Facebook for supervision? Research education shaped by the structural properties of a social media space

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This study analyses the use of a group space on the social networking site Facebook as a way to facilitate research supervision for teams of learners. Borrowing Lee's (2008) framework for research supervision, the goal was to understand how supervision and learning was achieved in, and shaped by, the properties of a social networking space. For this purpose, the discourse between supervisor and learners was analysed along with the structural properties afforded by the space. Using the empirical findings and further literature, a conceptual framework was developed that illustrates the ways in which functional supervision, enculturation, emancipation, critical thinking and relationship development are achieved and formed by the interplay of the technological, functional, multimodal and the wider sociocultural, political and sociolinguistic structures associated with social media space.

Keywords: social media; social networking site; education; supervision; research education; mentoring;

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Introduction

With the ever-increasing adoption of social media – in particular, of social networking sites – and the appropriation of these tools in students' life worlds, more and more educators are starting to use these new technologies to enhance their teaching activities (Manca & Ranieri, 2013). The goal of this research is to explore how the use of a social media space, such as a Facebook group, supports teams of learners to develop analytical and research skills. In contrast to studies that ascertained how the use of social media impacted educational outcomes, this study aims to create an understanding of how learning and supervision is actually constituted in the social networking space and shaped by the properties of this space. The underlying tenets of this study are introduced, first, by problematising the notion of research supervision. Then, the dominant literature on digital media use (in particular social media) in research supervision is synthesised. Finally, we outline what previous literature has to say about how the structural properties embedded in digital spaces shape online engagement. The presentation of the results is followed by a theoretical discussion.

Literature Review

Research supervision

Pearson and Brew (2002) argue that along with the increasing importance of research to facilitate innovation and economic development, research education has taken a more prominent position for governments and the general public. The role of research supervision is to enable students' development towards becoming independent and critical researchers in their respective fields (Evans, 2009). Supervision is not simply the co-operation of more experienced researchers with less experienced researchers. Instead, it has been described as one of the least discussed but most complex and advanced formats of teaching (Connell, 1985), which has explicit didactic elements (Pearson & Brew, 2002) that play out in complex communicative environments. How to facilitate what has been defined as skilful research performance is by no means straightforward. In the context of supervision, teaching strategies are often referred to as mentoring or coaching, although these are ill-defined concepts with blurred boundaries (Pearson & Brew, 2002). A more palpable theoretical framework that describes different qualities of the supervision process has been elaborated on by Lee (2008). Drawing on her analysis of doctoral supervision, she distinguishes five core elements of supervision: (1) *functional supervision*, where the focus is on project management and where the supervisor helps students to progress through tasks; (2) *enculturation*, supporting students in their trajectory of becoming members of the disciplinary community of researchers; (3) *critical thinking*: where the student is guided in problematising and questioning their own and others' arguments; (4) *emancipation*, helping learners to question and develop themselves; and, finally, (5) developing a

quality *relationship*, where the student is enthused, inspired and feels cared for (Lee, 2008). Another important element, beyond the communicative one-to-one relationship of supervisor and learner, is the conceptualisation of research groups and networks as communities of practice (Lave & Wenger, 1991). Communities of practice enable research students to learn from significant others, such as peers, technical staff and the wider community (Pearson & Brew, 2002). Community of practice perspectives conceive learning to be a form of sociocultural participation through which a learner develops from an outsider at the periphery of a community to an 'insider'. The learner becomes a core member by assuming more and more central tasks (Lave & Wenger, 1991).

The use of digital and social media to facilitate research supervision

There is very little research that explicitly focuses on the use of digital and social media for research supervision. In his overview of using technology for remote research supervision, Sussex (2008) distinguishes between different technologies, such as emails or bulletin boards, according to synchronicity and according to whether written or spoken language is facilitated. While Sussex emphasises the ability of media to allow for interaction and discussion, he makes no reference to Web 2.0 concepts or to social media. Importantly, Sussex emphasises that supervision interactions in digital spaces should not be ephemeral, but ought to be documented as an enduring record of the supervisor's guidance. He suggests that this can be achieved through written documentation of the supervisor's editing or notes, and the student's own notes on those notes to allow the supervisor's recommendations to be incorporated into the student's work. In her conceptual paper, Le (2012) suggests that the use of e-portfolios can enhance students' academic development, research profile and social networking. She argues that e-portfolios should include a private section for the learner and supervisor, where parts of a thesis can be uploaded and critically discussed. Beyond the dyadic supervision relationship, they should provide spaces for networking with the wider research community and students can use them to showcase their academic achievements and sharpen their professional profile (Le, 2012). Examining social media-based research supervision, Chong (2010) reported on the experiences of undergraduate students who interacted via blogs with their teachers while writing a research paper. The author found in his small-scale, qualitative study that the features of blogging enhanced traditional face-to-face support by enabling closer monitoring and more timely feedback. A South African study evaluated the use of a learning management system for research supervision in a blended-learning setting (De Beer & Mason, 2009). While the learners did not study the reading resources provided intensively, they appreciated the online feedback on their assessments and the availability of immediate support, independent of location and time. This brought them closer to their supervisors, making supervision a more integral part of their research (De Beer & Mason, 2009). Similarly, Ngaleka and Uys (2013) applied Ten Have's (2007)

conversation analysis to examine how groups of South African students used the mobile social media application WhatsApp for group conversations about their research projects. They found that the students' use of technology facilitated collaboration and learning outside of the classroom that manifested in good working relations. They identified particular, close to real-time communication patterns associated with the structural affordances of WhatsApp groups that allowed students to act as ‘speakers’ and ‘listeners’ at the same time (Ngaleka & Uys, 2013).

Structural affordances of social media

The literature on the educational use of social media, in particular with Facebook, is mushrooming. This is reflected by an increasing number of empirical studies and reviews (see, for example, the reviews of Ranieri, Manca & Fini, 2012; Tess, 2013). Most of these studies consider social media environments as either neutral spaces where interaction can unfold freely, reflecting instrumentalist views and tool metaphors (Surry & Baker, 2015); or, as spaces that favour networked and connectivist learning across pre-established boundaries, reflecting approaches of 'soft' technological determinism (Selwyn, 2012; Surry & Baker, 2015). As noted by Manca and Ranieri (2013) in their review, the focus of the studies is on instructional uses and efficacy, for example, with respect to content delivery, community building, informal learning, academic conversations and learning outcomes, as well as on students' and teachers' reactions to the space, for example, in terms of motivation (Vikneswaran & Krish, 2015).

However, as Robson (2015) rightly notes, there is only a limited (though increasing) number of studies that scrutinise the distinct properties associated with social media platforms and the ways in which these afford and inhibit communication and learning. This is rooted in the understanding that digital platforms are never neutral, de-contextualised and value-free. Instead, platforms carry ideological, political, sociocultural and economic baggage (Surry & Baker, 2015). This is reflected in the very nature of their technological and functional design. Unveiling these underlying, often subtle and opaque, structures is perhaps grounded in what Selwyn (2010) describes as the critical study of educational technology. In this paper we are using an approach that understands that digital media is subject to complex interactions and negotiations with the social, economic, political and cultural contexts that it emerges in (Selwyn, 2010). In this respect, Robson (2015) has demonstrated how the engagement of teachers in online space is shaped through technical design and functionality, the dominant social discourses of the user group and the agendas of the organisations that provide the space. In addition, multimodal social semiotic perspectives can help to understand the complex dynamics in which interaction is shaped in social and technological spaces, paying attention, for example, to the notions of power, authorship and reading paths (Domingo, Jewitt & Kress, 2014). They illustrate how writing online in a blog unfolds according to the ways in which people use the ‘pre’-designed multimodal potentials and constraints

of the technological platform as a resource for meaning making. The interrelation of technological and sociocultural structures (for example, technological infrastructure and the wider curricular frames of institutions), along with the users' practices and agency form the core of the triangular framework of mobile learning elaborated on by Pachler, Cook, and Bachmair (2010).

In summary, this study seeks to contribute to the scarce literature available which examines the use of digital media in research supervision by exploring the conversational and structural affordances, as well as the constraints of a social media space.

Methodology

Research questions

This research draws on an intervention that used a social networking site as a tool to facilitate research supervision of teams of learners in a marginalised setting. More specifically, nurses in an advanced midwifery programme in rural South Africa were supported in the development of their first research proposal. The two interrelated research questions were:

(1) *How did research supervision and learning unfold in the written interactions between students and supervisors; and*

(2) *How did the embedded and wider structural properties of the space shape this interactional achievement?*

Participants and setting

The setting for this intervention was a module that focused on developing the analytical and research skills of nurses enrolled in a part-time, advanced midwifery education programme in rural areas of Kwazulu-Natal, South Africa. The learners (n=47) were experienced nurse practitioners, albeit with very limited research knowledge and with limited prior exposure and use of social media spaces. English was the learners' second language.

The educational intervention

As part of the research module, five teams of learners were required to jointly develop a concept paper for a research proposal on a topic of their choice that was relevant to their professional environment. The practice-oriented development of analytical and research skills through training and supervision of health professionals is key in these settings. It

advances these professionals from consumers of pre-defined knowledge to ‘generators’ of new insights into and solutions for their local health service environments. The role of supervision here was to facilitate local capacity building, what Pachler and Redondo (2012) characterise as: "equipping professionals to be able to identify problems pertinent to their context, ask the right questions, know how to seek to answer them systematically". The teams were guided and supervised in developing the concept paper over five months by a skilled research academic with the sporadic support of a second academic when the main academic was unavailable. The supervision was carried out exclusively in a closed group on the social networking site Facebook and lasted from the end of January to June 2013. To promote mutual interaction and learning across the teams, all teams were invited to be in the same social networking space.

Analysis of the social networking space

To understand the ways in which supervision and learning unfolded in the social networking space, semi-grounded discourse analysis was conducted using the theoretical conceptions of Lee (2008) as a priori-concepts (Mayring, 2004). By analysing the conversation patterns, learning was not measured as a mental phenomenon. Instead, it was measured in the ways that understanding and meaning were achieved in written interactions between learners and supervisors in this digital space, or as ‘interactional achievement’ as coined by Koschmann and LeBaron (2002).

To obtain a richer understanding of the ways in which learning and supervision were constructed in the social networking space and to account for multimodal social semiotics perspectives, analytical attention was paid not only to the written interactions, but also to the constraints and potentialities of the embedded and wider structures of the digital environment. In so doing, and in addition to Lee's conceptualisations (2008), concepts from the work of Domingo, Jewitt, and Kress (2014) were used in a semi-grounded approach, including the ways in which authority is shaped by the design and use of navigational features, linearity, modularity, and reading paths and in which the internal written interactions can be connected to wider political and cultural notions. To do so, content including images, links and written conversations was imported into and analysed in NViVo 8™.

Findings

Most learning in the social media space was constituted through interactions between learners of the teams and the supervisor. This means that the learners articulated and re-articulated elements of their team's research proposal upon prompts from the supervisor. The main ways in which supervision and learning were achieved are conceptualised and illustrated in the succeeding sections, drawing on Lee’s (2008) framework.

Functional supervision

In this section the category functional supervision is presented: Functional supervision describes the ways in which the supervisor supported students in the rational progression of their tasks through topical feedback and meta-supervision. In the second part of this section it is explained how the supervisor's attempts to provide clarity and direction were undermined by the embedded sequencing mechanisms of the social media platform.

In the data, a large number of conversations could be associated with function supervision. This manifested either in the form of concrete topical feedback by the supervisor on a specific excerpt of a group's research proposal (for example the research question) which had been posted by one of the group members; or as meta-supervision, such as providing an orientation for the overall process. A form of topical direction was provided by 'adjusting prompts'. An example of this would be the supervisor giving precise instructions and specifications as feedback which guided learners to adapt and add distinct elements to their research concepts, such as the request: "*Change 2. to identify the number of possible avoidable [caesareans]...*".

The supervisor provided meta-direction by setting the goals of the exercise, describing expectations of how the platform was to be used and emphasising the progress of different groups. She used the latter as a benchmark and as a way to motivate others, as the following quote exemplifies: "*M groups are off to a great start. Thanks for that. Can we hear from the other ones too?*"

Although with these, and related prompts, the supervisor sought to drive and guide the different teams in a direct way towards the goals of the educational activity, clarity and direction were undermined by the embedded mechanisms through which the reading paths of the Facebook group were construed (at the time of the study). Although postings and comments were added linearly at first, an old post was immediately re-positioned at the top of the page as soon as it received a new comment. Although this mechanism helped to direct the users' attention to the most recent contributions, it resulted in communicative de-contextualisation. In other words, stable and chronologically ordered reading paths that would have provided insights into the groups' progress over time were constantly overwritten by the principle of novelty. This manifested in a lack of cohesion and turn-taking in a number of dialogues between learners and the supervisor. For example, in questions that remained unanswered, in instructions that needed to be re-stated or in repeated attempts to establish and continue conversation threads, as shown in the comments below:

> Student: Hai [supervisor]. [Group B] ,have you seen our purpose of the study and the objectives you have asked
> Supervisor: … I don't have your objectives. Please post them again …

> Student: Okey A [supervisor] ,group 2 D Site again. we have posted you previously the aim of the study and objectives […] and yo [your] response said "write out the objectives using a verb eg to measure […].

The last quote exemplifies how group members and supervisors invested time and effort to establish continuity and referentiality within a structure which was constantly re-shaped. As the above statement also illustrates, the group needed to partly reproduce the history of the conversation, which resulted in redundancy and in relatively high asynchronicity costs (Clark & Brennan, 1991).

Enculturation and emancipation

Enculturation is the dynamic through which learners become members of an academic discipline. Lee (2008) considers emancipation to be approached when the supervisor's guidance becomes more and more obsolete. The facilitation of enculturation means sensitising learners towards the discipline's epistemological demands, which they can then follow relatively independently. Arguably, while the very inexperienced research students did become more independent during the intervention, they did not reach any point close to the level outlined above. In contrast to the high number of conversations that featured functional supervision and critical thinking, there was, in general, less evidence pointing to enculturation. In the discourse, the supervisor inextricably intertwined immersion in a community of researchers with the use of exclusive language, such as the following examples illustrate:

> "Please post in proper English – not sms language"
> "You need to write in research language. The aim of the study is to […]"

These articulations refer to language as a constitutional element of the research community and its demarcation to other cultural groups – those of non-researchers. In other words, the normative tonality of the instruction can also be regarded as an explicit invitation for students to learn and apply language to become a respected member of the community. This would make them a good researcher, achieving what Lave and Wenger (1991) label as 'legitimate and more central participation'. The analysis revealed that there were actually two competing 'languages' that co-existed in the social media space: firstly, an informal and colloquial idiom which tended to be used for interpersonal communication among the group ("*… bad coz its 4 da first tym*"; *"thanx 4 da cul weather"*) and also for communication with the supervisor about the research ("*i'm [!] lost whether u [!] want us.. "we have 2 [!] specify"*). Secondly, a more formal language was used in which learners explicated different elements of their research proposal. However, the more academic language in which the research statements were made also contained 'slips of the pen', for example, incorrect use of upper and lower case letters, which is very typical of the colloquial language used in SMS communication (Chaka, Mphahlele & Mann, 2015). An inherent tension was produced

through the use of a personal space, which is usually tied to very informal and colloquial language, and the requirements that arise from its appropriation for more formal and, in particular, research purposes. This makes it into a domain where, as discussed above, enculturation is based on the use of a very exclusive language.

Critical thinking

The facilitation of critical thinking is at the core of research supervision. Students are encouraged to ask and answer questions and to problematise and critique their own and others' conceptions. Critical thinking was a dominant category in the data. It was triggered by the supervisor's technique of deepening by asking 'how' and, to a lesser extent, 'why' questions'. These prompts required learners to legitimise and substantiate their conceptions and triggered reflection, as the following example illustrates:

> **Student 1** […] revised objectives [..]..To: 1.Describe the prevalence of c/s done at L's hospital from Oct.2012 to March 2013.[…].
>
> **Supervisor**: Good – how will you define avoidable C/section – what will the operational definition be?
>
> **Student 1**: avoidable c/section.is based on the facts that some patients refuse VBAC, they believe once a caesarian always will be and lately doctors send all breech deliveries for c/section without proper pelvic assessment inspite of availability of u/s.hope I'm answering your question.
>
> **Student 1**: An avoidable c/section is the one where a patient could deliver vaginally with no foreseeable risks. [Liked by the student]

Student 1's posting is an attempt to define an avoidable caesarean section. Her first approach represents, however, not a precise definition but rather a broad description of its circumstances. In this light, the amendment "hope I'm answering your question" can be interpreted as the learner's uncertainty towards her first conceptualisation. In fact, 10 minutes later she came up with a new, revised definition, which was much more focused. This time, the learner also expressed her conviction by 'liking' her second comment. As illustrated by this example, questions such as: "*How will you go about collecting the data?*", "*How will you access the patients or the research subjects*?" were conducive to the learners' autonomy, making them further elaborate on elements of their research proposal in a self-regulated and reflective way.

However, in contrast to the perception of Facebook as a peer-to-peer medium, there were limited peer interactions – particularly when the interaction involved being critical towards others' research conceptions. This happened although the supervisor had encouraged peer interaction from the onset, as the following statement implies: "*Any comments from the other students? What are some of your thoughts on the suggested topics in terms of researchability and feasibility?"* This supervisor's call for critical peer feedback was left unanswered by the group.

In addition, the embedded technological structuring of Facebook postings did little to support the recursive, multi-level development of critical arguments. Facebook only afforded one structural level of question and answers. That is, in contrast to the typically multi-level-threaded discussions in forums, postings could only receive one level of comments that were added chronologically. This mechanism prevented the development and visualisation of deeper, mutually referring and ramified levels of discussion in one original posting. In the absence of threading and linking features, the interlocutors were required to use identifiers in the form of textual anchors to mark and connect the individual contributions of the teams. This could be identifiers in the form of numbers ("Change 2[!]. to identify") or the geographic areas of the teams ("D Site again.we have […]").

Relationship development and emotional proximity

In addition to intellectual support, relationship development is conceived to be another central pillar of supervision. In e-supervision the development of personal relationships is considered to be particularly relevant, but also especially challenging due to the lack of co-presence needed to facilitate the establishment of trust (Pachler & Redondo, 2012). Initially, considerable social distance was observed in the group. That is, most of the discussions had an intellectual orientation and a limited number of socio-emotional conversations could be observed. This was because many learners had not met the supervisor before and could not build on trust and proximity developed in previous, face-to-face relationships. And, although the supervisor personally greeted and welcomed individual members of the teams, intimacy and friendship were not promoted from the beginning. Conversely, in one of the first postings the supervisor marked the space explicitly as a means for "*research-related discussions, not personal discussions*". This was done with the goal to emphasise the formal educational use of a platform that was mainly perceived as a social, private and non-educational space.

However, soon after the start, the learners and supervisor started to construe an increasingly social community. They built relationships and created and maintained a socioemotional presence in the Facebook group. A considerable part of the messages had a motivational and affective character. The intimacy that developed over time was particularly evident towards the end, for example, in one of the last postings after the submission deadline, after which some conversations continued:

> **Supervisor**: I miss our daily chats :-)
> **Student 1**: […].... we miss u too
> **Student 2**: we miss u 2 u too …. Well after examz we will back

The sociality and intimacy of the space was also created through the continuity of the stream of discussions that went far beyond typical 'office hours'. It extended into

originally private ‘time zones’, such as evenings and weekends, blurring educational and personal boundaries. This culminated in a specific form of closeness and privateness which was explicitly acknowledged and can be nicely seen in the next statement:

> **Supervisor**: Thanks for all the chatting today. I'm off to bed […] Goodnight
> **Student**: Thank u very much A [supervisor] u hav given us a lot and we were realy clueless. God bless u and hv a happy Sunday

In addition, a structural mechanism of the social media space inextricably intertwined the private and the professional, producing a multifaceted, multimodal ensemble. Users’ profile images were taken from their personal profile sites, showing some of them in very personal contexts, such as with their partners or friends. These were directly tied to their postings that harboured primarily intellectual and research-oriented discussions. In this way, aspects of the participants' personal lives were directly connected with professional and educational discourse. Through this mechanism, wider political and cultural notions were also brought into the social media space. For example, at a time when the former South African leader Nelson Mandela was critically ill and in hospital, one user showed her identification with him by using his portrait as her profile image, constructing and sharing the online representation of herself through his image.

Theoretical and practical discussions

Prima facie, the concepts from Lee's (2008) theoretical framework could be identified in the written discourse between the supervisor and learners. In particular, the indicators of functional supervision and critical thinking were in evidence. This reflected the demands of the relatively close guidance of learners in the early stages of their research trajectory. Upon a closer (or, actually, a wider) look, it can be seen, however, that supervision and learning were not exclusively products of the written interactions. Instead, these processes were afforded and constrained by the complex interplay of the inherent technological, functional and multimodal, as well as the wider sociocultural, political and sociolinguistic structures of the space (See Table 1 for an overview).

Table 1 Overview: Supervision in a social media space and attendant structural dynamics

	Supervision function	Supervision in the social media space	Structural dynamics and related concepts
Functional supervision	Supervisor directed students' activities through topical support and meta-direction	Direction and clarity inhibited by sequencing algorithm that constantly re-positioned (older) posts with new comments at the top, resulting in costs of reviewability, transient, point-to-point and 'in-situ' learning episodes	The marketising realities of a corporate social networking company (economic structures) favour principles of novelty (that grasp the consumer's attention) over more stable/ coherent reading paths (*technological- functional structures*)

Enculturation emancipation	Supervisor encouraged students to become legitimate members of a research community by acquiring a distinct language	Use of two different languages: colloquial idiom for communication about research and a more formal language to state the elements of the research proposal; but both contained means of expression resembling informal 'SMS-language'	Linguistic trajectory challenged by use of personal spaces (social media) and technologies (mobile input devices) that afford colloquial language (*sociolinguistic and technological structures*) (Chaka, Mphahlele & Mann, 2015).
Critical thinking	Supervisor prompted students to problematise and question their own and others' arguments	Limited criticality observed in the interactions among learners from different teams despite prompts. One level of questions and answers did not allow for the development of ramified levels of discussions.	Criticality softened by mechanisms that applaud a culture of conviviality (*functional/political*) (Friesen & Lowe, 2012); that connect (intellectual) debates to the users' private spheres, e.g. via profile image (*functional-multimodal*); and that are influenced by beliefs regarding the dominant debate (*political, 'spiral of silence')* (Hampton, Rainie, Lu, Dwyer, Shin & Purcell, 2014; Robson, 2015)
Relationship development	Supervisor and learners developed a social community, i.e. they built relationships and created and maintained a socio-emotional presence	Ongoing stream of discussions blurring educational and personal boundaries Functional mechanisms intertwined personal information (e.g. profile image) with academic debate	Merging of personal and intellectual spheres (*functional*) and immediacy and continuity of stream of conversations (*social/temporal structures*) supporting development of intimacy and relationships (telecocooning, e.g., Habuchi, 2005; Timmis, 2012).

The provision of direction and functional guidance, for example, was inhibited by the sequencing algorithm of the postings in the Facebook group that prioritised novelty at the expense of continuity and reviewability. Functionalities that applaud recentness are typical for a space that needs to constantly attract the users' attention to marketise. However, as shown, this prioritisation gives rise to an incoherent sequencing of messages, resulting in coordination and uptake costs and restricting the opportunities for grounding (Clark & Brennan, 1991). From an educational perspective, the construction of the reading paths featured rather transient, point-to-point learning episodes instead of a continuum of well-connected learning sequences and the construction of an enduring record of the supervisor's interactions, as foregrounded by Sussex (2008). In that sense, while Facebook groups are certainly spaces for larger groups to engage in ad-hoc socialising and networking activities, their capacity to facilitate deep and structured peer learning, particularly for multiple teams, can be seen as restricted.

In the group, students' enculturation in a research community was explicitly tied to the acquisition of a distinctive, formal language. Many of the discursive episodes between supervisor and learners were centred on adapting conceptions so that they would meet the linguistic expectations of what was considered to be appropriate in the domain of research. However, this linguistic trajectory can be seen to be challenged, not only by the fact that English was not the learners' first language, but also by the use of spaces and technologies that typically afford forms of language which are far from compatible with classic, research language. For example, Eisenstein (2013) notes that language use in social media tends to defy even basic expectations about vocabulary, spelling and

syntax. Potentially incompatible styles of writing are further facilitated by the convergence of social and mobile media. In the study, a large part of the contributions was made from mobile phones – portable technical devices that feature distinct input affordances and attendant, non-standard forms of expression (Gouws, Metzler, Cai & Hovy, 2011; Thurlow & Brown, 2003). In essence, enculturation as a linguistic, developmental process needs to be negotiated against the dominant sociolinguistic structures facilitated by the social and mobile media spaces in use.

In the conversations studied, the supervisor encouraged critical thinking and the development of criticality. While the supervisor's impetus gave rise to the reflective engagement of learners with their own conceptions of research, hardly any criticality was observed in the interactions between learners, despite the supervisor calling for this kind of feedback. This reluctance can be attributed to the limited experience of the learners in research and to their lack of self-confidence and perhaps also to the resistance to critical feedback among peers. In addition, the absence of peer-criticality can also be seen as a product of the embedded technological structures that applaud commercial imperatives. For example, as Friesen and Lowe (2012) argue, the very nature of Facebook fosters a culture of conviviality and 'liking', offering only a restricted capacity to facilitate disagreement and controversial debate. This manifests in a myriad of design decisions which are often opaque, such as the ways in which new 'friends' are 'suggested' (on the basis of similarity) or in which items 'liked' by others are displayed in one's own space. A more overt symptom is the absence of a 'dislike' button. They posit that the option to express disagreement, for example with regard to a brand, is contrary to Facebook's business interests (Friesen & Lowe, 2012). Recently, the argument that Facebook inhibits criticality has been substantiated by empirical studies. Hampton et al. (2014) found in their large, survey-based investigation that users did not speak up on Facebook about issues when they believed that their point of view was not widely shared. These dynamics culminated in homogeneity and a 'spiral of silence', stemming from the sociocultural and political structures of the dominant debate in the users' worlds. In addition, Robson (2015) observed that teachers' anonymous discussions in a forum tended to be dominated by open interpersonal conflict, whereas their engagement on Facebook was marked by 'positive affirmation', such as the avoidance of conflict and the reinforcement of others' statements. Robson tied the observed 'interactional positivity' to the functional mechanism of the space that linked the arguments directly to the users' personal profiles, and, in the words of Domingo, Jewitt, and Kress (2014), created a new 'multimodal ensemble' that blended the private and the academic. In Robson's (2015) study, this inhibited the open and conflicting debate that he observed with forum users who could hide behind their anonymous usernames when critiquing their peers. The same mechanism, however, can be seen to enable intimacy and be a relevant component of relationship development and maintenance in the supervision processes. In addition, intimacy was facilitated through the ongoing stream of conversations that extended past the professional and educational

into private spheres. This reflects Habuchi's (2005) concept of ‘telecocooning’, which creates a zone of intimacy where people can continuously maintain their relationships without temporal and geographic restrictions. Similar to the observation in this study, Timmis (2012) found in her analysis of students' instant messaging that the temporal synchronicity and continuity of conversations (dropping in and out over a long period of time), produced a cocoon, that is an empathetic space that maintained the social fabric of the community. Arguably, this dynamic is facilitated by the convergence of mobile and social media, with the use of social networking sites on personal mobile technologies forming a constitutional element of users' everyday sociocultural communication practices. For example, many people use their mobile phone in the morning to access social networking sites before even arising (Ericsson Consumerlab, 2011).

From a more practical viewpoint, it needs to be considered that Facebook, as used in this study, supported a selective part of what prior literature characterised as social media qualities for developing research skills. For example, the platform did not offer viable qualities to present the supervisees' academic achievements to the group nor to a wider audience and it did not allow them to sharpen their research profiles (Le, 2012). To support research education more comprehensively, different platforms that showcase research teams’ emerging and final products, such as wikis and e-portfolios, could be used in addition to the social media space. Moreover, the tendency of Facebook to inhibit criticality might be counterbalanced by creating distinct pedagogic structures. This could be realised, for example, by making peer evaluation an integrative part of the module and by providing the students with a set of criteria according to which the evaluation has to be carried out in social media space, as it was done, for example, in Aburezeq and Ishtaiwa (2013) on the use of social media for language learners. However, the use of the Facebook group enabled what De Beer and Mason (2009) observed in their South African study, namely, the facilitation of instant learning episodes, location independent support and the closer connection of students and their supervisor in ways which were not previously possible – a feature that was especially valuable in the rural and remote settings under investigation.

Although this study has established a framework that conceptualises the different ways in which learning and supervision are negotiated in a structured social media space, this work can only be seen as a starting point in the exploration of this subject. The findings have to be interpreted with care and require further research. Firstly, the context was specific (a group of rather inexperienced digital users in South Africa). It remains unclear as to what extent the dynamics observed here would unfold in other settings, for example, with more experienced users and more mature researchers, or in different social media spaces. Secondly, from a methodological viewpoint, future work may strengthen (or extend) the results of this research by adding more nuanced (qualitative) perspectives gained from interviewing users of the space or by quantitatively evaluating

the patterns discerned. And thirdly, social media and associated structures are by no means stable entities: they are subject to constant change. This involves, for example, the ever-extending functional repertoire of social media spaces and also the changing political and sociocultural dynamics. Accordingly, this work can only be deemed to be a snapshot in time.

Conclusion

Drawing on empirical episodes from the discourse in a social media space, this research has conceptualised the distinct ways in which learning and supervision is scaffolded and inhibited by the embedded and wider structural dispositions of a social media space in a myriad of complex ways. More precisely, the concepts of research supervision borrowed from Lee's (2008) framework (functional supervision, enculturation and emancipation, critical thinking and relationship development) do not result from learner/ supervisor interaction in a neutral sphere. Instead, they are shaped by the interplay of inherent technological-functional and multimodal – as well as wider sociocultural, political and sociolinguistic – structures associated with the social media site.

Importantly, this study should not be mistaken as applauding structural determinism, where the inherent and wider structures of the space enforce a distinct demeanour on the learners and supervisors. Instead, the article's main contribution should be seen in its analytical disentangling of how learners and supervisors have to negotiate the tensions that arise from these structures as they exercise agency in their attempts to achieve learning and supervision in social media spaces.

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