

Online mentoring of pre-service ESL teachers to conduct classroom-based research: Moving from ‘other’ to ‘self-regulation’

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Abstract

The development of knowledge of ESL research in pre-service teachers is incumbent on a combination of use of cognitive processes at the individual level mediated by social processes at the collective level. Young teachers’ cognition about ESL research can be developed through the process of mentoring as a meditational tool in their social milieu. In this paper, I report an exploratory study where I have studied seven pre-service teachers who developed knowledge of research design and applied it to conduct classroom-based research by going through a five-month long mentoring process in the online environment. A thematic analysis of the participants’ views on doing research in the online environment from an interview post submission reveal that they are able to move from ‘other’ to ‘self’ regulation for writing the dissertation and in forming an estimate of their growth and identity as researchers.

Keywords: *ESL mentoring, classroom-based research, socio-cultural theory, other and self-regulation, zone of proximal development*

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I. Introduction

In India graduate level ESL teacher training programmes with a research methodology course or submission of a dissertation is rarely found. It is only when students enroll for a doctoral programme in ELT or ESL studies do they get a chance to be trained in research methodology and conduct research leading up to a thesis. When these young teachers join workforce, they encounter ESL learners of various age groups and proficiency levels and engage with a lot of classroom interaction that can be a site for rich data collection, analysis and reporting. But the lack of orientation and knowledge to conduct ESL classroom research does not help them exploit the linguistic environment of SL learning in the classroom context, let alone report their experiences and findings.

In this paper I narrate an example of teacher research done at The English and Foreign Languages University, Hyderabad, India, as an instance of pre-service teacher training to conduct research. The teacher research reported here was done under my supervision where I could be a mentor to seven participants who conducted research in the online environment as part of the MA ELT programme. Through the mentoring as a social process they obtained training to become independent researchers and learned to deeply reflect on their process of research. Before we look at the main study let us first consider a few of the theoretical terms and key arguments on the basis of which the study was designed.

Socio-cultural theory (SCT): other and self-regulation and ZPD

Vygotskian socio-cultural theory (1978) posits that human mental functioning is a social process that can be mediated by cultural artifacts, activities and concepts. Lantolf and Thorne (2007) applied SCT to explain second language learning process as a social activity mediated by (i) *object* regulation or use of an object helps a child gain control over himself/herself, (ii) *other* regulation or an abled person helps in completion of an activity and (iii) *self*-regulation or the highest stage of learning when a person is capable of accomplishing a task on his/her own mostly independently (Ortega, 2009, p. 220). These are three stages in a continuum of human mental cognition and more specifically of language growth. Originally Vygotsky proposed the mediation theory to explain growth in children when an adult could access their zone of proximal development (ZPD) or “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).

When ZPD was applied to SL learning, it became a very useful concept for language educators to pursue. In 1990s and early 2000 researchers like Swain (1995) and Lantolf and Thorne (2007) applied ZPD to SL learning in the case of young and adult learners. They worked with the concepts of other and self-regulation

within the ZPD of SL learners as they were influenced by a seminal study by Aljaafreh and Lantolf (henceforth, A&L)(1994). The study throws light on the fact that young SL learners can move from other to self-regulation on a scale of graduated assistance of corrective feedback and negotiation to learn features of English grammar. Learners experience growth because the feedback is negotiated and therefore dialogic. So the collaborative activity between the teacher and the students bears evidence to fact that SL morpho-syntactic learning happens through mediation and bears the strength of the socio-cultural theory.

ESL mentoring as mediation

Mentoring, a crucial concept in the SCT paradigm, emerged as a concept in the field of education with a reformatory role back in the 1980s. Later Megginson and Clutterback (1995) conceptualized it specifically for the teaching context where more knowledgeable teachers or mentors help pre-service teachers in becoming acquainted to school systems and pedagogical processes. Mentoring as a social mediation tool has been a part of pre-service ESL teachers' training programme to support their early classroom practices (Hobson et al., 2009), development of theories of learning a new language, classroom administration, peer collaboration (Ingersoll & Smith, 2004), self-assessment of growth as perceived by the student teachers and mentor evaluation (Ingersoll & Strong, 2011; Mann & Tang, 2012; Carrosa et al., 2019) and formation of identity of student teachers and mentors by way of reflecting on the mentoring events (Johnson, 2003). Mentoring is an important intermediary stage before young teachers can take independent strides in their profession, and research shows that in its absence novice teachers can abandon their careers (Farrell, 2012).

In addition to mentoring as a mediation tool to help pre-service teachers get acquainted with classroom practices, recent research also shows that mentoring can be a scaffold to improve novice teachers' initiation into classroom research (Rebolledo et al., 2016). The novel concept that this study presents is mentoring teacher research in the online environment, an unavoidable condition due to the Covid pandemic times in the past two years.

Teacher research in the online environment: affordances and challenges

Conducting and reporting research are a combination of use of cognitive processes at the individual level and social processes at the collective level. In this paper I argue for the development of knowledge of research in pre-service ESL teachers through a process of socializing whereby the supervisor as mentor aids in the development of young teachers' cognition about ESL research within their social milieu. The mentoring serves as a mediation tool with which the young teachers can move through their ZPD from other to self regulation to learn to conduct classroom-based research independently (Rebolledo et al., 2016).

As we had to continue to teach, assess and research during the pandemic times, we had to adopt a variety of digital tools to offer quality education to our students worldwide. While we attempted teaching through the online environment, conducting research through the same environment posed formidable challenges. These were more pronounced for young researchers who had to conduct and report research as apart of their teacher training or doctoral programmes. Online research presupposes the use of digital tools for successfully setting up study design, collecting and analysing data and reporting research. This posed challenges of connectivity (Schleicher, 2020), different levels of digital literacy and training to give feedback using digital tools (Mahapatra, 2021, pp.7-8), teacher stress and anxiety (MacIntyre et al., 2020) and accessibility between mentor and student teachers for the mentoring to happen seamlessly. This study is first of its kind to present the impact of online mentoring on teacher cognition about classroom research. In this regard it examined a group of seven young pre-service teachers in India (who are also referred to as 'student teachers') who were to submit a dissertation as part of their masters programme.

The paper attempts to answer the following two research questions (RQs):

RQ1: What kind of mentoring is available for student teachers to conduct research in the online environment?

RQ2: What do the student teachers notice and inculcate about ESL research from mentoring?

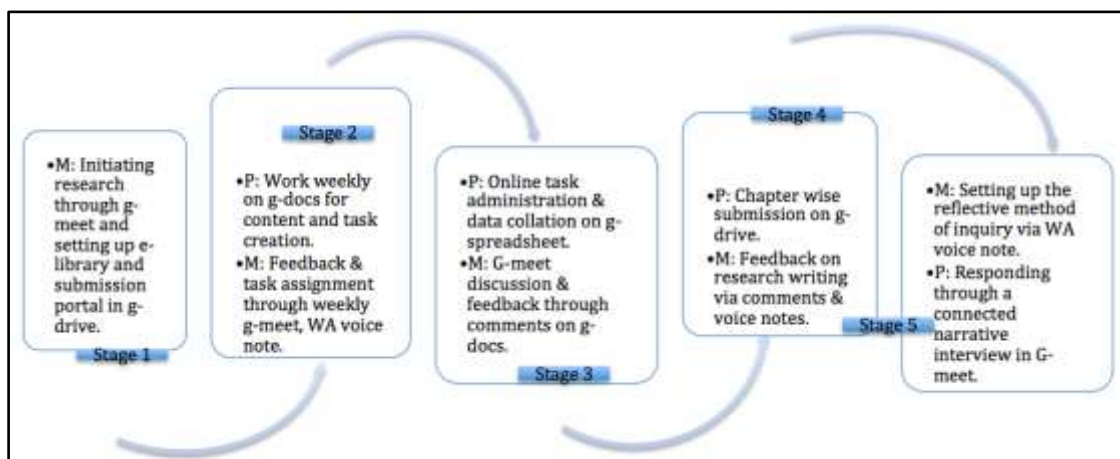
The context of the study

At the time of the study, the seven pre-service teachers were enrolled in the fourth semester of the MA ELT programme and were working on their dissertations. The dissertation had the objective to train student teachers to conduct an independent piece of research and report it. The participants had five months time to conceptualize, plan, conduct and report their studies.

I created a five-stage online mentoring model for the participants to conduct and report their research. The model covered all the five features of Hudson's (2007) model of mentoring (p. 203): *system requirements, pedagogical knowledge, modeling, feedback and personal attributes* of mentor to present a friendly, anxiety-free

context for learning. Though Hudson conceptualized the model primarily for the ESL/EFL teaching context, I found the model to be equally applicable for mentoring teacher research.

Figure 1 presents the stages and online tools used to create socio-cognitive mediation:



Key: M=mentor; P=participants; WA=WhatsApp

Figure 1: Stages of research mentoring and online tools used

It describes mentoring as a five stage model where student teachers could engage with the process of research in the online environment, administer the tasks and tools and write up the dissertation by analyzing data trends. The entire mentoring model was envisaged as a socio-cognitive process so that the participants could take the process of research forward through a task-based approach and reflect on the process all along (Robinson, 2011). This would push them from their current level of content knowledge about ESL studies to independently conduct research by realizing their ZPD as content-based higher-level cognition of reading and research writing.

The model also served as a collaborative framework (A&L, 1994, pp. 470- 471) when shared with the participants. They got a glimpse of the mentor’s expectations and set their goals and received feedback through the different stages of research. The five-stage model thus helps us to understand the first RQ as the kind of online mentoring made available to the student teachers. It also provided them with an accessible and anxiety-free training environment (Hudson, 2007).

Group summary

As the seven participants engaged in the process of completing the requirements to submit their dissertations I observed their growth across the five months. Their experiences during this time, based on the model presented in Figure 1, helped me understand their growth in noticing and applying the sub-skills of conducting independent research and then writing it up. All along they met in biweekly google-meet sessions: in the first three months it was to discuss the work done and receive feedback to finalize readings, task design, collecting data and collating and analyzing it on google-spreadsheets; in the last two months they uploaded their chapters on g-drive and went through a collaborative writing process by getting my feedback as voice based comments on google-docs with the ‘read and write’ extension. All of them went through all the stages of research in a systematic and planned manner to complete tasks assigned every month leading up to the timely preparation of the final manuscript. This kind of a task-based approach with a gradual increase in complexity (Robinson, 2011) helped them learn and apply constructs and variables to their specific areas of inquiry. This task-based approach helping in realizing teachers’ ZPD due to which they could manage the multidimensional event of conducting online research. This is aptly reflected in the comments of one of the participants during a post-submission interview (AND_1):

So, talking about planning ... this dissertation was four fold ...

- a. The first was orienting ourselves to the knowledge creation. This is like you read up as much as you can, but this step really goes beyond reading, and absorbing what other people's have written or research about the choice of your domain or topic.
- b. But choosing the precise language of the questions really frames the rest of your work. So, what I personally experienced when coming up with my Research Questions was that I have to repeatedly go back to them and modify them.
- c. ... and then you go on to reviewing previous research around your chosen domain or topic. And this step actually involves putting together the major findings that you have come across and this is where you start making your things more organized, you start putting your things in your places and what we did was we used a Google Drive.
- d. And then finally you start choosing your method of data collection and the data itself, whether you're going to do quantitative or qualitative methods of data collection, those you finalize and then you go on to collect your data and make, make use of existing data that is also a choice that you need to take into consideration in this part of planning, and eventually, it works out, it pans out your, you start, you start working on your paper...

The teacher student (AND_1) lists the essential steps in planning and executing her research and this reveals a systematic step-wise approach she adopted to become independent with her ZPD and gradually moved from other to self-regulation, as noticed in all the four steps.

Student teachers reflections of work accomplished and identity formation

Post the submission of their dissertations, the participants reported their views on the planning and process of doing online research, self-assessment of growth and challenges faced. They presented their views in an interview with a narrative form, with each participant focusing on one aspect of the research process. The interview served as a ZPD tool for examining student growth, reflexivity of the experience of online mentoring and task execution, and identity formation (Johnson, 2003). The research interview was ‘a social action’ whereby the participants reflected on their work, the growth they experienced due to the sustained mentoring through five months and digital and emotional challenges they had to deal with (Talmy, 2010, p.129). Used as a social tool, the interview helped create a deeper engagement with me, their mentor, when they revisited the process of online environment, and freely expressed things they were able to learn and integrate and their sense of achievement at the point of submitting their dissertations (Richards, 2009, p.168).

A thematic analysis of the interview-based reports was attempted following Braun and Clarke’s model (2006). The thematic analysis helped to code episodes that were related to mentoring teacher research of the study. Additionally the responses rendered to the framework of interview as a social action, proposed by Talmy (2010). This helped to understand the participants’ reflections in the light of SCT. Lastly the interview responses were analysed in the light of an adapted regulatory scale moves, originally conceptualized by A&L (1994) for examining growth of metalinguistic awareness about grammar (or form) in the writing of young ESL students. When the scale is looked at generically, it can be extended and adapted to understand development in research writing. I considered the last four higher levels of ‘other’ to ‘self-regulation’ from A&L’s original thirteen step feedback scale (p. 471) and mapped them to the sub-skills of ESL research, presented in Figure 2:

Level 0	Participants reflect and self-assess work post submission on each stage of research, online experience of doing research, peer support, mentor feedback and support, and identity formation as an ELT professional.
Level 1	Participants receive feedback on g-docs for each chapter in an ongoing manner and revise based on the feedback voice notes to gradually envision the whole work.
Level 2	Mentor listens to biweekly student presentations (slides, text, tables, graphs) to find out what has been achieved and plan ahead based on gaps identified; this stage is prompted by the mentor to help participants notice and applied ideas.
Level 3	Mentor creates a collaborative framework of the activities to be done for conducting research and writing the dissertation using the g-drive folder.

Figure 2: Regulatory scale for conducting ESL research

The regulatory feedback scale served as an important tool to understand the mentor’s role in mediation to access ZPD of teacher research through the five-months period.

Table 1 presents a thematic analysis of the participants’ views expressed during the interview:

Participant’s comments	Thematic function
<p>And we receive feedback and instructions through voice notes from our tutor which guided us on how to go about any stage of our dissertations. And feedback and suggestions received through Google Docs, <i>allowed us to immediately review, revise, review or revise the content, and it helps us to work, concisely and make the changes accordingly.</i> (MDJ_2)</p> <p>So one thing we can do is like, each time we take a study, we can have, like, a table that can be formed, where there is a subject, the variable of the study, the data collection, data analysis, all of which are kept in a table. <i>So that at the end of time, we just have the table and you can just integrate it into the first chapter and then followed by chapter two.</i> (PEJ_5)</p> <p>So the five months, it was very crucial and our supervisor, she was very keen on being with us at every step, at every stage and giving us proper feedback. (RIR_4)</p> <p>...sourcing material for reading and you know, preparing a theoretical background for our studies. So, we have to make sure that, obviously it was a reliable source or a website wherever we were taking the readings from. And in order to do that, our supervisor ... helped us a lot in, you know, establishing standard sources from where we could go and access these resources. Then, even she herself provided us with some textbooks or readings or studies which we were not able to find online since we were all doing it from our homes. (VAM_7)</p>	<p>Role of the mentor:</p> <p><i>giving feedback to move from ‘other’ to ‘self’ regulation’</i></p> <p><i>supporting learning</i></p> <p><i>establishing validity of readings</i></p>
<p>The feedbacks, through voice notes, and the Google comments helped us revise the writing on certain points, and then <i>plan out what comes next in our chapter. It kind of helped us envision</i> what a final piece would look like. (SAS_3)</p> <p>...what I have kind of learned from this whole process that the whole postgraduate work is about all about doing your work independently; but dissertation kind of takes a lot from you because right from the topic it is all your work; so even our Ma’am told us that it is 90% of our work and 10% guide is which is true. (SSA_6)</p> <p>So, there are times <i>when we might fear</i>. Okay, this doesn't make sense. But these feedbacks, you know help ... Okay, so feedback as ... mentioned, is very indispensable. (SAS_3)</p>	<p>Participant’s identity formation:</p> <p><i>of growth: realizing through self-regulation</i></p> <p><i>of apprehension</i></p>
<p>Networking and peer bonding has helped this whole dissertation process, ... it made it easier and endurable. So, we have had multiple sessions where we met in small groups to do our work at our own pace, then we found it really challenging and when we lacked motivation to do our work. That's the ugly truth and I have to address that. Sometimes, you find it really challenging to push yourself. And in that situation, peers will create a source of support, ... When you get feedback from your peers, then you try to understand from your peers. <i>It becomes a more input rich, and it makes it easier for you to lay down the points and then execute it on the whole.</i> So, overall, the help of, you know our tutor, the supervisor and peers, has an indispensable processing impact throughout the process. (SAS_3)</p>	<p>Role of peers:</p> <p><i>academic support; emotional bonding amidst challenges</i></p> <p><i>valuing collaboration</i></p>
<p>...whoever among us had to, you know, collect data from human subjects. That was a problem we faced by you know, doing it online, getting together all the participants and making them understand was challenging because we were all used to face-to-face interaction.</p> <p>every one of us faced a network issue or a power cut at some point in our semester ...so we had to deal with that as well. (VAM_7)</p>	<p>Challenges of conducting online research</p> <p><i>collecting valid data; connectivity issues</i></p>

Table 1: Reflections of student teachers: thematic analysis

The following are the conclusions from the interview data:

- comments on ‘role of mentor’ and ‘role of peers’ shows that the participants were able to use the collaboration frame and according to their ZPD of research design and writing (A&L, 1994, p. 471). Data from ‘role of mentor’ (MDJ_2; PEJ_5) and ‘identity formation’ (SAS_2 & SSA_6) reveal that the student teachers while writing their dissertation were able to move from other to self-regulation, from levels 2 to 0 (see Figure 2): the movement was possible because of *personal attributes* of the mentor, *modeling* and *feedback* mechanisms followed (Hudson, 2007).
- comments about mentor (RIR_4; VAM_7) and peers (SAS_3) indicate the acceptance towards a stable membership, trust and cooperation, essential features of mentoring (Mann & Tang, 2012); their participation in the interview as a social action helps them use self-regulation to write the dissertation and perceive the mentoring useful (Carrosa et al., 2019).

- comments on participants' identity formation (SAS_3 & SSA_6) further reveal that the student teachers could form an estimate of their growth and account for the challenges faced while taking the dissertation writing forward (Johnson, 2003); their voice is analyzed as an instance of co-construction by the mentor and establishes the interview as a social action (Talmy, 2010, p. 132).

The interview based data set helps to answer RQ2 in that it reveals that the student teachers could notice important attributes of classroom research and inculcate them to collect and analyse data and complete their dissertations. Furthermore, they were also able to deeply engage with the process as seen through their reflections on the growth they experienced, challenges of online research and mentor's attributes to scaffold learning.

II. Conclusion

The exploratory study reported in this paper has used the SCT as its base to create a collaborative frame of mentoring model, design a regulatory feedback scale specific to research mentoring, and used the interview as a social action to throw light upon the reflections of the young researchers and their identity formation. The model has scope for further improvement with more large-scale application. Nevertheless, the exploratory study can be an example to mentor young teachers whereby the steps of research are made transparent and one can undertake classroom-based research that is reliable, replicable and generalizable.

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Bio-note

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