Cohort Supervision: Towards a Sustainable Model for Distance Learning?

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Abstract. In response to the challenge of increasing supervision capacity while improving the supervision experience, we used a design science research approach to guide the design, implementation and evaluation of a cohort supervision model for master's students in computing at an open-distance learning university. First, a systematic literature review was done to identify and report on the factors influencing cohort supervision. Second, this paper reports on the implementation of a cohort programme in 2018 and the findings from data collected during a focus group with students and supervisors, student reflective evaluations at the end of the proposal module, feedback from the supervisors and our reflective notes. The main theoretical contribution is the cohort model proposed for developing supervision capacity on master's level. The practical contribution is the methodology that describes a practical supervision model for master's students based on the concepts of co-operative learning and conversational theory.

Keywords: Postgraduate Supervision, Group Supervision, Cohort Supervision, Co-supervision.

1   Introduction

The massification and marketisation of higher education have resulted in increasing numbers of research candidates with different levels of capabilities entering postgraduate programmes both nationally and internationally [1]. Universities are under pressure because of the growing number of students doing research and the increased emphasis on completion rates. This is even more applicable at the University of South Africa since the definition of open distance learning (ODL) is aimed at "bridging the time, geographical, economic, social, educational and communication distance between student and institution, student and academics, student and courseware and student and

peers" [2]. In the context of little face-to-face teaching, ODL focuses on greater flexibility and removing barriers leading to wider access to learning, greater student-centricity and support, and a focus on student success. Not only has this openness led to significantly increased student numbers, but the realities of the South African society has led to the admission of students who vary widely in readiness for postgraduate study, with those from disadvantaged areas and schools lacking logical writing training and experience [3]. The increasing student numbers, and the lack of preparedness of the students for postgraduate studies, place pressure on supervision capacity, while the increase in student numbers has not been met by a similar increase in the provision of experienced supervisors [1, 4]. Given the risks and the impact of failed supervision, higher education institutions cannot afford to have novice supervisors follow a trial-and-error approach [5]. The need is not only to increase the number of supervisors but also to provide experiential supervision training. This disconnect between required and available supervision capacity is the rationale for this study, which sought to explore the following research question: What are the components of an effective model for cohort supervision in distance learning which increases supervision capacity while providing support and experiential learning to supervisors of different experience levels? The term *cohort model* refers to a group or unit set up as a structure in a community of learning to support intellectual development and knowledge production in postgraduate education research [6]. The use of cohort supervision to address the challenge of improving supervision capacity is not new; most of the previous studies investigated doctoral cohort supervision (for example, Kobayashi, Grout and Rump [7]). Dysthe, Samara, and Westrheim [8] proposed a three-pronged approach in master's supervision combining supervision groups, student colloquia and individual supervision. More recent studies published on master's cohort supervision, include Marnewick and Nel [9] and Pringle, Barnes and Cheng [10]. Cohort studies focusing on both master's and doctoral supervision include Sidhu, Kaur, Fook and Fong [11], although not in an ODL context.

Manyike [12] investigated supervisor challenges in the supervision of master's and doctoral students in an open distance e-learning institution in South Africa. She did suggest collaboration between experienced and novice supervisors as a means of enhancing the quality of feedback and communication but did not propose a new model. Van Biljon et al. [4] investigated supervisor development as part of cohort supervision in ODL and proposed a cohort model; however, they targeted honours supervision. Besides considering master's cohort supervision at an ODL institution, the contribution of this research lies in the concomitant development of supervision capacity at different experience levels.

2   Informing Literature

We used the keywords 'postgraduate supervision' AND ('group supervision' OR 'cohort supervision') to search the ACM, Springer, ERIC, Scopus and Web of Science databases for the period 2013 to 2018. The search was done in January 2019. The total

number of conference papers and journal articles from each database (excluding abstracts and patents) retrieved per database were as follows: ACM (3484), ERIC (1157), Scopus (780), Springer (3526) and Web of Science (457). The number of papers in most of the databases was too large for complete analysis and, therefore, we downloaded only the top 20 papers (rated by relevance), which means that 100 papers were considered. The duplicates were removed which left us with 96 papers. The researchers then read the abstracts of all the papers and rejected 55 papers that did not relate to postgraduate supervision. Many of these rejected papers related to supervision in training medical doctors or undergraduate supervision. This left 41 papers for the final analysis. The papers represented countries from all over the world: South Africa (seven papers), Australia and the United Kingdom (six papers each), China (three papers), USA, Nether-lands and New Zealand (two papers each) and the rest from Denmark, Finland, Sweden, Japan, Israel, Colombo, Malaysia, Mauritius (each contributing one paper). This provides evidence that cohort supervision is used and researched widely and that the topic is especially important for South African researchers. The research methods used in the studies included interviews (14) and group interviews (3), surveys (24), focus groups (5), case studies (2) and observations (2). Notably, these are not mutually exclusive as a paper could use more than one method.

The salient contributions from the literature on cohort supervision in the past five years (2013-2018) can be summarised in terms of the advantages, disadvantages, best practices including cohort models proposed and critical success factors as detailed below.

Cohort supervision is proposed as an alternative pedagogy for the supervision of large groups of master's students in an efficient and effective manner, maintaining quality research and graduate output [9]. Their findings indicate that the model improved students' motivation through peer sharing of experiences and feedback, as well as students taking responsibility for their own academic progress. Ahern, Van De Mortel, Silberberg, Barling, and Pit, [13] add enhanced morale, the benchmarking of learning and learning from others' mistakes, and collegiality. The benefit to supervisors included the sharing of ideas, what constituted best practice, and strategies for improving supervision. Addressing capacity constraints is an important motivation for using cohort supervision [13, 14], but Choy, Delahaye, and Saggers [15] warn that universities need to invest both time and resources for cohort development if such a cohort approach is to realise its possibilities as a supervision model.

Considering the challenges supervisors experienced in group supervision as part of a guidance and counselling master's programme, Wichmann-Hansen, Thomsen, and Nordentoft [16] identified three major challenges experienced by the cohort supervisors: (1) promoting equal participation within student groups that are often heterogeneous, (2) ensuring a balance between providing answers and involving students, and (3) recognising and growing student analytical skills. Meng, Tan, and Li [17] found that contextual factors that were informational promoted intrinsic motivation, while contextual factors that were controlling have negative effects.

Papers considering best practices for cohort supervision emphasise the importance of providing a holistic, integrated approach. For example, Sidhu, Kaur, Choo, and Fook [18] advocate for the fundamental principles of connectedness, wholeness and being.

Hutchings [19] maintains that group supervision can foster sustained mutual support and proposes technology mediated interactions, which are not tied to a specific location, facilitating participation and reducing isolation. Maor and Currie [20] support their argument for the use of technology by focussing on the transformational role that it can play in the move from more traditional, dyadic forms of supervision to more collaborative group processes. Other papers specify the specific elements of best practice, like scaffolding, guiding students in the completion of key learning tasks involved in writing a dissertation proposal independently [10], and using proactive communication to engage in meaningful preparation before meetings [21]. Han and Schuurmans-Stekhoven [22] recommend comprehensive research literacy training, which should include the critical search for information, understanding, interpreting and evaluating it, and finally synthesising it.

Various studies proposed alternative cohort supervision models.

- Choy, Delahaye, and Saggers [15] investigated the development of postgraduate research degrees cohorts. Their approach included four provisions, namely an initial residentially based workshop, developing a learning community, cultivating scholarship, and spaces for continuing learning. The interventions resulted in the development of a learning environment that supported students, and a culture that was nurturing.
- Marnewick and Nel [9] proposed an efficient and effective master's programme that would lead to quality research and improved graduate output. Their findings indicate that peer feedback, sharing experiences in the group, and students taking responsibility for their own progress led to improved student motivation. The benefits of the cohort model to the supervisors included sharing of ideas and best practices, and shared strategies for improving supervision.
- van Biljon, van Dyk, and Naidoo [4] propose the pyramid cohort supervision model (PCSM) for supervising computing honours students in an ODL environment. Their model is based on co-operative learning, conversational theory and scaffolding, and the model purposefully integrated technology as part of student support and collaboration.

The critical success factors relating to the supervisors include the following: a supervisor's own knowledge [23], availability and willingness to help [24], workload and the pressures of the academic environment [5, 9], and the quality of feedback given in formal supervision meetings, which require advance preparation [21]. Olmos-López and Sunderland [25] concur on the importance of feedback and add that the harmony between supervisors has an effect on the supervisor–supervisee relationship. Other skills include coaching, scaffolding and support in articulation and reflection practices [26]. Spiller, Byrnes, and Fergusan [27] recognise further factors that may influence the success of cohort supervision: cross-cultural environments, co-publishing with students, supervisor and student negotiations to ensure common understanding about important aspects, and written feedback on students' drafts. Njie, Asimiran, and Basri [28] argue that supervisors need to be involved in group activities to combat unwanted practices such as free riding (not contributing to group activities). The number and diversity

of the personal and contextual factors affecting cohort supervision signifies the complexity of the task and the expectation of the skills required.

As far as the students are concerned, Marnewick and Nel [9] mention cross-cultural issues, barriers linked to language differences, the lack of academic resources, unrealistic expectations by students, lack of academic scholarship in students, and the academic pressure experienced by supervisors, as important factors. Also highlighted are barriers to communication with lecturers [10], which is exacerbated by students' level of language proficiency [5]. Furthermore, students' misunderstanding the scope of postgraduate studies and a lack of critical thinking skills [5] need to be considered.

Manyike [12] investigated ODL supervision and identified weaknesses in the following areas: allocating postgraduate students to supervisors without consultation; meeting the needs of students who come to postgraduate studies underprepared by guiding them during the thesis-writing process; and the challenges inherent in an ODL model, which rely primarily on written communication. Co-supervision as part of cohort supervision was highlighted as more than just a 'safety net' for institutions [25], recognising that this leads to a complex web of both interpersonal and institutional relationships, which carry power while also providing opportunities (as there can be multiple ways in which co-supervision can be organised). Therefore, it minimised the risk of dual relationships and increased supervisors' opportunity to experience both leading and participating in groups [15].

In summary, the studies mentioned support the argument that cohort supervision has potential for increasing supervision capacity and quality and that the benefits extend to both students and supervisors. However, research also provides evidence of numerous and diverse challenges relating to supervisors, students and their interaction; that complexity leads to the development and implementation of context specific cohort supervision models. The only paper that specifically addresses the issue of supporting novice supervisors while developing supervision capacity in ODL is the pyramid cohort supervision approach for supervising computing honours students [4]. Therefore, we used that as a point of departure in the research design discussed in the next section.

3   Research Design

The study used a design science approach as advocated for the design, and iterative evaluation, of artefacts [29]. The research was guided by a pragmatic philosophy with a single-case study, as described by Yin [30] as the research design, where the units of analysis are the students and the supervisors as collectives with the individual students and supervisors as data collection sources. Ethical clearance was obtained from a research ethics committee at the University of South Africa. A focus group and reflective questionnaires were used as research methods to gather data. The design of the intervention is based on the pyramid cohort supervision model [4], where a design science research approach was used with principles of constructivist learning as an active, social, meaning making process, based on individual and shared experiences [27]. Co-operative learning was also involved in assuming a positive interdependence between students in the cohort, while maintaining their individual accountability [3]. However,

our approach is different in the following ways. We applied the model to the proposal development phase for master's students in computing, hoping to use collaborative, peer approaches to encourage the students to critique each other's work, and in so doing learn how to critique their own in helpful ways, and produce more solid proposals. In terms of support, we enlisted the help of an administrator (part time) for organising the interactions and reporting, and involved external domain experts and experienced supervisors as necessary and available. In terms of practice, we introduced face-to-face meetings for student presentations and feedback.

3.1 Description of the Intervention

The specific interventions are detailed in Table 1. The cohort was made up of seven students (representing all the master's students who registered for the research proposal module in 2018 for the senior supervisor) and three supervisors (of varying levels of supervision experience). The overarching idea was to support the postgraduate students in the preparation of their proposals by bringing together a cohort of students who would be working in similar fields so that they can learn from each other. A project site was created on the learning management system that included amongst others tutorial letters, providing the background to the proposal module, as well as links to important resources. Some initial training was offered in the form of a workshop as well as providing an opportunity for the students to discuss their research topics and questions. This discussion took place in small groups of students as they considered each other's work, and between individual students and one of the supervisors.

Table 1. Events and actions undertaken in the cohort supervision process.

Stage	Event	Actions
1	Introduction and orientation	Provided a tutorial letter detailing the purpose of the proposal module, tasks, deadlines, resources and organizational support. The online resources (including literature) were provided in a wiki.
	First group meeting: 1 March 2018	Meeting between students, supervisors, administrative support staff and practitioners. Feedback on initial research questions.
2	Research questions and design	Individual meetings with supervisors. Informal group interaction.
	Second group meeting: 10 May 2018	Presentations on the literature review, research questions and research design to external supervisors.
3	Third group meeting: 31 August 2018	Proposal presentations and focus group to evaluate the approach. The reflective questionnaire was distributed after all the marks had been processed (December 2018).

The next group event provided students the opportunity to present their work, giving them an opportunity to develop skills in condensing their ideas into presentation format (introduction, research questions, brief literature review, and proposed methodology) and at presenting them. Students were also expected to critique another student's work and give constructive feedback, commenting on strengths, weaknesses, and gaps in the argument. Feedback was provided by peers, supervisors, and external supervisors who were brought in to add objectivity and new perspectives; this was achieved in the large group with all participants present.

A third group meeting was held in which students again had to present an outline of their proposal to the group and receive feedback from supervisors and peers. This again took place as a whole-group event.

In the time between these group events, the students submitted drafts of their work to the supervisors for feedback. Students were initially allocated two supervisors, which was not done in a primary/co-supervisor arrangement. The senior supervisor in the supervisory group was involved in all the students' work.

4 Results

4.1 Evaluation Based on the Students' Responses

Reflective Survey. Students were asked to complete a reflective questionnaire focused on their experience of the cohort supervision; the reflective questions are provided in Appendix 1. The following discussion is a summary of the insights gained from the thematic analysis of the responses. The findings are structured in terms of the *benefits* and *drawbacks* of cohort supervision as experienced by the students in the group as well as the *critical success factors* (requirements to make the approach useful) and recommendations towards improving the model. An indication is given, of which respondent made a statement in square brackets.

Considering *benefits*, all seven students noted benefits associated with the cohort supervision process. It provided an overview, allowing students "to know where everyone is in their studies and not to miss deadlines! It kept me on track" [F]. The collective nature was noted in the "[t]eam work from both colleagues and the Supervisor" [B], which afforded the students the possibility of "[tapping] into collective intelligence for problem solving" [A]. Students noted that "[c]omments from various person helped me on writing the proposal (sic)" [E], "on what needed to be improved" [E], and "[r]aised awareness on some aspects of the proposal that was not clear" [E]. Furthermore, it "[h]elped me build my confidence by knowing we are all learning and there is no stupid questions" [B]. The requirement for the students to do presentations "was very useful" [D] and improved "communication and presentation skills" [C]. Also, students learnt "indirectly from other student because you see how they do things during their presentation" [D].

Considering the group interactions, the cohort led to a sense of "belonging and knowing that you are not alone" [A]. Additionally, "our group has a WhatsApp group,

and that is great" [F], pointing to peer-group initiatives to enhance communication. Students gained from others in the group ("They did helped a lot by sharing the articles and research papers which they thought they can benefit my research" [C]) as well as contributing to it ("I helped them on technical issues such as using referencing tools and explaining what is expected in each section of the proposal" [A]).

The extent to which the cohort process affected the quality of the work produced varied. It had its value in knowing "what is needed on the research, starting from research topic, problem, methodologies, and literature reviews" [C]. However, although "we could still be possibly stuck in our silo mentality in terms of approaching our work", "there was no much robust discussion of WhatsApp group" [A] – indicating that more was possible. One student responded "Not really" [F].

Students also noted *drawbacks* from participating in cohort supervision. One student mentioned "limited time given to a student" [A] to do a presentation due to the size of the group and suggested workshops to be held more frequently. Too little contact was noted by one student: "the workshops are too little. If we could perhaps have one every second month" [G]. One student noted that he/she did not learn anything from the other students, while the other six students mentioned that they have learnt much from fellow students. This may be because the particular student started later in the year and had a distinctly different topic.

Success factors often focussed on contact: "Regular meetings, encourage members to engage and exchange knowledge, give sufficient time to each student within a group" [A] and "[r]egular contact with students" [G]. The role of the supervisor was also mentioned: "Commitment. The lecturer were there for us and respond to emails on time" [B], and "Evaluation, comment or feedback from all the supervisors from that group" [E]. However, the cohort approach by itself was not deemed sufficient, with calls for "one-on-one sessions with my supervisors are an absolute must. That is where I grew and learnt the most" [F] and "I would like a mixed approach a group and one on one sessions are all important" [A].

Focus Group. A focus group discussion was held with the students to gauge their collective views of the approach that had been taken to their supervision. Five main themes emerged from a thematic analysis of the focus group transcription.

Students commented on their *initial expectations* of the supervision process. Apart from not being sure how "it works", they had expected supervision to be cantered on emails and supervisor meetings. There was the expectation of "meet[ing] my supervisor, maybe once or twice a month", initiated by both the student and supervisor, "because if supervisors do not do that, students can sit back and discussions between supervisor and student end up not happening". Largely, the expectation was that they would "communicate with their supervisors via email", and that supervisors would send messages out via the university LMS, where, "if you miss something … it is your fault". One on one meetings with supervisors were liked "because you get instant feedback and follow on questions".

As concerns the *group approach* taken, students were "comfortable with the environment created and the support given" and "happy if we are like this", where they "learnt a lot from the workshops" that were presented and can "learn from each other". It did mean that students had to learn "not to react negatively to criticism". Knowing

what had been covered in the group meetings led one student to remind him/herself that "I am not a quitter; I will try to make success out of this". However, it was clear that "it is not possible for me to take leave days frequently", and that group meetings should be "after working hours, it will give us an opportunity to attend".

It is noteworthy that the students set up a *WhatsApp group* for themselves. As "everyone has a phone on the go, it is convenient", and "if someone has a question, it is asked and anyone can answer". This group "created unity amongst the students", as well as building "a sense of comfort", recognizing that "this journey can be a lonely journey". There was an appreciation of the group, and a belief that the students benefitted from belonging to it. However, the students "haven't really shared each other's papers", and did not appear to "share and ask the difficult questions".

As for the *future of the group*, there was a feeling that they "enjoy[ed] this method", that "it will be great to continue working like this", and that the group should not be spilt along any topic area lines. There was also the belief that the students would be able to "guide [future proposal students] with what is expected".

As the students were expected to present their research topics, *presentation skills* was also a theme that was identified. They took the presentations "very seriously", and prepared "watching YouTube videos", checking "the dos and don'ts and expectations", as well as consulting "experienced friends".

4.2   Evaluation Based on the Supervisors' Responses

As part of the reflective process, the supervisors completed a reflective survey on their experiences of the cohort supervision. The reflective questions are provided in Appendix 2.

As to the question of whether the cohort supervision approach met the expectations of the individual supervisors, the respondents reflected that the cohort supervision model provides a platform for "quality assurance on many levels including supervision practices, disciplinary content and general research knowledge". One of the respondents indicated that the cohort process addressed some of the anxieties experienced by novice supervisors, and this was emphasised by another respondent who indicated that the process provides "a safety net against individual biases, inexperience and ignorance for both students and supervisors" on various levels, including the management of individual experiences, personality clashes and overall administration problems. Reflecting on the organisational processes, all the respondents mentioned that they did not realise the extent of the complexity of the organisational overheads, and that it would not have been possible to do it without the assistance of the administrative assistant. One of the respondents mentioned that, because the projects were all different, it made reading and conceptualising the different projects difficult. The more senior supervisor also touched on the mentor-mentee process, and the danger that lies in this process of supervising not only the students but also the less experienced supervisors. One of the less experienced respondents mentioned that more defined rules for both the supervisors and the students should be set before the project.

The respondents agreed that the students benefitted from the cohort supervision as it assisted the students in terms of peer support by providing support on "emotional, cognitive and organisational" levels. From conversations with the students, it was learned that the students created their own support group, separate from the official cohort group. One respondent mentioned the positive input that has been received from several sources: the advice provided by the external expert supervisors during the initial group sessions, the positive feedback students who attended a postgraduate workshop at a local conference received, and the assistance of, and advice from, the post-doctoral student. To add to this, the respondents agreed that the approach positively affected the completion rate for the students. One respondent mentioned that, compared to previous years, the students received more input and that the proposals were of a better quality as a result.

In reflecting on what the supervisors would change, the respondents identified that the field of research should be more defined, and that students should be linked to a specific supervisor earlier in the process. This would eliminate the problem of a student contacting multiple supervisors. The lack of a "shared-platform" also resulted in various emails being send around. One respondent touched on teaching the students the skills required to critique their peer's work. Another suggested the introduction of a structured presentation template that would support students in presenting (and thus getting feedback on) the critical details of their research design rather than dwelling on interesting but irrelevant details regarding the rationale for the study.

5   Discussion and Recommendations

5.1   Discussion of Results

It is possible to understand the results in term of shared experience, a concept that was evident in the studies explored in the literature review. This shared experience added value for both students and supervisors.

The shared journey was, for students, an opportunity to see that they were not alone and that they belonged to a group that, together, learnt what was required in a research proposal. The WhatsApp group that they created points to their initiative in supporting each other, if only from a social and administrative standpoint. This built confidence. Another insight was the importance of presentation opportunities were students could get instant and balanced feedback, and could learn together how to present their work in the most efficient manner. However, students will not necessarily have learnt from others in all situations, and the need for regular, as well as one-to-one meetings was highlighted. It could be argued that a mixed approach that merges cohort and individual approaches is most likely to meet most academic and social needs.

A shared approach, which would include the drawing on external expertise, also had benefits for supervisors, although this would have been more beneficial to supervisors with less experience than more widely experienced ones. The support was noticeable in the backup that colleagues offered to early career supervisors, and knowing that quality did not rest on an individual's shoulders alone. The shared experience represented a shared responsibility.

Two further points do need to be noted, however. Firstly, a cohort supervision model does not save supervision time, and in fact increases the work that a supervisor has to do (as each piece of work is now read by two supervisors instead of one) – it is thus unlikely to solve immediate supervision capacity issues. However, this can be considered an investment in supervision capacity considering the learning that is gained by supervisors in the process, which can lead to better sole supervision later. Secondly, the expectation that the students analyse each other's work, and provide constructive feedback which helps them critically analyse their own work, was maybe too ambitious. The comments that were made tended to be superficially positive, and it will be necessary to focus on training students what to look for when reviewing and analysing academic work in future iterations of this approach. Our findings confirm the value of student colloquia to provide personal support, and serve as a first filter for ideas and texts and also the need for individual supervision sessions for more specific advice [8]. In our research, the supervision groups only started to form towards the end of the first year; maybe the smaller groups would be a forum for the critical multi-voiced feedback that we found lacking.

5.2   Proposed Cohort Supervision Model

The proposed components of the model for cohort supervision that flows from this experience are presented in Fig. 1. The components consist of the actors and the relationships between them as well as the recommended resources. The actors include the cohort leader, supervisors, administrator, external experts and students. A cohort leader would be an experienced supervisor that would lead the project, providing vision and guidance as necessary. This person may or may not act as a supervisor to students. The supervisors are supported by two further entities: an administrator, who assists in managing the flow of documents and organising of cohort meetings, and external experts, who join the cohort on ad hoc occasions to provide domain knowledge, expert advice, and alternative viewpoints. The students, thus, benefit from a well-managed process, appropriate supervision, and expert input.

Several resources may be utilised. Shared resources are used to benefit the whole cohort and the process of cohort supervision. Academic resources are those that support proposal content development through both consuming what has been written and producing content for the proposal. Cooperative resources are places where all role players in the process get together to further the supervision process. Finally, evaluation resources encompass the processes related to giving feedback.

5.3   Recommendations

Our findings confirm the benefits of cohort supervision in developing capacity and providing emotional, intellectual and practical support for students and supervisors. Our most important contribution lies in uncovering new challenges related to cohort supervision and suggesting recommendations to address some of the challenges.

Institutional: Institutional practices need to support co-supervision explicitly by providing administrative support since cohort supervision creates an organisational

overhead. Such a person would manage the flow of documents, organise cohort meetings, handle queries around registration, bursary applications, and ethical clearances, for example.
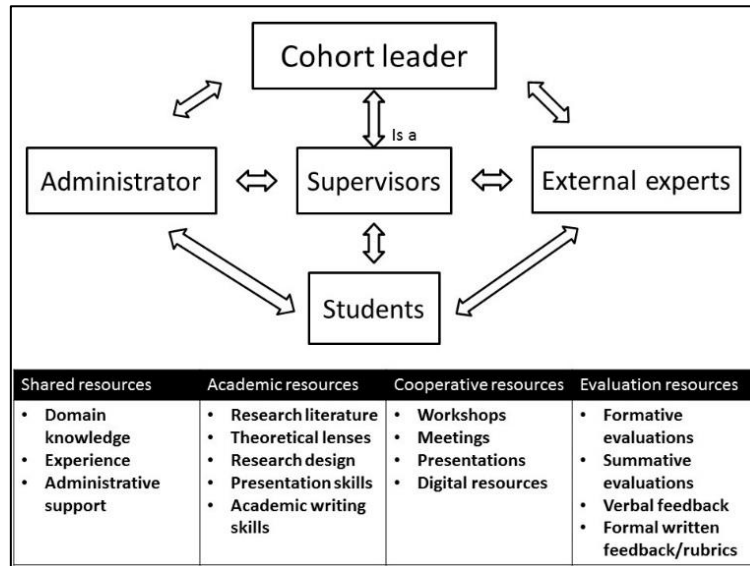

Fig. 1. Proposed cohort supervision model.

Furthermore, the interactions between the cohort supervisors and the students need to be managed for sustainability. The load on the cohort supervisor can become insurmountable if the cohort supervisor tries to be involved with every student as well as mentoring the cohort supervisors. If the cohort supervisor takes on a mentoring role with responsibility for students where they are not a co-supervisor, then the cohort supervisor should be recognised as a supervisor of supervisors, thus acknowledging the responsibility carried, and the input required, facilitating satisfactory progress. Institutions need to consider making space for such a role in the supervision process. Currently, most higher education institutions have a postgraduate supervision model of sharing credits equally between supervisors and awarding credits per registered student supervised. Mentoring novice supervisors is purported to be important but if mentoring is not part of the rewards system, experienced supervisors may shirk from the considerable effort and responsibility it brings. The following aspects deserve special attention.

Structural: The cohort supervision model should clearly delineate the responsibilities to preserve supervision capacity. For example, when both supervisors read the same document when providing feedback, some agreement as to whether this will be done in parallel or in series needs to be agreed upon, as well as deciding the relative roles of primary and co-supervisors. Furthermore, while external experts could play a bigger part in helping students to make final research question and design decisions, how this

is to be achieved needs to be negotiated with both students and supervisors, recognising that this process may require extra time to complete with integrity.

Organisational: The initial face-to-face meeting, where students can get to know each other, and form trust networks as well as their own social connections, is critical to establishing an informal social, support network. Additionally, such meetings provide opportunities for students to do presentations, although online options for this does need to be explored further.

Academic: The research topics should have large overlaps in terms of the theoretical lenses and the research methodologies used. This promotes peer support since those students are more familiar with the domain and are better able to constructively critique each other's work. External experts (and even co-supervisors) can fill gaps when students venture into areas outside the core competency areas of the cohort supervisors but diverse topics have an efficiency trade-off. These external experts also have a quality assurance role at the proposal acceptance stage.

6   Conclusion

This paper reports on the use of cohort supervision as a way to improve supervision capacity while supporting student research learning and novice supervisors. Specifically, findings of implementing a cohort supervision programme for master's student at an ODL institution support the benefits of the approach for students on emotional, social, cognitive, organisational and quality assurance levels, but institutional buy-in and administrative support is needed to enable the sustainability of the cohort model. Besides the components proposed for an effective cohort supervision model that incorporates co-operative learning, conversational theory and scaffolding, the study also contributes a methodology for implementing cohort supervision on master's level in an ODL context. Many students at residential universities face time, access and isolation constraints and therefore this model is applicable beyond ODL institutions. As part of the design science approach the proposed supervision cohort model will be applied, evaluated and reflected on in future research. Future research should consider a longitudinal study to investigate the sustainability of the model in growing research capacity while providing satisfactory supervision. In particular, structural interaction innovations towards improving supervision capacity deserve attention. Additionally, while a qualitative study was implemented here, a more quantitative approach may provide results that may make the components of the cohort model clearer.

Acknowledgement

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Appendix 1. Student reflective questions

Supervision for your studies has taken place in a group setting with other students who are on the same journey. Please think about how this process has played itself out and how it has influenced your postgraduate studies, then answer the questions below giving as much detail as you can and are comfortable giving. Please note that you should feel free to be completely honest when answering these questions and none of your answers will determine your research progress in any way. Remember that these questions have no right or wrong answers.

1.	Name:
2.	Gender:
3.	Age:
4.	When did you first register for your postgraduate studies?
5.	What is the current status of your postgraduate studies?
6.	Have your postgraduate studies this year been a positive or negative experience for you? Why do you say so?
7.	To what extent has the group approach influenced your experience?
8.	What has worked, or not worked, for you in this group process? What have been the benefits and drawbacks?
9.	To what extent have the other students in the group helped you?
10.	To what extent have you helped other students in the group?
11.	To what extent do you believe this approach has affected the quality of your work?
12.	What do you think are the critical factors for success with group supervision approaches?
13.	What would you change about the group approach to supervision used?
14.	This was a formal approach to group supervision where you were expected to attend and participate. How would you feel about a more informal peer support approach based on social media (or some other approach)? Would it be more appealing?
15.	Would you prefer to continue in this mode of supervision or not, and why?

Appendix 2. Supervisor reflective questions

1. What has been your experience of a group supervision approach?
   a. Has it been good or bad?
   b. To what extent is it what you expected?
2. From your observations, have the students benefitted from the experience or not?
3. Identify challenges and risks in the use of such an approach.
4. How has this approach affected the quality of work submitted?
5. How has this approach affected the completion rates of students?
What would you change?