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PhD supervision strategies in a cross-cultural setting: Enriching learning opportunities

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Research article, peer-reviewed

Recent research findings highlight the importance of supervisors' feedback aimed at helping students how to learn by themselves to develop their thinking. Responding to the current focus on internationalization of universities, this article explores how PhD supervisors can help foster critical thinking. Based on qualitative interviews with four African double degree doctoral students, as well as participant observation, the article highlights reflections on different supervisory strategies and dilemmas faced in a cross-cultural academic setting, and the importance of meta-communication in addressing them. Results showed that the students appreciated the more informal student-supervisor relationship, exacerbated through collaborative fieldwork experiences, as well as the use of visual tools for stimulating creative and critical thinking. However, results also showed that the coaching supervision style was experienced as unclear and scary by one student, underscoring that the supervision process is a mutual learning process in need of recurrent adaptation.

Introduction and problem statement

In a recent analysis of doctoral students' learning processes, Odena and Burgess (2017, p. 578) found that '*Supervisors' most helpful feedback appeared to be aimed at helping students learn how to learn by themselves, supporting the development of their critical thinking and writing*'. This interesting finding offers a relevant starting point for questioning how supervisors can help foster critical thinking, and it became a key question for my own development as a (PhD) supervisor, understanding critical thinking in a broad sense as the ability to reflect critically, not just scientifically in a disciplinary context, but also on 'personal experiences and the world at large' (Erikson & Erikson, 2018, p. 2), as well as the disposition to use this ability. Given the university focus on internationalization, I explore the supervision of PhD students who come from Global South countries with a colonial history, and therefore, academic cultures formed by colonial relations of power and colonial institutions, despite decades of decolonization processes (Mbembe, 2016). I am inspired by literature that challenges generalized stereotyping of international doctoral students (Goode,

2007), especially what Doyle and colleagues call '*deficit constructions of African students*' (Doyle, Manathunga, Prinsen, Tallon, & Cornforth, 2018, p. 2), when Northern/Western scholars focus narrow-mindedly on what African students are not, rather than with what they contribute. In this setup, what does helpful feedback look like? And how can supervisors help facilitate critical thinking in cross-cultural research collaboration?¹

To address these questions, I have made a small qualitative study, based on interviews with four PhD students who participate in the international research collaboration, of which I am part. Through interviews, I examine the supervisor-student relations, and focus on communication as an important element in the relationship, with special attention given to meta-communication. Furthermore, I explore the student learning experiences associated with three different types of written feedback: corrective feedback, positive feedback and interrogatory feedback, as well as the learning-experiences associated with using visual tools such as diagrams or flowcharts. The purpose is to learn more about how supervisors, engaged in cross-cultural supervision, can support and facilitate learning among doctoral students, through reflections on their feedback. Considering the facilitation of critical thinking as an important general academic skill, supervisors try and balance supervision strategies that aim to pass on established criteria for research quality with those that aim to encourage students to question authority through critical thinking (Erikson & Erikson, 2018). While the encountered dilemmas in cross-cultural supervision collaborations are often similar to those in other supervision setups, they may be more intense (Winchester-Seeto et al., 2014). However, exposure to dilemmas in a cross-cultural setup can be productive (Xu & Grant, 2017), containing much food for thought for reflecting upon one's own practice (Ai, 2017).

This small qualitative study is set within a five-year research programme on the development effects of foreign agricultural investments, funded by the Danish Research Council for Development Research. This programme involves collaborative research activities and PhD supervision by two Danish research institutions and two universities in Sub-Saharan Africa. The programme involves four PhD students from Tanzania and Uganda, enrolled as double-degree students at a Danish university. At the time of writing the article, the students had been working for one year, and each had four to six (co-) supervisors, spread between the two universities where they are enrolled. As a co-supervisor of two, and research colleague of the other two PhD students, I focus the article on my supervision strategies in this cross-cultural setup, and the related reflexive learning process. I do not claim that I, or any of my col-

¹ While it would also be relevant to examine the relationships and communication between (co-) supervisors, it is not the focus in this article.

leagues or students, exemplify our institutions or cross-cultural settings in general. I simply use my work setting as a basis for my reflections, and hope that this qualitative study can add to the picture of cross-cultural supervision.

Literature review on nurturing critical thinking in cross-cultural supervision settings

Supervising students from a different academic tradition, and collaboration between co-supervisors ingrained in different academic cultures require an awareness of the roles and responsibilities of supervisors, and hence, students. Like many other Western supervisors, I view my supervisory role as being a facilitator of student learning processes. Understanding learning as socially situated practice, it is necessary to pay close attention to the teacher-student relation in addition to the wider environment surrounding the learner (Illeris, 2015; Lave & Packer, 2011), as well as the formation of (academic) identity (Ai, 2017). The facilitating approach to supervision views the supervisor role as a delicate balance between domination and negligence, in which the supervisor constantly faces dilemmas and new choices between supervision strategies (Bastalich, 2017; Delamont, Parry, & Atkinson, 1998; Lee, 2008; Vehviläinen & Löfström, 2016). Inspired by Deuchar's analysis of doctoral supervision styles (2008) and their alignment with student needs, and the idea-historical teaching/learning approaches mentioned by Molly & Kobayashi (2014), I view a coaching approach as being appropriate to facilitate learning, and thereby orient myself towards what Vehviläinen and Löfström (2016) call the *dialogical supervisory culture* (see also Halse, 2011). In a study of African international doctoral students in New Zealand, Doyle et al. argue that '*mutually respectful, dialogic approaches to supervision and the recognition of the intellectual resources diverse students bring with them are features of effective intercultural supervision teaching and learning*' (Doyle et al., 2018, p. 3). Similarly, in his autoethnographic narrative about academic identity formation as an international student in Australia, Ai (2017) describes the (idealized) dialogical relationship as '*a productive space where supervisors and international students can get to know the ethnic other and the ethnic self*' (p.1104).

Internationalization and power-issues in academia

The personal and academic identity of supervisors as well as students, is shaped by their experiences, as well as the academic culture they have been raised in, and this influences their relations and interactions (Adriansen, Madsen, & Jensen, 2015; Ai, 2017; Elliot & Kobayashi, 2017; Molly & Kobayashi, 2014). However, within a wider academic context the relationship is skewed, influenced by power-issues and lack of reciprocity between academic cultures, characterized by Northern or Western dominance (Bash, 2009; Doyle & Manathunga, 2017; Doyle et al., 2018). I concur with Xu and Grant (2017, p. 571) that '*cultural differences can be productive rather than solely*

problematic in supervision'. However, in a cross-cultural research context, it is relevant to consider 'intensifiers' of the issues PhD students and their supervisors typically encounter, even when they come from similar academic cultures (Winchester-Seeto et al., 2014). Winchester-Seeto and her colleagues identified eight such intensifiers, and I find 'cultural differences in dealing with hierarchy', and 'separation from support' especially relevant in relation to the western ideal of critical thinking (Winchester-Seeto et al, 2014:615), which is closely related to the article's opening question of how to help students learn to learn by themselves.

Analysing international PhD students in a European context, Goode (2007) discusses and criticizes the commonly used concepts of dependent and independent learners, as she sees them as concepts that create a 'deficit narrative, an "infantilising" discourse that characterises [all students who are labelled as "dependent"] as immature learners' (p. 592). However, Goode points out that the individualization of learning contained in the discourse of the ideal of independent learners underestimates that *learning happens as a collaborative process*, which reflects a constructivist learning approach (de Beer & Mason, 2009), or what Halse calls participatory and practice-based learning (Halse, 2011, p. 558). Goode argues that '*Academic success and failure are neither the property of the individual students nor of the instruction they receive, but lie rather in the relationships between students and the practices in which they and their teachers engage during the course of their ongoing interactions*' (p. 589). Through her study, she shows that the discourse of independence can be an obstacle for international doctoral students. Xu & Grant (2017) elegantly show how '*progression towards autonomy [is] accompanied by the emergence of new areas of dependence*' (p. 574), and thus, that progression towards 'hands off' supervision and student autonomy should not be considered a steady or linear process. Instead, supervisory style adjustments must be tailored in an adaptive and interactive manner to the individual student's development. Following the same line of thought, Grant (2003) proposes that stimulus and support in learning and socializing graduate students should not depend on one or two supervisors, but should to a larger degree involve the community of the department. In cross-cultural research collaborations, however, this further highlights the relevance of supervisors spending time on getting to know students' previous experiences, their strengths and ambitions, as well as to engage in mutual reflections on the supervisor-student relationship, learning ideals and reactions to feedback, among other issues (Doyle & Manathunga, 2017). Although far from being the only source of inspiration and learning, the supervisor often has a key role as a gate into the new academic culture and therefore can play an important part in the students' transition (Halse, 2011), especially for international doctoral students who are typically separated from their familiar support networks (Doyle et al., 2018). The important role of the supervisor(s) and their professional and personal qualities are

further highlighted by Ai (2017) and Xu & Grant (2017), who stress the importance of supervisors' cultural recognition, which goes further than respect.

Several authors highlight the need for explicitly addressing *expectations* between supervisors and students (See for example Andersen & Jensen, 2007; Doyle & Manathunga, 2017). Kobayashi (2014) developed and analysed the use of formally prepared material for discussing expectations. The literature highlights the importance of making explicit the criteria supervisors use for assessing quality. This is especially important in double-degree programmes, as supervisors from different academic cultures may use alternative evaluative criteria (Elliot and Kobayashi 2017).

The role of metacommunication in nurturing critical thinking

Balterzensen's (2013) review of supervision processes underscores the role of *meta-communication* (i.e. communicating about how we communicate), both with regard to having a transparent communication style, and at a higher level, the strategic approach to the collaborative learning process. Several authors recommend that supervisors understand a desired change in students' approach to learning as a pedagogical challenge to be mutually discussed, rather than as a supervisor responsibility (Doyle & Manathunga, 2017; Molly & Kobayashi, 2014; Vehviläinen & Löfström, 2016; Xu & Grant, 2017).² Vehviläinen & Löfström (2016) found that language, supervision style, feedback styles and questions influence students' learning and critical thinking, and the previously mentioned study by Odena & Burgess (2017) also highlights the importance of communication for the student-supervisor relationship, as well as for the students' academic identity formation, and the changes in this over time (see also Ai, 2017 and Xu & Grant, 2017). Along the same line, Andersen & Jensen (2007) recommend that (graduate) supervisors become more conscious about the dialogue, conversation and interview techniques used during supervision. Here, it is especially relevant to take into account that international doctoral students may experience an 'intensifier' of potential challenges due to cultural difference in dealing with hierarchy (Winchester-Seeto et al., 2014) – a hierarchy that the western academic supervisor may not take sufficiently into account. Analysing experiences of international doctoral students, Ai (2017) and Xu & Grant (2017) highlight the importance of dialogue, the patience of the supervisor and his or her ability to give the student space to reflect, in order for critical thinking to develop. Likewise, a recent study among PhD students in New Zealand, Australia, the UK and Canada found the degree to which supervisors encouraged students to think and act autonomously is associated with greater research self-efficacy in the student (Overall, Deane, & Peterson, 2011).

² See Bastalich (2017) for a review of what literature says about different supervision styles and supervision-student relations.

Feedback is part of the communication that takes place between supervisor and student, with the purpose of creating learning in the student. Reinecker et al (2005) recommend that supervisors prioritize, but limit their comments, especially when giving comments in writing. Following a finding that conversational comments can be used to cover broader and more sensitive elements than written comments (Bash, 2009; Doyle & Manathunga, 2017; Doyle et al., 2018), Könings et al. (2016) recommend the use of videoconferences as a supervision tool when students and supervisors are in different locations – again, a relevant finding for international research collaboration and PhD-training.

The above-mentioned ‘dialoguing or coaching supervision approach’ raises the question of how feedback and exemplary comments can be given in ways that support a student’s development toward a *critical and creative thinker*. Handal & Lauvås (2005) highlight the importance of giving specific feedback, also when it is positive, and propose that supervisors let the student speak first (for a proposal on a ‘contract’ for interaction, see Reinecker, Jørgensen, Dolin, & Ingerslev, 2013). Caffarella and Barnett (2000) found in their study of learning processes related to scientific writing that a sustained and strong critiquing process, in which students (learn to) give and receive useful feedback, is important for learning how to become an academic writer. Yet, in the context of graduate supervision, Reinecker et al. (2005) warn against feedback that is too text-specific, because such feedback may not include overall comments related to the structuring elements of the work, such as research question, overall argument, etc. Doyle et al. (2018) found that some African international doctoral students understood supervisors’ short written questions about clarification of parts of a text as a proposal for eliminating text, and thus that more explicit comments about which elements require clarification in feedback (see also Doyle & Manathunga 2017), or maybe, more meta-communication is required (Balterzsen, 2013).

Vehviläinen & Löfström (2016) refer to a previous study by Vehviläinen (2009), arguing that feedback is not enough to create independent thinking on its own. Rather, there is a need for *interactional tools that elicit student views*.³ Diezmann (2005) uses mind-maps and outline-views as a way of stimulating critical thinking and awareness of different ways of doing things, for example structuring a text. An interesting study by Brodin (2016) finds that the *encouragement of students’ sense of agency* in their design of research and what she calls ‘pragmatic action’ are crucial factors for improving their critical and creative thinking (See also Brodin & Frick, 2011). However, research on capacity building through cross-cultural academic collaboration also highlights the inherent challenges (Adriansen et al., 2015).

³ Xu and Grant (2017) and Ai (2007) also highlight the importance of supervisors eliciting student views, although they do not do so through visual tools.

Summing up, the literature shows a high degree of agreement with regards to the adequacy of a dialoguing or coaching supervision approach for helping students develop critical thinking, and that encouragement of students to think and act autonomously, as well as the use of visual tools like mind-maps, help stimulate students' critical thinking. However, with important exceptions (including Ai, 2017; Xu & Grant, 2017) these findings do not come from cross-cultural supervision settings, and thus remain apart from the growing body of literature dealing with supervision of international doctoral students from non-western backgrounds. This literature calls for reciprocity and intellectual equality, employing post-colonial theories to cross-cultural supervision, for example. It has identified a number of 'intensifiers' of challenges for this (diverse) group of students in Northern/Western contexts, partly due to supervisor's stereotyping and lack of cultural recognition. The remainder of this article aims to contribute to fill this gap.

Methodology and empirical basis

Based on the above, I wanted to use my recent enrolment in a Teaching and Learning in Higher Education course as an opportunity to learn how to improve my supervision of, and contribution to the four PhD students in the international research programme I work in. Taking advantage of a collaborative field visit with the students in Tanzania and Uganda, I designed a semi-structured interview guide focusing on what I call moments of intensive learning experiences⁴ during the past year, both to learn from their learning experiences, and to see whether the supervisor-student relations were, explicitly or implicitly, inferred, in relation to these intensive learning experiences.⁵ The interview guide also contained questions regarding the individual student's reactions to, and reflections about learning outcomes from three different types of feedback, as well as exposure to more visual tools for creative thinking and conveying ideas.⁶ Questions on their reactions to different types of feedback were chosen to give a concrete and shared frame of reference for the interview and the student's reflection on learning outcomes where attempts had been made to include metacommunication.

In addition to the individual interviews performed during four weeks of collaborative fieldwork, I also draw upon participant observations in field research activities, in-

⁴ Taking into account that learning happens in many different settings, and therefore wanting to include learning experiences that were outside of the ordinary 'supervision at supervisors office', I asked the students to think about experiences or moments that had been exceptionally learning-dense for them; experiences from which they had learned a lot; learning experiences that had made a difference for them.

⁵ The comments about supervisor-student relations emerging from the interviews about learning outcomes and students' reflections on these make up an emergent category in my analysis.

⁶ These were the four pre-defined categories of my interview guide: Reactions to: 1) positive feedback; 2) corrective comments; 3) interrogatory comments and 4) the use of visual tools such as diagrams, flowcharts and mind maps.

cluding daily team dialogues. The research team in each country consisted of two PhD students, two of their national supervisors, as well as two of their Danish supervisors. Notes were taken regarding learning processes, interactions, relations and questions posed by the PhDs during our fieldwork, and interviews were recorded and detailed notes were elaborated on this basis. Furthermore, as a backdrop for my analysis, I revisited notes from the entire first year of supervision and interaction with the PhD students during their two-month stay in Denmark, via skype, email and during international conference participation.

Not only are there issues of power and hierarchy with being one of the co-supervisors for two of the PhD students, that are likely to affect the replies from the students, but there are also ethical questions (Kvale & Brinkmann, 2009). I explained about the pedagogical learning process that I was enrolled in through the Teaching and Learning in Higher Education programme, to ensure that the students were well informed. I explained the objective and focus of my enquiry, which was to reflect on my practice as supervisor, as well as gaining a better understanding of my part of the relationship as (co)supervisor and colleague. I also explained that if they agreed to be interviewed, the interviews would be treated confidentially, and possible quotes would be anonymised. All four gave their consent.

While the empirical data for this article come from a small sample, effort was invested in designing the qualitative aspects of the study, with dense note-taking and close personal relations. I make no claim of representativeness in this qualitative study, but argue that the observed dilemmas can have relevance beyond the specific research programme, within the context of cross-cultural PhD supervision.

Results and analysis

Metacommunication and clarification of (mutual) expectations

Differences in academic cultures can be present in any inter-institutional work, but probably tend to be more distinct and frequent in international collaborations, especially between academic environments with markedly different histories and traditions. This can not only intensify challenges, but also enrich learning opportunities for students and supervisors (see for example Doyle & Manathunga, 2017; Winchester-Seeto et al., 2014). Facing supervisory dilemmas, for example between wanting to nurture critical thinking while having to address the fear related to thinking independently, meta-communication about the pedagogical challenges can help guide a choice of supervisory role, based on mutual reflection. The experienced differences in academic culture were exemplified in one interview, where a PhD student, referring to his home university, explained that *‘traditionally, the supervisor will say “do this”, and give his input, and add, “if you do not do this, please do not come back”...’*, indicating that there is not much room for discussion or for the student to find his own

way forward. The cultural differences in dealing with hierarchy is one of the 'intensifiers' identified by Winchester-Seeto and colleagues (2014), highlighting that supervisors must pay attention to this difference, if the supervisor wants to understand the students' reactions and help establish a relationship that simultaneously attempts to understand the background and experience of the student, while also influencing alternative ways of interacting.

All four PhD students mentioned their participation in an introductory course for new PhDs when they were interviewed about what assignments or situations had spurred intensive moments of learning. They also highlighted that the encouragement for them to '*become owners of their own PhD project*' was an eye-opening concept, and it changed how they related to supervisors, as well as to their own learning process. Based on the students' initiative, post-introductory course supervision meetings between the students and their supervisors in Denmark embraced a checklist developed by S. Kobayashi (2014) as a guide for discussing mutual expectations regarding the supervision process and collaboration regarding the PhD process. This not only encouraged all of us to voice different experiences and expectations, but also to reflect on how to deal with such differences in a constructive and acknowledging way. Discussing challenges and clarifying (reciprocal) expectations was used as a way to create room for mutual dialogue about the expected challenges in the PhD supervision process.

However, it was obvious from the interviews that especially one of the students was unfamiliar with the abstraction level and the reflective process it demands to talk about the learning processes and communication itself. Despite being a doctoral candidate, the student was unaware of inner learning processes, even when given prompts and ideas for reflection. This was a huge challenge for me as supervisor, as it prevented the development of a common language regarding student, learning processes, which is a *sine qua non* for progressive development of knowledge in the student (and supervisor) about what helps the student learn, and how the student can learn how to learn, as formulated by Odena & Burgess (2017). It shows that although the meta-communication and reflective exercises advanced a consciousness for most of the students about how they learn by themselves, it did not work for all.

Expectations and the different experiences and competences of students and supervisors were explored in almost every face-to-face supervisor-student session in Denmark, as well as in the subsequent skype supervision meetings. Furthermore, I tried to initiate talks on a regular basis with the students about what comments, interactions and feedback were helpful, and which were not. While having been taught to conceptualize a supervision process as transitions through different stages that requires that the supervisor repeatedly '*reconfigure and reframe their role, practice and identity*' in response to students' progression (Halse, 2011, p. 566), I still found it

challenging to identify the student needs and adjust my supervisory role accordingly, especially when it would challenge my ambition to foster critical thinking – and my maybe taken-for-granted conceptions about how to achieve this. For example, one of the students requested more concrete tasks, and thus a more hands-on supervision style during our mutual reflections on supervision and communication. While appreciating the honesty, I feared that adjusting my supervision style as requested would postpone or even undermine my contribution towards teaching him how to learn by himself.

The student-supervisor relationship

One of the students referred to the student-supervisor-relation, when asked about examples of situations that had caused intense learning, describing it in the following way: *'My supervisor allows me to be able to fall and get up; to find myself. That is the most important thing as a student. Like a baby is not criticized that she is falling until she learns to walk by herself. That is how I feel about our relationship [...]. Allowing the student to find themselves, their level, is very important, instead of spoon-feeding'*.

Another student also highlighted the student-supervisor relation as one of the elements that had been most important in stimulating his learning: *"We are used to being spoon-fed and maybe we do not allow someone to come out of your shell and be yourself... because I think you learn better that way than by being told that you have to do ABCD. Those three things [PhD intro-course; PhD course using flow-charts as part of analytical tool; individual probing by supervisors to come up with alternative explanations] have improved my way of thinking and working. Also the relationship I have with you supervisors; the way we have moved around: I would have been holding back, feared that it might be used against me... but I do not feel that way. We learn'*. In addition to the relationship in itself, the quote also shows that the interaction in diverse settings, and doing collaborative fieldwork was important for providing opportunities for getting to know each other beyond the more formal interaction in university offices. This offers an example of the team having succeeded by including the students in inspiring research practices with sound and respectful collegial interactions, thereby ensuring that the learning becomes a collaborative process (see Goode 2007). However, it is interesting to see that both students use the term 'spoon-feeding', which Goode (2007) mentions as a term typically used in the deficiency discourse about (mainly international) students who do not fit the 'independent learner' ideal (Goode 2007:593). This could also be seen as an internalization of the 'deficit constructions' regarding African international doctoral students, the prevalence of which Doyle et al. (2018) point out.

All four students highlighted the importance of face-to-face comments, and strongly recommended the use of skype-meetings as follow-up on written comments (by email). The preference of conversation above written exchanges is probably linked

to having a stronger personal and less formalistic contact and thus providing a communication medium that better supports the coaching-supervision tradition and one where questions are encouraged. It resonates with findings by Könings et al (2016) and Doyle and Manathunga (2017).

Collaborative research practices as source of intensive learning

Collaborative research practices were mentioned as a source of intensive learning by three of the four students. Every evening during the fieldwork we would have group reflections about what was learned and the implications thereof for the next interviews, for our understanding of the object of our study and working-hypotheses. Referring to these evening reflections, one student noted: *'I learn things [about something] I might have taken for granted... maybe I did not notice, but some colleague may see something [...] and it makes me reflect and pay attention to new things'*.

The student also highlighted another experience containing intensive learning from doing fieldwork and reflecting together, by referring to an interview situation where one of his Danish supervisors probed into specific terms used by a local woman in an interview. He explained: *'I felt it as if the skin on my head was being stretched from learning [...]. It taught me to listen to the people, what term they use, and still interrogate... Because, you may think you understand, if you do not probe... you go deeper and then you understand differently. It was a moment of wake-up in the fieldwork. This is very important. Validity of information – so much can come out of that small statement'*.

An important element of the intensive learning was the opportunity to discuss freely, even basic questions. The freedom to discuss and develop thinking through the interaction during the collaborative fieldwork was invaluable. According to this student, this was *'not always an option at the university'*. This supports the recommendation by Hemer (2012) for supervisors to be conscious about the influence of the context of the supervision. For example, the supervisor-student role may be reversed by sometimes moving the supervision conversation from the supervisors' familiar territory of their office to somewhere else, or as found by Xu & Grant (2017), when students' home culture becomes part of the research. This can lead to a more dynamic and reciprocal supervisory relationship, and one of mutual learning.

Learning experiences from different types of feedback & assignments

Because much of the interaction between supervisors and students in the research programme happens via email and comments to electronic texts, I have chosen to use different types of feedback, given mainly but not only to written texts, as pre-defined categories in my analysis of learning experiences. These included positive feedback, corrective feedback and interrogatory comments. The use of assignments including the use of visual tools as diagrams, flowcharts and mind maps was included as a fourth pre-defined category.

Positive feedback

Two of the students referred to positive feedback as something important that motivated them and gave them confidence. Both described that they could use the positive feedback beyond the concrete comments as an example of something that works well, and then try to apply this to other parts of the text. *'It becomes a frame of reference [for me], of how to improve the text'*. Positive feedback helped the students because they better knew what to retain in a text. However, the students often revealed binary thinking of 'right' and 'wrong', and asked supervisors to guide them in order to not 'waste time', i.e. revealing a product orientation rather than an appreciation for the learning *process* (Tofteskov, 1996).

Corrective comments

While it is important to spell out evaluation criteria and exemplary comments, it may also be important to give some suggestions about how to improve an analysis, for example, at least in early phases of the PhD process. However, I frequently held back with providing concrete solutions, thinking that the PhD students should develop the ability to do so themselves. Through metacommunication I would explain why I held back, to ensure that the student did not think that it was either out of ignorance or out of lack of engagement. Yet, it created fear in one of the students when specific 'recipes' for improvement were not forthcoming. Consequently, through the interviews I realized that I had to differentiate the level of corrective comments and proposals for solutions further. To facilitate a soft transition into 'learning how to learn', I would stress that my proposals for solutions were only that: proposals, and that after all, it was the student's arguments, pro and con, that ultimately mattered.

Interrogatory comments

Some of the students appreciated when comments were given in the form of questions. One student expressed that it *'gives room to think'*,⁷ while another student explained that he preferred comments as questions, because it gave him an opportunity to clarify misunderstandings. The third student saw questions as something that stimulated deeper reflection. However, they added that they did not learn from just a question mark or 'please explain', but asked for questions to be made specific, like explaining which idea in an argument was unclear – comments which fit with the findings by Doyle et al. (2018). However, interrogatory comments provoked fear in

⁷ Yet the student added *'...I only get frustrated when I read different things that say different things from different authors'*. I see this as an expression of an ideal of static knowledge, and for research findings to 'fit' nicely, at the expense of mismatches stimulating curiosity and additional questions being asked. While this may easily be explained by individual character combined with professional background, I wonder whether more hierarchical academic cultures also influence such an ideal, and as such could be considered an expression of the intensifier regarding cultural differences in how to relate to hierarchies, where scientific results are viewed as the maximum authority.

the fourth student. *'I would prefer [...] that you say something [concrete] so that at least I know [that] this is how I am supposed to be thinking' [...] 'If I get open questions, I get puzzled... I get --- scared'*. The student was looking to have rules, norms and traditions within the field being mediated through the supervisor, rather than raising curiosity through questions and discussions. This could be understood as an individualized reaction to exposure to foreign academic traditions and supervision-styles (e.g. Moly & Kobayashi, 2014), that were intensified by cultural differences in how to deal with hierarchy, here represented by the student-supervisor relation (Winchester-Seeto et al., 2014). It highlights the need for the supervision-style to be adjusted to the individual student, depending on the student's preference. The student responses have made me reflect on my supervision style and I realized that I have to make larger adjustments from my own preferred style than I initially thought, in order to be able to facilitate learning better. However, this does not solve the dilemma that arises regarding how long to continue accommodating individual student needs, versus when to draw the line and conclude that too little progress is being made towards the University's expectations of what a PhD requires in terms of critical thinking.

Visual tools as diagrams, flowcharts and mind maps

One of the students described the use of diagrams and other visual tools as something that helped him get new ideas and make [his own] sense of things. *'I felt that through the exercise of the flowchart, I made sense of a lot of things, and I got new ideas. [...] It helped me develop my own thoughts on this'*. Probing about which resources he drew upon when developing a flowchart, he described it as *'thinking... independent thinking. I get an idea. [...] It is freedom to think out of the box, without just using literature, and then later go to the literature to see whether what you are thinking, what you put in the flowchart, fits with what people write about, and then identify gaps...'*. This spurred a talk about the possibility of using visual methods like mind maps to map or organize literature into different strands of arguments or lines of thoughts, rather than 'getting confused' by the fact that literature does not agree. This also sharpens our critical eye to the elements (whether research design, operationalization of concepts or context) that make different literature depart from each other, rather than searching for literature to 'confirm' a certain viewpoint. Once again this is related to the ideal of critical thinking and its different position in different academic environments. Another student saw the benefit of visual tools as a good way to summarize. Yet, he also described how making a diagram helped him get into the driver's seat and find his own position in literature discussions: *'Every author has a different view on variables... and once you get into the sea of literature, because there is so much written... it may be confusing, but then you can start to see which one will help you, with your study, because every author sees elements differently'*.

Both experiences seem to confirm the suggestion by Diezmann (2005) and Brodin (2016) about the relevance of using visual methods for stimulating critical, independent and creative thinking. Again, the fourth student had nothing concrete to say about how or whether the use of visual or graphical methods stimulated his learning or thinking, and I interpret this as a lack of conscientiousness about his inner learning processes. My interpretation is that the student was caught in a mode of reproduction of knowledge, rather than thinking critically, therefore responding to the stimulation of visual tools, with fear. However, this might also be an example of a mismatch in supervision style and student approach.

Discussion and conclusion

A coaching supervision approach aims to facilitate learning processes about how students can learn to learn for themselves. Meta communication about learning processes and goals can help direct attention to and develop a shared awareness about learning processes and supervision styles that match each individual student (Balterzsen, 2013; Molly & Kobayashi, 2014; Vehviläinen & Löfström, 2016), and give the supervisor important inputs about how and what to adjust in a continuous, collective process of development. Although learning is understood as a collaborative, social practice (Goode, 2007; Halse, 2011, De Beer & Manson 2009), it also includes identity formation (Ai, 2017). Another important part of supervision that aims to support critical thinking is the provision of space for students to generate their own reflections, proposals and errors (Ai, 2017; Balterzsen, 2013; Vehviläinen & Löfström, 2016). However, taking into consideration the ‘intensifiers’ of challenges faced by doctoral students in cross-cultural contexts, as identified by Winchester-Seeto et al (2014), such setups require that supervisors understand root causes of different difficulties, and help tackle them. One way is through dialogue and mutual reflection, so that differences (including cultural differences for example in dealing with hierarchy) can be identified and used for mutual learning, leading to adjustments in the supervision style, or possibly to a new understanding of ‘the other’ (Ai, 2017; Doyle & Manathunga, 2017; Xu & Grant, 2017).

Differences in supervision-learning cultures may require that PhD supervisors spend extra time on instruction and reflection with their students, as pointed out by Goode (2007). It is essential to spend time on developing and reflecting on the relationship with the students in a way that recognizes the intellectual resources and pre-experiences that each student brings, and encourages them to employ them (Doyle et al., 2018; Xu & Grant, 2017). Engaging in collaborative fieldwork may be one way to create a more dynamic and reciprocal supervisory relationship of mutual learning. Literature (Brodin, 2016; Diezmann, 2005; Odena & Burgess, 2017; Overall et al., 2011; Vehviläinen & Löfström, 2016), as well as the empirical data for this assignment suggest that supervisors (and students) can benefit from giving comments as

questions, as it leaves room for students to think for themselves, explain themselves and find ways forward. However, based on this small qualitative study, as well as findings by Doyle et al (2018), questions should clarify what content needs more explanation or exploration, because students seem to prefer more explicit comments and clarification.

Visual methods for communication and thinking about the research can also stimulate critical and creative thinking (see also Brodin & Frick, 2011; Vehviläinen & Löfström, 2016). However, for some, feedback or assignments that involve methods that demand independent and critical thinking may provoke fear rather than creativity and development of new ideas. For these students, exposure to non-familiar academic expectations with different learning styles may prove too much of an emotional roller coaster. Therefore, while my research to some extent supports the finding that the degree to which supervisors encourage students to think and act autonomously is associated with greater self-efficacy in students (Overall, Deane and Peterson 2011), I would argue that the statement should be modified to require that due attention be paid to identity processes, processes of becoming (whether doctoral student or supervisor) and getting both student and supervisor to know and understand the types of feedback and interaction that each is familiar with (Doyle et al. 2018) so that the supervisor can design an adaptive learning process. This seems to be especially relevant in cross-cultural contexts.

Furthermore, metacommunication is essential for creating a common language about the pedagogical challenges that supervision (also of international doctoral students) poses, and how to overcome them. Encouragement and the supervisor's awareness about supporting the students' sense of agency and ownership, both through communication (written and oral) and through practice, is also important (Doyle et al 2018; Elliot & Kobayashi 2017), especially for overcoming 'deficit constructions' (Doyle & Manathunga, 2017; Goode, 2007).

Dilemmas between supervisory strategies that arise in international doctoral supervision share many commonalities with other supervision processes, albeit with several 'intensifiers' present (Winchester-Seeto et al. 2014). While these intensifiers are challenging for both students and supervisors, they also offer unique opportunities to learn about one-self and challenge ideals about one's practices as a supervisor and researcher.

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