on how reading, writing or peer-collaboration groups can or should be adapted to cater for geographically dispersed doctoral students.

It is reasonable to assume that off-campus doctoral students' limited access to fellow researchers and learning resources is central to their lower levels of satisfaction with their doctoral experience and their lower perceptions of their capabilities. It is possible that such perceptions and the overall candidature experience would be considerably improved if these students were offered opportunities to engage in regular social and thesis-related interactions with their peers, such as RWGs. The challenge for university stakeholders, such as HDR supervisors, faculty and department managers/administrators and other doctoral educators, lies in conceiving, designing and implementing appropriate and viable forums to meet these needs. We suggest that RWGs enabled by CMC tools may constitute such a forum, and this paper outlines factors that are likely to impact their effectiveness and that should be considered by stakeholders planning to implement them.

Our paper is structured as follows. The next section describes in detail challenges commonly faced by doctoral students in thesis writing and the role that research writing groups can play in overcoming them. In Section 3, we draw on the literature on FTF writing groups and CMC-enabled learning contexts, such as online classes, and identify two key design features of CMC-enabled writing groups: mode of communication and level of facilitation; we outline various implementation options for each of these features and discuss their relative advantages. In Section 4, we propose other factors that are likely to influence the perceived effectiveness of CMC-enabled doctoral writing groups, namely those pertaining to technology and group logistics, and to perceived cognitive and interpersonal gains. We conclude the paper with a number of suggestions for evaluating both FTF and CMC-enabled research writing groups and with recommendations for future research.

2. Writing challenges faced by doctoral students

A major characteristic of doctoral research study is the high priority placed on writing. Not only is the doctoral thesis a substantial piece of writing (usually between 75,000 and 100,000 words), but there is also the pressure to publish research findings during candidature, either because the thesis is formatted as a compilation of published (or publishable) papers, or because a strong publication record is usually a pre-requisite in securing an academic position post-PhD (Emden, 1998; McGrail, Rickard, & Jones, 2006). Thesis writing is a high-stakes activity for HDR students; in most cases the entire work undertaken by the candidate over several years is evaluated on the composition of this text (Cotterall, 2011; Ferguson, 2009; Wellington, 2010). This implies that, even if a research project has been conducted to a high standard, it risks attracting a low evaluation from examiners if it fails to be presented in accordance with professional academic literacy conventions of the discipline. Writing-based evaluation of doctoral students' merit is consistent with the larger academic discourse; it is well-known that scholarly peer-reviewed publications (i.e. written texts) act as "a key indicator of academic identity and worth" (Lee & Boud, 2003, p. 190). Furthermore, the type of academic writing required at doctoral level often differs from that which is needed to succeed in coursework study: not only are doctoral students required to produce clear and logical written text, but they also need in their writing to position themselves as credible knowledge creators, not just knowledgeable students, in their fields of study by writing argumentatively and with authority (Kamler, 2008). Many students, particularly those from the more "numerate" or "technical" disciplines such as mathematics, computing and physics whose coursework units place a lower priority on the quality of discursive text as part of their assessment, have not received (and have had no reason to seek) explicit academic writing support prior to their enrolment in higher

degree research; as a result, doctoral writing is daunting and even overwhelming for many HDR students and the learning curve is extremely steep. Needless to say, the challenges that come with doctoral writing are felt even more keenly by those producing a thesis in a second/additional language and who are conducting their research in their home country at a distance from their host institution.

It is therefore not surprising that the task of “writing up” the thesis has been described as traumatic (Humphrey & Simpson, 2012) and anxiety-causing for many doctoral students (Kamler, 2008; Wellington, 2010). Indeed, prior studies have identified thesis writing as a *key contributor* to students’ discontinuing their candidature (Lovitts, 2001; Rudd, 1985). Even when doctoral students persist with their candidature, many find that thesis writing requires considerably more time than they initially anticipated and planned for (Elgar, 2003). Ehrenberg, Jakubson, Groen, So, and Price (2007) illustrate this point with the observation that, in the US in the recent past, the median time for finishing a PhD in the humanities (i.e. disciplines which require the demonstration of sophisticated argumentative discursive writing) was nine years. In Australia, a conservative estimate of the average elapsed time from PhD commencement to completion is 4.4 years (Bourke, Holbrook, Lovat, & Farley, 2004), which still exceeds the prescribed completion times of four years enrolment or three and a half years of scholarship. Protracted completion times, and also non-completion, of the PhD degree have been associated variously with students’ individual characteristics, such as the student’s ability, psychosocial factors, age, field of study, study mode (full time or part time), engagement in paid employment and financial support, and institution-specific characteristics, such as departmental requirements, supervisory practices, the presence and the type of coursework/seminars, and the general institutional climate (Latona & Browne, 2001; Seagram, Gould, & Pyke, 1998; Martin, Maclachlan, & Kamel, 2001; Golde 2005). Furthermore, as mentioned in our introduction, studying off-campus or in isolation from other students also contributes to higher rates of discontinuation, from both undergraduate and postgraduate degrees (Albion & Erwee, 2011; Atherton & Barnes, 2012; Carr, 2000; Chyung, 2001). Anxieties related to doctoral thesis writing are often intensified when compounded by the presence of one or more of these other factors associated with protracted completion times and degree discontinuation.

Given that thesis writing presents such a major challenge for many doctoral students and seems to be a key contributor to doctoral attrition and extended completion time, many institutions and academic language and learning (ALL) practitioners and researchers have sought ways to alleviate the pressures and challenges, and to improve the experience of doctoral students. Reading and writing groups are a popular peer-interaction related method for training doctoral students and enhancing the intellectual climate of a department. There can be multiple benefits for students and faculty staff to act jointly as reviewers and critically discuss each other’s work. One such benefit, widely cited in the literature, is that it strengthens participants’ identities as academics and promotes a sense of professional community (Aitchison, 2010; Lee & Boud, 2003). This claim is rooted in a Community of Practice framework, which posits that people derive numerous professional and personal benefits from reciprocal interactions with others engaged in a shared practice (Wenger, 1998; Wenger & Snyder, 2000). Regularly seeking/providing constructive feedback from/to other researchers can increase doctoral students’ confidence as “legitimate” academics, exposes them to new and wider areas of current research, and can improve their appreciation of existing methodologies (Aitchison, 2010; Aitchison & Lee, 2006). Participation in a research writing group (RWG) “demystifies” the process of scholarly writing and equips doctoral students with an awareness of the stages involved (Aitchison & Lee, 2010; Cameron, Nairn, & Higgins, 2009; Ferguson, 2009; Lee & Boud, 2003). Anticipating feedback from fellow RWG members also provides participants with a sense of audience (Maher et al., 2008; Tsui & Ng, 2000), an important writing skill, well-documented in writing research (see for example Bracewell, 1978 and Kroll, 1984). The benefits of participating in a RWG go beyond receiving collegial feedback on one’s drafts and developing an awareness of the writing process; it also reduces feelings of isolation and helps to foster feelings of connectedness, which have been found to be beneficial for doctoral students’ well-being and perseverance with their candidature (Aitchison & Lee, 2010; Albion & Erwee, 2011; Golde, 2005; Heinrich, Rogers, Haley, & Taylor, 1997; Jones, 2013). Feelings of

relatedness and shared experience resulting from regular interpersonal contact have numerous affective benefits and can act as a powerful motivator for doctoral students' research endeavours (Lovitts & Nelson, 2000).

Although the benefits of participating in RWGs are widely acknowledged, the participation described in the literature tends to assume FTF contact in a common physical location. Thus, geographically dispersed doctoral students have more or less been precluded from enjoying the benefits of RWG participation. We propose that CMC tools (such as video-conferencing) could provide a means for extending the RWG model to include off-campus, geographically dispersed doctoral students, and that doing so may alleviate many of the issues faced by off-campus students described in the previous section. Our proposal is supported by studies which have suggested that the use of CMC tools can enhance the provision of peer feedback on students' writing (Liang, 2010; Liu & Sadler, 2003) and promote disciplinary knowledge construction (Hewings & Coffin, 2006). Liu & Sadler's (2003) study corroborated that of Schultz (2000) in that the technology-enhanced peer review group produced a higher number and variety of comments than the face-to-face group; more specifically, the technology-enhanced group made more revision-oriented local comments, while their face-to-face counterparts tended to provide more global comments. Similarly, Tuzi (2004) found that CMC-enabled feedback was beneficial for second language writers in attending to the macro organization of their drafts. The suggestion that conducting peer writing groups remotely using CMC tools may have benefits over conducting them face to face is interesting and certainly invites further testing.

It is currently unclear, however, how CMC-enabled RWGs should be designed so that they are simultaneously pedagogically sound, logistically feasible for institutions to run, and sustainable over the long term. Our paper thus seeks to explore this uncharted territory by identifying and discussing factors that are likely to have an impact on the ability of CMC-enabled RWGs to meet the needs of off-campus doctoral students; in particular their needs to develop research writing and reviewing skills, and to interact on a regular, long-term basis with other researchers interested in their work. We make a number of suggestions for HDR stakeholders considering running and assessing writing groups for their off-campus doctoral students, starting in the next section with an outline of key implementation options for the design of distance RWGs, in terms of modes of delivery and types of facilitation.

3. Designing RWGs for off-campus doctoral students

3.1. Implementation options for CMC-enabled RWGs

We have presented elsewhere some factors pertinent to the design of CMC-enabled writing groups (Kozar & Lum, forthcoming). Briefly, we argue that there are three broad considerations that should inform decisions when designing and implementing a writing group for distance doctoral students: pedagogical considerations, logistical considerations, and sustainability considerations. Furthermore, decisions need to be made that determine the group's (i) locus of administration (i.e. initiated and coordinated by students or by the institution); (ii) mode of delivery (synchronous or asynchronous; written (typed) or spoken, audio-enabled or audio-video-enabled) and (iii) extent and type of facilitation. We now extend our earlier conceptualization by providing a more detailed discussion of the mode of delivery and facilitation options for RWGs, with a particular focus on those run for off-campus doctoral students.

3.1.1. Mode of delivery

A range of tools is available to those seeking to organize writing groups for geographically dispersed participants. When selecting tools, organisers should consider the relative advantages and drawbacks of asynchronous (not real time) and synchronous (real-time) communication, both of which can allow for the exchange of text, audio and/or video messages.

Asynchronous communication, such as emails or forum posts, is particularly useful for groups whose participants are located in different time zones and would find it challenging to find a mutually convenient meeting time. Other advantages of asynchronous communication are that it

reduces the communicative pressure to respond and allows for a more careful and considered composition of messages (Branon & Essex, 2001; DeBard & Guidera, 2000). Literature on virtual teams shows that asynchronous communication can considerably increase team productivity since each team member can work on the target task in a personally convenient time (Berry, 2006). However, although the literature highlights logistical advantages associated with asynchronous communication, the reduced opportunity for participants to seek immediate clarification on ambiguous comments or to “throw around ideas together” in a less formal forum may be a drawback of asynchronous meetings for doctoral RWGs (Ho & Savignon, 2007).

On the other hand, synchronous CMC tools create conditions for increased negotiation of meaning and instant feedback (Hrastinski, 2008), processes situated at the core of socio-constructivist learning theories (see for example Palincsar, 1998; Vygotsky, 1978). Synchronous CMC technology such as audio- or video-conferencing also allows for rich multimodal communication akin to natural FTF communication; not only can non-verbal cues such as facial expressions and vocal colour prevent misunderstandings and be used by members to temper the face-threatening nature of evaluating a peer’s writing (Brown & Levinson, 1987), but synchronous discussion also enables members to point to and link various points in the text dynamically and spontaneously, enhancing the collaborative learning process. At the same time, however, the lack of opportunity to edit one’s input and the perceived pressure to provide instant feedback may be viewed as a disadvantage by some participants. Ho and Savignon (2007) report that synchronous peer review sessions were evaluated as more stressful by some learners due to the necessity to provide instant criticism. However, as all the participants in Ho and Savignon’s study were of East Asian origin, it is conceivable that such a perception of synchronous peer review may be culturally-mediated.

As can be seen, there are different benefits to synchronous and asynchronous modes of communication, and depending on participants’ availability, access to technology and personal preferences, organisers or group members should select the most appropriate mode. It is, of course, also possible to opt for a combination of asynchronous and synchronous modes. For example, some groups might choose to distribute to-be-reviewed writing asynchronously by email and use the comment or track-changes functions of popular word processing software to provide feedback; they could then have a synchronous session, wherein reviewers clarify and expand on comments and participants collaboratively discuss issues that have emerged from the critiquing process or other writing, publication or candidature concerns.

Table 1 summarizes the positive and negative features of asynchronous and synchronous modes of CMC, as pertinent to research writing groups for off-campus doctoral students.

Table 1. Advantages (+) and drawbacks (-) of asynchronous and synchronous modes of CMC.

Asynchronous mode	Synchronous mode
<u>Logistics:</u>	
+ Reduced time demands: participants can contribute to discussion at any convenient time	– Considerable time demands: participants need to arrange a mutually convenient time
+ Minimal technical demands: requires only the emailing of documents with changes tracked	– High technical demands: each participant requires sufficient bandwidth to support audio/video interactions, special software and hardware such as webcam and microphone
<u>Interaction features:</u>	
± purely written (text-based) interaction ⁴	+ rich multimodal interactions
± delayed feedback & clarification	+ immediate feedback and clarification
+ possibility to draft and edit responses	± responses delivered instantly
+ possibly less stressful (see Ho & Savignon, 2007)	– possibly more stressful (see Ho & Savignon, 2007)
+ can encourage increased learner participation (e.g. of shy learners) (McBrien, Cheng, & Jones, 2009)	

⁴ It is conceivable that members in an asynchronous environment could provide their feedback as a recorded voice message, but this would be much less common than providing written feedback.

3.1.2. Facilitation

Facilitation is a concept rooted in constructivist theory, wherein a facilitator is defined as a more capable or knowledgeable individual who “fine-tunes and nudges discussion and learning in the right direction” (Johnson, 2001, p. 49). The concept of facilitated learning is closely linked to Vygotsky’s (1978) notion of the Zone of Proximal Development (ZPD), which was later extended to the concept of “scaffolding” (a term first used by Wood, Bruner, & Ross, 1976), and is popular in modern pedagogical theory. According to the constructivist view of learning, the presence of a facilitator is instrumental in many types of human developmental activities as it helps learners to notice and reduce the difference between their current and potential developmental stages.

In considering the design of doctoral writing groups, many questions arise relating to facilitation, such as: (i) are group meetings more effective and fruitful when facilitated by an external “expert” assigned by the institution, or when they are run by the members themselves; (ii) if the former, what sort of expertise should the facilitator have?; (iii) should the facilitator be present at every meeting?; and (iv) how much responsibility should the facilitator have for monitoring the quality of the feedback offered and for solving technical, interpersonal and other problems that arise?

Prior studies have suggested that an experienced, expert facilitator is beneficial for the functioning of “community of practice” groups (Akkerman, Petter, & de Laat, 2008; Tarmizi, de Vreede, & Ziguers, 2006), as they can provide a framework for collaboration and interactions and help the group to avoid potential tensions. And indeed, most recent literature on the functioning of doctoral writing groups reports some level of expert facilitation (Aitchison, 2010; Ferguson, 2009; Larcombe et al., 2007; Maher et al., 2008), with some of the facilitators providing structured instruction and assigning reading and homework. While these facilitators have tended to be ALL experts, doctoral writing group facilitators may instead or in addition specialise in the discipline(s) represented by the group members.

On the other hand, other studies on writing groups in post-graduate and other learning contexts report instances of the “teacherless writing group” (the model described by Elbow, 1973), wherein students themselves act as facilitators. In the “teacherless” or “non-facilitated” condition, participants not only adopt the expert’s role as they provide feedback on each other’s work (Elbow, 1973), but may also take turns in chairing meetings. Although the literature provides some examples of student-led research groups (Huang, Chen, Olmanson, Sung, & Kim, 2010; Mercer, Kythreotis, Lambert, & Hughes, 2011), the research is scarce and does not provide sufficient detail for relevant stakeholders to rely on when designing a writing group for off-campus doctoral students. The question is further complicated by the fact that some writing groups which are described as “teacherless” in fact seemed to feature a facilitator, that is, an external person acting as a group leader and suggesting activities (Haas, 2011).

In determining the need and role of an expert facilitator in the functioning of CMC-enabled writing groups, it is important to consider pragmatic and pedagogical aspects. Pragmatically, it may be beneficial to have an external party assume responsibility for the technological aspects of running the group, for example, selecting, and, if necessary, purchasing a licence for, the most appropriate software, ensuring that all participants can connect and communicate with equal levels of access, and trouble-shooting issues such as signal drop-outs that arise during meetings. In this case, a level of expertise in managing collaborative CMC tools would be a requirement for the facilitator. Another role of the facilitator of off-campus doctoral writing groups could be to assume overall oversight of the group: determining its membership (size and composition), managing schedules (reminding participants of meetings and text distribution deadlines), devising and executing contingency plans, and bringing the group to closure. Pedagogically, the benefits of an expert facilitator in CMC-enabled RWGs would be similar to those in FTF RWGs, but with the added advantage that off-campus students would be given the opportunity to connect with and draw on the expertise of another member of the professional academic community, from which many feel isolated, as was outlined above.

Alternatively, it could be more practical and sustainable for those institutions that lack appropriately trained personnel to facilitate CMC-enabled writing groups to encourage the formation of student-led groups. Indeed, even if sufficient human resources are available, favouring expert-led writing groups might go against the philosophy of some institutions to promote autonomy and independence among their doctoral students; conceptualizing writing groups as requiring expert facilitation might be perceived as situating this practice in a teacher-centric paradigm and disregarding PhD candidates' own capabilities. In keeping with the teacherless model of writing groups (Elbow, 1973; Gere, 1987), some doctoral writing groups might need only a minimum level of expert facilitation or no facilitation at all, and the authors know of a number of successfully run student-led writing groups run in FTF settings. A good model for stakeholders to consider is having an external party establish and facilitate only the initial meetings (the start-up phase), and withdrawing once members have experienced the purpose and operation of the group. Another option is for institutions to promote the benefits of RWGs to their doctoral researchers, and to make available online written and/or recorded guidelines on how to set up and conduct them; a good example of such resources is the Research Writing Group kit developed by the RMIT Study and Learning Centre (2013). The provision of online resources could be sufficient for the successful scaffolding of procedures. It remains unclear whether a "teacherless" model of writing groups is optimal for distance education, and what issues (if any) would arise in running off-campus writing groups that would best be sorted by an external party. In-depth empirical research is needed to investigate the dynamics of differently facilitated groups, namely facilitated, semi-facilitated and non-facilitated (see Table 2 for a description of each option). Such research could provide useful insights into the relative merits and challenges of different types of groups.

Table 2. Facilitation options for RWGs.

Facilitated RWG	Semi-facilitated RWG	Non-facilitated RWG
Each session includes an expert-facilitator, who either actively conducts the session or is merely present to answer questions. The facilitator may be: <ul style="list-style-type: none"> (a) a discipline-specialist (b) an ALL-specialist (c) both a discipline- and ALL-specialist 	<ul style="list-style-type: none"> (a) Initial sessions include an expert facilitator who acts as a resource for the group. (b) Facilitation is provided as a set of written or recorded guidelines, distributed to members prior to the group's commencement 	No external facilitation is provided; the group runs autonomously

4. Factors and practices likely to impact the perceived effectiveness of CMC-enabled RWGs

4.1. Overview

We now turn to factors of RWGs that are not always controllable or predictable before a group commences, but which we conceive will be likely to affect its participants' levels of satisfaction with the experience and the group's potential as a learning environment. Institutions or groups of doctoral students may identify a viable and appropriate mode of delivery and level of external facilitation for their CMC-enabled RWGs, but whether the groups succeed may in the end hinge on a wide range of factors, such as group dynamics and meeting logistics. Few have critiqued or highlighted the challenges associated with running FTF writing groups, which may be indicative of the relatively early stage of research in this area; however, this lack of critique may have the effect of "glossing over" known or potential problems and does not alert stakeholders to possible pitfalls when running groups for either on- or off-campus students. It is therefore important to extend the research focus from merely describing (positive) practices of FTF groups to investigating the dynamics of writing groups more comprehensively.

To propose the factors which are likely to affect the perceived effectiveness of CMC-enabled writing groups, we draw on findings from research on both FTF writing groups and CMC-enabled learning environments, acknowledging that the dynamics of CMC-enabled writing groups cannot be assumed to be identical to those reported in studies on FTF writing groups or CMC-enabled learning environments. In addition, we acknowledge that identification of and success with individual factors will not guarantee overall success of the CMC-enabled group. Complexity theory holds that a group of individuals engaged in joint interactions (exemplified in the doctoral writing group) constitutes a complex adaptive system (Eidelson, 1997; Lansing, 2003), and the nature of the system is realized through the interactions of its many components. The characteristics and the behaviour of a complex system cannot be predicted from analysing the individual components, as the system is “more than a sum of its parts” (Mason, 2008, pp. 36-37). Therefore, while findings of prior research on FTF writing groups and CMC-mediated learning contexts may prove useful in identifying the factors that may impact the success of a CMC-mediated writing group, such factors should be viewed at this stage only as *potentially* important and will need to be tested empirically to determine how they work in concert.

We start by reviewing the literature on FTF research writing groups. Table 3 summarizes practices observed in FTF RWGs which seem to positively or negatively affect the group’s effectiveness as a learning environment.

Table 3. Practices affecting group dynamics reported in the literature on FTF groups

Practices reported as enriching in FTF RWG	Practices reported as hindering in FTF RWG
+ Voluntary participation (Ferguson, 2009)	- Reviewers using the discussion to misappropriate the writer’s agenda (Lee & Boud, 2003)
+ Small group size (Ferguson, 2009)	- Cultural differences among group members (Nelson, 1997)
+ Multiple disciplines and levels of study (Aitchison, 2010; Cuthbert, Spark, & Burke, 2009; Ferguson, 2009)	
+ Jointly developing and articulating meeting procedures from the outset (Lee & Boud, 2003; Maher et al., 2008)	
+ Adopting “a shared language” and “terms” (Aitchison, 2010; Maher et al., 2008)	
+ Distributing writing in advance (Maher et al., 2008)	
+ Providing readers with specific questions to attend to for each piece of writing (Maher et al., 2008)	

An examination of the factors listed in Table 3 suggests that the success of the FTF writing group relates to the meeting of various cognitive, interpersonal and logistical needs. For example, “jointly developing and articulating meeting procedures” attends to the logistics of group meetings, but these processes can also encourage positive interpersonal relationship between the group members. In a similar vein, “distributing writing in advance” may contribute to improved cognitive outcomes by providing sufficient time to review and respond to writing, but may also perform a “relationship-maintenance” function if the draft is distributed personally and is accompanied by a personal message. Likewise, providing readers with focused questions for review could contribute to logistical, cognitive and interpersonal needs simultaneously. It is, however, conceivable that the practices highlighted in the literature as enriching may not always produce a positive effect on a group. For instance, it is possible that the act of negotiating joint procedures could violate some participants’ expectations and negatively affect the interpersonal dynamics of the group. Similarly, if distribution of writing and focused questions prior to the meetings is done in such a way that some participants perceive it to be insufficiently interpersonal or violating their expectations, these practices could lead to tensions within the group.

We now turn to the literature on CMC-enabled classes and other learning contexts to identify any guidance it may provide to those wishing to run writing groups using videoconferencing and other CMC tools. Research has shown that learning can be both enriched and hindered by the use of CMC. For instance, on the positive side, asynchronous written CMC such as email can encourage learners to seek feedback more frequently, which can result in increased engagement (Warschauer, Turbee, & Roberts, 1996); multimodality such as that which is possible using collaborative word processors can encourage process-oriented, rather than product-oriented, collaborative writing (Ciekanski & Chanier, 2008); and video facilities can assist learner interactions via paralinguistic clues (Wang, 2004). On the other hand, technical issues can offset the benefits of CMC-enabled discussion and peer review (van der Geest & Remmers, 1994); for instance, instability of sound and/or video quality and delays in lip synchronisation can hinder interaction (Wang, 2004). In summary, CMC tools present opportunities and challenges to those considering offering learning environments such as RWGs for geographically dispersed participants.

Building on the literature on FTF writing groups and CMC-enabled learning and business environments, we now propose the factors that are likely to impact the perceived success of CMC-enabled RWGs. We argue that CMC-enabled RWGs will be considered successful if members receive affective and interpersonal benefits, perceive certain cognitive gains, and are comfortable with the logistical arrangements of the meetings.

4.2. Interpersonal factors

Studies on performance of virtual teams have foregrounded the importance of interpersonal and relational factors among physically-separated members (Saonee, Manju, Suprateek, & Kirkeby, 2011). In the context of geographically dispersed individuals without a shared history and/or social and cultural context, relational factors, such as trust and positive affect, seem to act as a cohesive force that fosters the functioning of the system (Jarvenpaa & Leidner, 1998). Furthermore, studies which compare the skills and competencies of face-to-face and online language tutors have suggested that the CMC-mediated environment seems to require an increased attention to interpersonal and social aspects of communication (Shelley, White, Baumann, & Murphy, 2006). One could, therefore, expect that the perceived success of a writing group for research students located in different geographical and cultural contexts will, to a large degree, depend on how quickly and well the members form positive, trusting interpersonal relationships, and that if such relationships are not formed, then the group's success will be compromised.

We pointed out earlier that one of the goals of implementing CMC-enabled writing groups would be to provide an academic community of practice that decreases the sense of social isolation experienced by many off-campus students. The development of such a community would be greatly facilitated within a writing group by the interchange of generous, respectful and timely feedback on each member's draft texts. Conversely, if feedback – particularly criticism – on members' texts is not constructive, too brief or not on time, or is delivered in an insensitive face-threatening way, members may quickly lose motivation to participate and the group is likely to be perceived as somewhat unsuccessful, regardless of any other "success factors" at play.

In other words, the interpersonal dynamics amongst members of a CMC-enabled group may either enrich or hinder the development of members' research writing skills and the sense of academic community, and therefore their perception of the group's effectiveness.

4.3. Cognitive factors

A CMC-enabled group is likely to attract and satisfy participants if it equips them with new skills or knowledge, that is, if it promises and delivers cognitive gains. While participants of a research writing group may be motivated to join by different goals, it can be hypothesized with a considerable degree of certainty that improving *cognitive* skills associated with academic writing will be among the most important. If this is the case, the perceived effectiveness of a writing group will be impacted not only by perceived affective or interpersonal gains, but by

perceived cognitive gains, such as improved rhetorical awareness, stronger argumentation skills, and an increased confidence in self-editing and peer review. Although a strong sense of community has been linked to some cognitive gains (see for example Baturay, 2010), primarily via positive affect (students who feel a strong sense of community tend to be motivated to exert more effort, which increases cognitive gains), “interaction is not a guarantee that students are cognitively engaged” (Garrison & Cleveland-Innes, 2005, p. 135): in other words, a writing group with a positive interpersonal climate that does *not* result in the development of research literacy or peer review skills is unlikely to meet students’ main goal of mastering thesis or article writing, and will ultimately be considered unsuccessful or ineffective.

There are many factors which may contribute to the perceived cognitive gains from participating in a writing group for research students: some will relate to participants’ individual characteristics, such as their level of discipline knowledge/expertise, their metalinguistic awareness and their level of self-efficacy (Bandura, 1993), while others will be influenced by contextual factors, such as the relevance and accessibility of discussion and feedback, and the composition of the group. A key consideration for those designing CMC-enabled writing groups is whether the *CMC-mediated environment itself* is likely to have a negative influence on the cognitive processes of participants. For instance, managing an unfamiliar online environment may add a heavy cognitive burden to some participants, which results in less efficient processing of discussion content and a reduced cognitive gain compared to that which would be achieved in a more familiar environment. On the other hand, the CMC environment may enhance cognitive gains by providing additional tools for information processing and the negotiation of meaning. A good example is the visual function afforded by some online collaborative writing environments, where participants are able to see one another undertaking editing and formatting functions such as underlining, highlighting, and copying/cutting and pasting. Prior research on writing development has shown that the use of such word processor functions in pair or group settings tends to be associated with the enhancement of writing skills due to the affordance of the word processor to promote “a fluid conceptualization of text” (Bangert-Drowns, 1993, p. 69). In particular, the word processor has been shown to encourage revision behaviour in writers and to result in improved editing skills (Graham, 2007).

Therefore, it is critical for those designing and implementing CMC-enabled RWGs to attend to various ways in which participants’ cognitive processing can be enhanced. For example, participants could be encouraged to employ features such as highlighting and underlining when discussing specific comments and edits to increase the salience of certain textual information. It may also be useful for facilitators to conduct an initial training session to introduce participants to the new environment and to reduce the burden of an increased cognitive load associated with the use of new technology. Once the doctoral students are freed from attending to the CMC technology, they will be more likely to achieve positive cognitive gains relating to research literacy, which is one of the main aims for implementing or joining a RWG.

4.4. Logistical factors

Yet another group of factors which may either hinder or enhance the running of a CMC-mediated writing group relates to the logistics of the meetings. Earlier, we showed how technology-related factors such as the use of synchronous or asynchronous CMC tools can have logistical advantages in certain contexts; they may encourage interaction and may enhance learning (i.e. lead to interpersonal and cognitive gains). On the other hand, technology-related factors may instead impede group interaction and hinder learning; for instance, problems may occur if certain members’ computers have inadequate hardware or insufficient bandwidth to facilitate real time communication, or if certain members have inadequate technical competence to navigate around the software. In general, the more conspicuous the technology, the lower will be participants’ levels of satisfaction with the CMC-enabled meeting.

There are other logistical factors unrelated to the CMC technology, such as the hour of day that the meeting occurs, the group size, and the duration and frequency of meetings, that may also contribute to the overall perceived success of an online group. When members are located in different time zones, finding a mutually convenient time to hold synchronous meetings will

require more planning than that which is required when setting up meetings in a FTF context. The potentially different time zones may also mean that participants of the writing group could have different preferences for the duration and frequency of meetings, with some being able to commit more time than others to participating in meetings at a particular time of day in their time zone. In online settings, group size is also likely to have a greater influence on the interactional dynamics and effectiveness of meetings than it would in FTF settings. Group size may also influence decisions regarding mode of communication. In a videoconferencing environment, for example, it may be more practical for larger groups (say, with more than four interactants) to use both audio and video functions (rather than the audio only function) to reduce confusion over speaker and addressee identity; on the other hand, in a large group some participants may feel more self-conscious and may prefer to use the audio only function or even just to type their input.

Just as Herzberg (1966, 1982) highlighted that the absence of “demotivating” factors does not guarantee participant satisfaction, but that their presence does result in dissatisfaction, smooth logistical arrangements with CMC-enabled writing groups may not ensure participants’ learning or satisfaction, but logistical problems are very likely to result in a negative experience and reduced cognitive or affective/interpersonal gains. This view resonates with claims in positive psychology that satisfying experiences are more than the absence of dissatisfying experiences (see Sachau, 2007 for a discussion of commonalities between Herzberg's theory and recent findings of positive psychology).

We hypothesize that the perceived success of a CMC-mediated writing group is likely to depend on these three inter-related factors: participants’ perceptions of interpersonal outcomes (how well they feel they interact with one another), participants’ perceptions of cognitive outcomes (how much they feel they have learnt from participating in the RWG) and group logistics (how convenient the meetings are to attend and how easy the CMC tools are to use). It is the interplay of these three factors which we suggest may enrich or hinder learning and interaction in a particular group and may determine the perceived success of that group. Figure 1 presents in graphical form the complex interplay of these factors.



Figure 1. The interplay of factors likely to affect the perceived effectiveness of a CMC-enabled research writing group.

It should be noted that this proposed model should be treated as tentative and theoretical. Given the absence of prior empirical research on the running of CMC-mediated writing groups and the number and range of factors that can potentially influence the outcomes of such groups, accurately anticipating the dynamics of a particular group seems implausible; such predictions are bound to overlook certain cumulative effects of the factors at play in this dynamic, complex system. Empirical research is needed on the implementation and facilitation of CMC-enabled writing groups for geographically dispersed doctoral students in order to appreciate their actual dynamics more fully. Consequently, the authors are currently conducting an exploratory study that investigates the effects of different degrees of facilitation and different communication modes on the perceived effectiveness of CMC-enabled writing groups.

5. Evaluating the effectiveness of distance research writing groups

As was highlighted earlier in this paper, the social practice of writing groups in the FTF context appears still to be at a relatively early stage of research with most studies using a descriptive case-study methodology; a unified set of criteria for evaluating a group's effectiveness is yet to be advanced. Most prior studies to date have relied on group members' perceived satisfaction from participating in the writing group as the primary measure of success (Ferguson, 2009; Lee & Boud, 2003; Maher et al., 2008). Given the formative nature of peer review feedback, this criterion would seem appropriate for evaluating the outcome of CMC-mediated writing groups as well. Eliciting participants' reflections on the CMC-enabled RWG process and their perceptions of the outcomes could assist in determining whether the group was enjoyable and fruitful. Another approach would be to seek feedback from relevant external parties, such as supervisors' perceptions of the development of their students' writing as a result of participating in the writing group. Yet another way to evaluate the activities of the writing group could be to measure research output, such as the length and the number of texts completed/published with the assistance of the writing group. As a learning resource, RWGs could be evaluated on the duration of participants' involvement and the attrition rate from the groups, and/or changes in attrition rate from the doctoral degree program. These forms of evaluation could also be applied to RWGs run in FTF settings.

To evaluate groups run specifically for off-campus doctoral students, it would be useful to compare the HDR candidature experience of distance students who are participating or have participated in a research writing group with those who have never participated in a research writing group. Such a comparison would help determine the role in which participating in a peer-learning group can play in meeting those challenges faced by many distance doctoral students that we described earlier, namely their sense of isolation from the academic community, limited access to training resources, lower self-confidence and lower satisfaction with the doctoral candidature experience.

These are just a few examples of the many possible approaches for measuring the value and effectiveness of research writing groups. It remains unclear, however, which method(s) should be prioritized and applied. We therefore see a pressing need for the formulation of appropriate assessment criteria which will provide institutions and other stakeholders with a means to evaluate and report on the effectiveness of their own writing groups, both FTF and CMC-enabled.

6. Conclusion

In an age when it is becoming increasingly feasible for doctoral students to opt for distance or flexible off-campus modes of education and research, it seems particularly important for doctoral educators to develop a deeper appreciation of the challenges that these students are likely to face and to consider ways in which their experience could be improved. In this paper, we have outlined some of the needs and challenges faced particularly by off-campus doctoral students and have suggested using CMC tools for running research writing groups to meet some of those needs. We have argued that the success of such groups depends not only in determining an appropriate mode of delivery and sustainable level of facilitation, but also in attending to

factors that will affect how participants perceive the group's effectiveness, namely those that relate to interpersonal and cognitive gains, and technology and meeting logistics. While this paper provides a number of initial insights into how organizing writing groups for distance doctoral students can be achieved, much work is yet to be done on investigating this social practice in more detail. It now seems imperative that empirically-based research is conducted into this emergent, potentially transformative practice to meet the needs of the growing body of distance doctoral students.

Acknowledgements

The authors would like to thank the two anonymous reviewers for their very useful and generous feedback on an earlier draft of the paper. This research project is funded by Macquarie University's Innovation and Scholarship Program 2013.

References

- Aitchison, C., & Lee, A. (2006). Research writing: Problems and pedagogies. *Teaching in Higher Education*, 11(3), 265-278. doi: 10.1080/13562510600680574
- Aitchison, C., & Lee, A. (2010). Writing in, writing out: Doctoral writing as peer work. In M. Walker & P. Thomson (Eds.). *The Routledge Doctoral Supervisor's Companion* (pp. 260-269). Oxon: Routledge
- Aitchison, C. (2010). Learning together to publish: Writing group pedagogies for doctoral publishing. In C. Aitchison, B. Kamler & A. Lee (Eds.). *Publishing pedagogies for the doctorate and beyond* (pp. 83-100). London: Routledge
- Akkerman, S., Petter, C., & de Laat, M. (2008). Organising communities-of-practice: facilitating emergence. *Journal of Workplace Learning*, 20(6), 383-399. doi: 10.1108/13665620810892067
- Albion, P., & Erwee, R. (2011). Preparing for Doctoral Supervision at a Distance: Lessons from Experience. In M. Koehler & P. Mishra (Eds.). *Proceedings of Society for Information Technology & Teacher Education International Conference 2011* (pp. 82-89). Chesapeake, VA: AACE. Retrieved October 3, 2013 from <http://www.editlib.org/p/36238>.
- Atherton, M., & Barnes, L. (2012). Deaf People as British Sign Language Teachers: Experiences and Aspirations. *Deafness & Education International*, 14(4), 184-198. doi: 10.1179/1557069X12Y.0000000015
- Australian Qualifications Framework Council. (2013). *Australian Qualifications Framework Second Edition July 2013*, Australian Qualifications Framework Council, South Australia
- Bandura, A. (1993). Perceived Self-Efficacy in Cognitive Development and Functioning. *Educational Psychologist*, 28(2), 117-148. doi: 10.1207/s15326985ep2802_3
- Bangert-Drowns, R.L. (1993). The Word Processor as an Instructional Tool: A Meta-Analysis of Word Processing in Writing Instruction. *Review of Educational Research*, 63(1), 69-93. doi: 10.3102/00346543063001069
- Baturay, M.H. (2010). Relationships among sense of classroom community, perceived cognitive learning and satisfaction of students at an e-learning course. *Interactive Learning Environments*, 19(5), 563-575. doi: 10.1080/10494821003644029
- Berry, G. R. (2006). Can computer-mediated asynchronous communication improve team processes and decision making? Learning from the management literature. *Journal of Business Communication*, 43(4), 344-366. doi: 10.1177/0021943606292352
- Bourke, S., Holbrook, A., Lovat, T., & Farley, P. (2004). Attrition, completion and completion times of PhD candidates. *Paper presented at the AARE Annual Conference, Melbourne*.
- Bracewell, R.J., Scardamalia, M., & Bereiter, C. (1978). *The development of audience awareness in writing*. (ERIC Document Reproduction Service No. ED 154 433)

- Branon, R.F., & Essex, C. (2001). Synchronous and asynchronous communication tools in distance education. *TechTrends*, 45(1), 36-36. doi: 10.1007/BF02763377
- Brown, P., & Levinson, S.C. (1987). *Politeness: Some universals in language choice*. Cambridge: Cambridge University Press.
- Cameron, J., Nairn, K., & Higgins, J. (2009). Demystifying academic writing: Reflections on emotions, know-how and academic identity. *Journal of Geography in Higher Education*, 33(2), 269-284. doi: 10.1080/03098260902734943
- Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *Chronicle of Higher Education*, 46(23), A39-A41.
- Ciekanski, M., & Chanier, T. (2008). Developing online multimodal verbal communication to enhance the writing process in an audio-graphic conferencing environment. *ReCALL*, 20(02), 162-182. doi:10.1017/S0958344008000426
- Chyung, S.Y. (2001). Systematic and systemic approaches to reducing attrition rates in online higher education. *American Journal of Distance Education*, 15(3), 36-49. doi: 10.1080/08923640109527092
- Cotterall, S. (2011). Doctoral students writing: where's the pedagogy? *Teaching in Higher Education*, 16(4), 413-425. doi: 10.1080/13562517.2011.560381
- Cuthbert, D., Spark, C., & Burke, E. (2009). Disciplining writing: The case for multi-disciplinary writing groups to support writing for publication by higher degree by research candidates in the humanities, arts and social sciences. *Higher Education Research & Development*, 28(2), 137-149. doi: 10.1080/07294360902725025
- DeBard, R., & Guidera, S. (2000). Adapting asynchronous communication to meet the seven principles of effective teaching. *Journal of Educational Technology Systems*, 28(3), 219-230. doi:10.2190/W1U9-CB67-59W0-74LH
- Ehrenberg, R.G., Jakubson, G.H., Groen, J.A., So, E., & Price, J. (2007). Inside the Black Box of Doctoral Education: What Program Characteristics Influence Doctoral Students' Attrition and Graduation Probabilities? *Educational Evaluation and Policy Analysis*, 29(2), 134-150. doi: 10.3102/0162373707301707
- Eidelson, R.J. (1997). Complex adaptive systems in the behavioral and social sciences. *Review of general psychology*, 1(1), 42-71. doi: 10.1037/1089-2680.1.1.42
- Elbow, P. (1973). *Writing without teachers*. New York: Oxford University Press.
- Elgar, F.J. (2003). PhD degree completion in Canadian universities. *Nova Scotia, Canada: Dalhousie University*.
- Emden, C. (1998). Establishing a 'track record': Research productivity and nursing academe. *Australian Journal of Advanced Nursing*, 16(1), 29-33.
- Ferguson, T. (2009). The 'Write' Skills and More: A Thesis Writing Group for Doctoral Students. *Journal of Geography in Higher Education*, 33(2), 285-297. doi: 10.1080/03098260902734968
- Garrison, D.R., & Cleveland-Innes, M. (2005). Facilitating Cognitive Presence in Online Learning: Interaction Is Not Enough. *American Journal of Distance Education*, 19(3), 133-148. doi: 10.1207/s15389286ajde1903_2
- Gere, A.R. (1987). *Writing groups: History, theory, and implications*. Carbondale, IL: Southern Illinois University Press.
- Golde, C.M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education*, 76(6), 669-700. doi: 10.1353/jhe.2005.0039
- Graham, S. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of educational psychology*, 99(3), 445-476. doi: 10.1037/0022-0663.99.3.445

- Haas, S. (2011). A writer development group for master's students: Procedures and benefits. *Journal of Academic Writing, 1*(1), 88-99.
- Heinrich, K. T., Rogers, A., Haley, R., & Taylor, A. (1997). Mid-life women doctoral students rediscover "voice" in a community of scholarly caring. *Journal of Professional Nursing, 13*(6), 352-364. doi: 10.1016/S8755-7223(97)80081-6
- Herzberg, F. (1966). *Work and the Nature of Man*, Vol 3, Cleveland: World Publishing Company.
- Herzberg, F. (1982). *The managerial choice: To be efficient and to be human*. Ann Arbor, Michigan: Olympus Publishing Company.
- Hewings, A., & Coffin, C. (2006). Formative interaction in electronic written exchanges: Fostering feedback dialogue. In K. Hyland & F. Hyland (Eds.). *Feedback in second language writing: Contexts and issues*. Cambridge: Cambridge University Press.
- Ho, M.-C., & Savignon, S.J. (2007). Face-to-face and computer-mediated peer review in EFL writing. *CALICO Journal, 24*(2), 269-290.
- Hrastinski, S. (2008). Asynchronous and synchronous e-learning. *Educause quarterly, 31*(4), 51-55.
- Huang, C.-K., Chen, Y.-H., Olmanson, J., Sung, W. H., & Kim, Y. S. (2010). On Initiating Maintaining and Growing an Affinity Based Student Led Research and Design Group. *Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications 2010, Toronto, Canada*. Retrieved from <http://www.editlib.org/p/35183>
- Humphrey, R., & Simpson, B. (2012). Negotiating a 'Scary Gap': Doctoral candidates, 'writing up' qualitative data and the contemporary supervisory relationship. *Journal of Education and Training Studies, 1*(1), 1-10. doi: 10.11114/jets.v1i1.10
- Jarvenpaa, S.L., & Leidner, D.E. (1998). Communication and Trust in Global Virtual Teams. *Journal of Computer-Mediated Communication, 3*(4), 0-0. doi: 10.1111/j.1083-6101.1998.tb00080.x
- Johnson, C.M. (2001). A survey of current research on online communities of practice. *The Internet and Higher Education, 4*(1), 45-60. doi: 10.1016/S1096-7516(01)00047-1
- Jones, M. (2013). Issues in Doctoral Studies – Forty Years of Journal Discussion: Where have we been and where are we going? *International Journal of Doctoral Studies, 8*, 83-104.
- Kamler, B. (2008). Rethinking doctoral publication practices: Writing from and beyond the thesis. *Studies in Higher Education, 33*(3), 283-294. doi: 10.1080/03075070802049236
- Kozar, O., & Lum, J.F. (forthcoming). Factors to consider when designing writing groups for off-campus doctoral candidates. In M. Gosper, J. Hedberg, & H. Carter (Eds.). *Electric Dreams. Proceedings ascilite Sydney 2013*.
- Kroll, B.M. (1984). Writing for readers: Three perspectives on audience. *College Composition and Communication, 35*(2), 172-185.
- Lai, K-W. (2011). Using collaborative peer feedback and supervision to support doctoral research at a distance. In G. Williams, P. Statham, N. Brown, & B. Cleland (Eds.). *Changing Demands, Changing Directions. Proceedings ascilite Hobart 2011* (pp.747-757).
- Lansing, J.S. (2003). Complex Adaptive Systems. *Annual Review of Anthropology, 32*(1), 183-204. doi: 10.1146/annurev.anthro.32.061002.093440
- Larcombe, W., McCosker, A., & O'Loughlin, K. (2007). Supporting education PhD and DED students to become confident academic writers: An evaluation of thesis writers' circles. *Journal of University Teaching and Learning Practice, 4*. Available at SSRN: <http://ssrn.com/abstract=2126912>

- Latona, K., & Browne, M. (2001). *Factors associated with completion of research higher degrees*. Canberra: Department of Education, Training and Youth Affairs, Higher Education Division, Australian Government Publishing Service
- Lee, A., & Boud, D. (2003). Writing Groups, Change and Academic Identity: Research development as local practice. *Studies in Higher Education*, 28(2), 187-200. doi: 10.1080/0307507032000058109
- Liang, M.-Y. (2010). Using synchronous online peer response groups in EFL writing: Revision-related discourse. *Language Learning & Technology*, 14(1), 45-64.
- Lindner, J.R., Dooley, K.E., & Murphy, T.H. (2001). Differences in competencies between doctoral students on-campus and at a distance. *American Journal of Distance Education*, 15(2), 25-40. doi: 10.1080/08923640109527082
- Liu, J., & Sadler, R.W. (2003). The effect and affect of peer review in electronic versus traditional modes on L2 writing. *Journal of English for Academic Purposes*, 2(3), 193-227. doi:10.1016/S1475-1585(03)00025-0
- Lovitts, B.E. (2001). *Leaving the Ivory Tower: The Causes and Consequences of Departure from Doctoral Study*. New York: Rowman & Littlefield Publishers.
- Lovitts, B.E., & Nelson, C. (2000). The hidden crisis in graduate education: Attrition from Ph.D. programs. *Academe*, 86(6), 44-50.
- Maher, D., Seaton, L., McMullen, C., Fitzgerald, T., Otsuji, E., & Lee, A. (2008). 'Becoming and being writers': The experiences of doctoral students in writing groups. *Studies in Continuing Education*, 30(3), 263-275. doi: 10.1080/01580370802439870
- Macquarie University Higher Degree Research Student Annual Survey (MUSEQ-R) (2011, 2012), Macquarie Analytics, Macquarie University, Australia.
- Martin, Y.M., Maclachlan, M., & Karmel, T. (2001). *Postgraduate completion rates*. Canberra: Department of Education, Training and Youth Affairs, Higher Education Division, Australian Government Publishing Service
- Mason, M. (2008). What Is Complexity Theory and What Are Its Implications for Educational Change? *Educational Philosophy and Theory*, 40(1), 35-49. doi: 10.1111/j.1469-5812.2007.00413.x
- McBrien, J.L., Cheng, R., & Jones, P. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *The International Review of Research in Open and Distance Learning*, 10(3).
- McGrail, M.R., Rickard, C.M., & Jones, R. (2006). Publish or perish: A systematic review of interventions to increase academic publication rates. *Higher Education Research & Development*, 25(1), 19-35. doi: 10.1080/07294360500453053
- Mercer, T., Kythreotis, A., Lambert, C., & Hughes, G. (2011). Student-led research training within the PhD: "PhD experience" conferences. *International Journal for Researcher Development*, 2(2), 152-166. doi: 10.1108/17597511111212736
- Nelson, G.L. (1997). How Cultural Differences Affect Written and Oral Communication: The Case of Peer Response Groups. *New Directions for Teaching and Learning*, 1997(70), 77-84. doi: 10.1002/tl.7009
- Palincsar, A.S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review of Psychology*, 49(1), 345-375.
- RMIT Study and Learning Centre (2013). *Research writing group kit*. Retrieved from: <http://emedia.rmit.edu.au/learninglab/content/research-writing-group-kit>
- Rudd, E. (1985). *A new look at postgraduate failure*. Guildford, UK: Society for Research into Higher Education & NFER-Nelson.
- Sachau, D.A. (2007). Resurrecting the motivation-hygiene theory: Herzberg and the positive psychology movement. *Human Resource Development Review*, 6(4), 377-393. doi: 10.1177/1534484307307546

- Saonee, S., Manju, A., Suprateek, S., & Kirkeby, S. (2011). The Role of Communication and Trust in Global Virtual Teams: A Social Network Perspective. *Journal of Management Information Systems*, 28(1), 273-309. doi: 10.2753/MIS0742-1222280109
- Schultz, J.M. 2000. Computers and collaborative writing in the foreign language curriculum. In M. Warschauer & R. Kern (Eds.). *Network-based language teaching: Concepts and practice* (pp. 121-150). Cambridge: Cambridge University Press.
- Seagram, B.C., Gould, J., & Pyke, S.W. (1998). An investigation of gender and other variables on time to completion of doctoral degrees. *Research in Higher Education*, 39(3), 319-335. doi: 10.1023/A:1018781118312
- Shelley, M., White, C., Baumann, U., & Murphy, L. (2006). "It's a unique role!" Perspectives on tutor attributes and expertise in distance language teaching. *International Review of Research in Open and Distance Learning*, 7(2). Retrieved from <http://www.irrodl.org/index.php/irrodl/article/viewArticle/297>
- Tarmizi, H., de Vreede, G., & Zigurs, I. (2006). Identifying challenges for facilitation in communities of practice. In *System Sciences, 2006. HICSS'06. Proceedings of the 39th Annual Hawaii International Conference on System Sciences* (Vol. 1, pp. 26a-26a). IEEE. doi: 10.1109/HICSS.2006.210.
- Tsui, A., & Ng, M. (2000). Do secondary L2 writers benefit from peer comments? *Journal of Second Language Writing*, 9(2), 147-170. doi: 10.1016/S1060-3743(00)00022-9
- Tuzi, F. (2004). The impact of e-feedback on the revisions of L2 writers in an academic writing course. *Computers and Composition*, 21(2), 217-235. doi: <http://dx.doi.org/10.1016/j.compcom.2004.02.003>
- Tuñón, J., & Ramirez, L. (2010). ABD or EdD? A model of library training for distance doctoral students. *Journal of Library Administration*, 50(7-8), 989-996. doi: 10.1080/01930826.2010.489004
- van der Geest, T., & Remmers, T. (1994). The computer as means of communication for peer-review groups. *Computers and Composition*, 11(3), 237-250. doi: 10.1016/8755-4615(94)90016-7
- Vygotsky, L. (1978). *Mind in society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Wang, Y. (2004). Supporting synchronous distance language learning with desktop videoconferencing. *Language learning & Technology*, 8(3), 90-121.
- Warschauer, M., Turbee, L., & Roberts, B. (1996). Computer learning networks and student empowerment. *System*, 24(1), 1-14. doi: 10.1016/0346-251X(95)00049-P
- Wellington, J. (2010). More than a matter of cognition: An exploration of affective writing problems of post-graduate students and their possible solutions. *Teaching in Higher Education*, 15(2), 135-150. doi: 10.1080/13562511003619961
- Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems thinker*, 9(5), 1-8.
- Wenger, E., & Snyder, W. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, 78(1), 139-146.
- Winston, B.E., & Fields, D.L. (2003). Developing dissertation skills of doctoral students in an internet-based distance education curriculum: A case study. *The American Journal of Distance Education*, 17(3), 161-172. doi: 10.1207/S15389286AJDE1703_3
- Wood, D., Bruner, J.S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17(2), 89-100.