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Developing English Language Teachers' Action Research Competencies Through an Exploratory Action Research Project

Desarrollo de las competencias de investigación-acción de docentes de inglés mediante un proyecto de investigación-acción exploratoria

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This article reports the impact of an exploratory action research (EAR) project on developing teachers' action research competencies. Through various face-to-face and online activities, the project facilitated four English language teachers to conduct EAR in their teaching contexts. Qualitative data were collected through reflective journals and WhatsApp group chats. Data reveal that each participating teacher critically reflected on the teaching context, selected a research question, collected and interpreted evidence, designed and evaluated an action, and disseminated their research. The findings imply that teachers' participation in EAR can develop their action-research competencies and ability to integrate teaching and research for their continuing professional development.

Keywords: action-research competencies, continuing professional development, English language teachers, exploratory action research, teacher research

En este artículo se reporta el impacto de un proyecto de investigación-acción exploratoria en el desarrollo de las competencias de investigación-acción de los docentes. Mediante actividades presenciales y en línea, el proyecto facilitó que cuatro profesores de inglés realizaran investigación-acción exploratoria en sus contextos de enseñanza. Los datos cualitativos se recolectaron a través de diarios reflexivos y mensajes grupales de WhatsApp. Los datos revelan que cada participante reflexionó críticamente sobre el contexto de enseñanza, seleccionó una pregunta de investigación, recopiló e interpretó evidencia, diseñó y evaluó una acción y difundió su investigación. Los hallazgos implican que la participación de los docentes en investigación-acción exploratoria puede desarrollar sus competencias de investigación-acción y su capacidad para integrar la enseñanza y la investigación para su formación profesional continua.

Palabras clave: competencias de investigación-acción, docentes de inglés, formación profesional continua, investigación-acción exploratoria, investigación docente

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Introduction

English language teachers and researchers acknowledge that "learning how to teach" is an ongoing process (Atay, 2008; Pinninti, 2022), and therefore, teachers' continuing professional development (CPD) has repeatedly generated growing interest among governments, teachers, and researchers (Abakah et al., 2022). CPD activities typically include attending lectures, formation programmes, conferences, and seminars and engaging in research (Sadeghi & Richards, 2021). According to Pinninti (2022), the knowledge teachers gain from these CPD activities has two dimensions: received knowledge and experiential knowledge. Received knowledge, which includes facts and theories about how to operate in the profession, is usually gained by reading books, articles, and other materials or by attending talks, formation programmes, and workshops (Wyatt & Ončevska Ager, 2017). Experiential knowledge is generally accumulated during teaching when teachers critically reflect on their experience and gradually learn to turn the experience into expertise (Shrestha et al., 2023).

For several decades, English language teachers' CPD predominantly followed the "received knowledge" model situated in top-down, theoretical approaches (Pinninti, 2022). These approaches often position teachers as passive recipients of knowledge (Wyatt & Ončevska Ager, 2017) and typically expect them to participate only in short-term, in-service formation programmes. While such programmes offer convenience and have demonstrably benefitted the teaching community, concerns exist regarding their effectiveness in promoting long-term CPD. This is partly due to their reliance on "outside experts" (Atay, 2008) who may present generalised theories that do not always account for the specific contexts of practising teachers (Burns et al., 2016; Pérez Berbain et al., 2023). Moreover, many teachers tend to disapprove of such top-down sessions because they see them as impractical and irrelevant to their needs (Wyatt & Ončevska Ager, 2017), thus having minimal impact on their subsequent teaching.

Complementary to such top-down, theoretical approaches, there has been increasing focus on bottom-up, experiential approaches to teachers' CPD (Anderson, 2023; Burns et al., 2016; Pérez Berbain et al., 2023). Proponents of experiential approaches argue that knowledge about teaching must emerge from insiders (i.e., teachers themselves) through "a (re)constructive process [that] enables teachers to interpret and reinterpret their experiences and to articulate the complexities of teaching" (Johnson & Golombek, 2011, p. 487). One such constructive process that has recently been gaining considerable interest among teachers and teacher educators is exploratory action research (EAR; see Burns, 2023; Dikilitaş & Comoglu, 2022; Rebolledo et al., 2016; Shrestha et al., 2023; Smith, 2015). EAR is conducted by teachers themselves on important classroom issues to understand them better and effect a positive change (Smith, 2015). While there has been growing interest in EAR, there is a dearth of studies that explicitly investigate the effect of EAR on teachers' competencies (Shrestha et al., 2023).

This study examines the impact of an EAR project on developing teachers' action-research competencies. It can contribute to the growing knowledge of EAR and bottom-up approaches to CPD. The research question guiding the study is: What is the impact of an EAR project on developing teachers' action-research competencies?

Literature Review

Teacher Research

Teacher research is commonly endorsed as a form of CPD in language teaching (Edwards, 2021; Yuan & Burns, 2017) due to its benefits to teachers. It develops their knowledge about the teaching and learning process (Atay, 2006), boosts reflective practice (Burns, 2014;

Wyatt & Dikilitaş, 2016), and enables teachers to try novel interventions (Kayaoglu, 2015). It also enhances their confidence and self-efficacy (Edwards & Burns, 2016) and develops their autonomy in decision-making (Edwards, 2021). Additionally, it broadens their perceptions of research and its relevance to professional practice (Buğra & Wyatt, 2021), hones their research skills (Atay, 2006; Burns, 2014), and develops problem-solving skills to resolve other classroom problems (Pinninti, 2022).

Two significant implications of the benefits of teacher research are its significance as a form of bottom-up approach to teachers' CPD and how it encourages teachers to examine their classroom settings. However, teacher research remains a minority activity among English language teachers (Borg, 2010), partly because they often have unrealistic notions about research, associating it with experimental designs, large samples, and rigorous statistical analyses to ensure generalisability (Borg, 2009). Additionally, they may lack the necessary skills to investigate their classroom actions. Doing research and disseminating its findings have been reported as the second highest-rated need by teachers for their CPD (Abakah et al., 2022). A pragmatic way to address these two problems is by providing teachers with collaborative opportunities through which they can be supported to engage in research (Buğra & Wyatt, 2021).

Collaborative teacher research mentoring projects can deepen pedagogical knowledge, reduce isolation, and encourage collaboration on topics of mutual interest (Buğra & Wyatt, 2021). Existing literature reveals positive outcomes for teachers' CPD from such collaborations. Benefits include increased reflectivity, greater awareness of the teaching/learning process, development of research skills, and professional development (Atay, 2008; Burns, 2014; Edwards & Burns, 2016; Kayaoglu, 2015; Wang & Zhang, 2014; Wyatt & Dikilitaş, 2016). However, fewer studies have explored the impact of such collaborations from teachers' perspectives, particularly in developing their competencies (Buğra & Wyatt, 2021).

Exploratory Action Research and Its Competencies

EAR was developed by Smith (2015) for in-service teacher education in response to difficult circumstances in Chile. EAR encourages teachers to engage in research-based exploration of classroom issues and to resolve them by implementing and evaluating new actions (Smith, 2015). EAR has two phases: exploration and action (Shrestha et al., 2023; Smith & Rebolledo, 2018). Though EAR seems to combine exploratory practice and action research, Smith (2015) presents it as neither a combination nor a "rival" to them. EAR was developed based on the need to integrate research with teaching and the pragmatic thinking that "deep exploration of a particular area of concern precedes coming up with a plan for change and evaluating a new intervention" (Smith, 2015, p. 42). Thus, EAR differs from action research in that it focuses on understanding the situation to make informed decisions before implementing an action. EAR is recommended for developing indigenous models of pedagogy (Anderson, 2023). EAR can help teachers investigate classroom problems and puzzles, identify context-sensitive strategies, and enhance their reflectivity (Shrestha et al., 2023).

EAR commences with a teacher's critical reflection on the teaching and learning process, leading to the identification of problems affecting student learning (Burns, 2023). From these problems, the teacher selects a significant issue and formulates a research question comprising two components: "why" learners struggle with a task (exploration) and "how" to improve their performance (action; Smith & Rebolledo, 2018). Then, the teacher develops or selects tools to gather evidence for the "why" component, providing "baseline data" for designing an action (Smith, 2015). After initiating the action, data are collected during and/or after the intervention to assess its effectiveness. Data gathered

during the action track learners' progress, while post-implementation data allow comparison of performance before and after the intervention. If the action proves successful, teachers can move on to new research questions; if not, they reflect on the process to identify and address any issues, initiating another EAR cycle (Smith & Rebolledo, 2018).

The specific competencies teachers exhibit while performing the above processes are called EAR competencies (Smith & Rebolledo, 2018). They are the competencies teachers develop while designing and implementing practical solutions to address the problems they identify by critically analysing and systematically recording the teaching and learning process in their classrooms (Shrestha et al., 2023; Smith, 2015). The competencies include critically reflecting on the learning and teaching process; developing research questions based on the problems they face; collecting, analysing, and interpreting evidence to answer these questions; initiating actions to solve the problems; and communicating the process to the professional community. Acquiring these competencies can help a teacher develop into a teacher-researcher, which can be facilitated by mentoring them to research classroom activities through collaborations (Smith, 2020). While these competencies can be inferred from published EAR reports (see Burns, 2023, for 12 Thai teachers' accounts, and Rebolledo et al., 2016, for nine Chilean teachers' stories), few studies have explicitly examined the impact of engaging in EAR on teachers' action-research competencies as reflected by the participating teachers.

Mentoring in Teacher Education

In recent decades, mentoring has been seen as a robust teacher education and development method. Mentoring programs are common in teacher education, especially for teacher induction. Mentoring involves support provided by one person for another's learning and development (Smith, 2020). Teacher mentoring is a professional relationship where both mentor and mentees co-construct their knowledge about teaching and learning. The role of a mentor is to facilitate mentees' understanding of the teaching and learning process in their specific local contexts. The role can vary based on time (one-time, short-term, long-term) and the relationship between mentor and mentees (transmissive or transformative). The transmissive model considers mentorship as transmitting pedagogical knowledge and skills from the expert mentor to the mentee. In contrast, the transformative model views mentoring as a co-constructive process that enables both mentor and mentees to understand their experiences and become self-transforming professionals.

Teacher mentoring can benefit mentees, mentors, and educational systems. Research has demonstrated positive outcomes for mentees, including increased teacher commitment, self-reflection, confidence, and problem-solving skills (Pérez Berbain et al., 2023). Mentoring can also help mentors by enhancing reflection on practice, professional development, and leadership skills (Mann & Tang, 2012). These benefits can result in knock-on effects for the educational systems in the form of enhanced student learning and achievement, increased teacher retention, and possibly teachers' greater participation in CPD activities (Hobson et al., 2009). However, negative mentoring can adversely impact professional development, forming unideal identities among teachers (Yuan, 2016). While the positive impacts of teacher mentoring imply that it should be promoted for teachers' CPD, mentors should be aware of the adverse effects of negative mentoring and avoid such mentoring.

The integration of EAR, collaborative teacher research, and mentoring theoretically informs the current study. EAR encourages critical reflection, question formulation, data analysis, and practical intervention, equipping teachers with the tools to address classroom challenges systematically (Smith & Rebolledo, 2018). Collaboration facilitates the EAR process by fostering a supportive environment where teachers can exchange

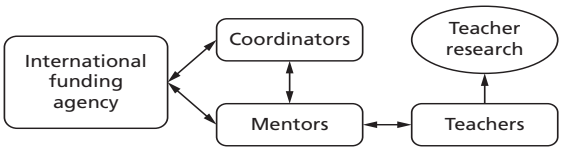
ideas, share insights, and engage in reflective dialogue, thereby strengthening their research skills and professional growth (Buğra & Wyatt, 2021). Transformative mentoring complements these efforts by offering personalised guidance and fostering co-constructive learning relationships, which deepen the teachers' understanding of pedagogical practices (Smith, 2020). Together, these components form an integrated and dynamic approach to teachers' CPD.

Method

Context

The study was part of a collaborative project to mentor small groups of English language teachers to conduct classroom-based action research. The collaboration objectives include developing teachers' reflective practice, confidence, and research skills, helping them make informed decisions about their teaching and improving student learning. The collaborators include an international funding agency, two coordinators, 17 mentors, and 80 teachers. Figure 1 illustrates the collaboration structure, with arrows indicating communication channels among members. The role of the coordinators was to support the mentors in helping teachers conduct their research. The collaboration took place in India, where, to my knowledge, such collaborations are not so common. I participated in the project as a mentor and worked with four teachers.

Figure 1. Funding Agency Promoting Teacher Research for Generating Local Theories



Participants

The study recruited four Andhra Pradesh Government Secondary School English language teachers (all were given pseudonyms to maintain confidentiality; see Table 1) through personal contacts and channels. Andhra Pradesh, located in the southern part of India, is a coastal state. The teacher-researchers (TRs) were selected based on their willingness to participate in a ten-month-long project. Their teaching experience ranged from nine to 23 years, and none had any classroom-based action-research experience. Informed consent was obtained from the four participants. They were notified that their information would be kept confidential and that their reflections might be published.

Research Design

A small-scale qualitative design was employed to examine the impact of teachers' engagement in research on their action-research competencies. The design choice was primarily driven by the funding agency's guidance to recruit small groups of four or five teachers. Moreover, as the study involved an in-depth qualitative

Table 1. Participating Teachers' Details

Name	Type of secondary school	Gender	Age	Qualifications	Years of teaching experience
Raju	Rural	Male	39	BEd, MA, MEd	9
Bharat	Semi-urban	Male	51	BEd, MA	23
Vamsi	Rural	Male	42	BEd, MA	10
Venu	Rural	Male	52	BEd, MA	23

understanding of the competencies, a small-scale design was a logical choice because it is common in educational studies (Croll, 2023), particularly in teacher research (e.g., Buğra & Wyatt, 2021; Burns et al., 2016).

Data Collection Tools

Qualitative data were collected through WhatsApp discussions and reflective journals. The WhatsApp group, which included the participating teachers and the researcher, was created for group communication. From the beginning of the project, we shared our thoughts, reflections, questions, and doubts on the WhatsApp group. Those discussions served as one of the sources of the data. Additionally, the TRs were requested to maintain a reflective journal to record their reflections and learning experiences at their convenience throughout the project. They were asked to share their reflective notes biweekly. Keeping a reflective journal can help teachers examine their teaching critically, identify and understand the problems, turn their experience into learning, and develop personal theories of language pedagogy (Khanjani et al., 2018). Mainly, they were asked to record and give examples of the competencies they developed during the study.

Procedure

The procedure began with the mentor recruiting the four teachers for the project. After the recruitment of the teachers, I, as a mentor, conducted three workshops (Induction, Mid-review, and Consolidation) and organised two webinars and a dissemination seminar for the TRs. While the project coordinators supported the mentors in designing the workshops and seminars, the mentors had complete freedom to plan these activities in accordance with the specific needs of the local teachers. For me, the handbook by Smith and Rebolledo (2018) on EAR was particularly useful for this purpose, as it methodically guides readers through the steps of conducting teacher research. Table 2 shows the timeline, purpose, and duration of the three workshops, and Table 3 presents the details of the webinars and seminar. In addition to these mentoring activities, I made myself available on WhatsApp and phone to clarify the TRs' doubts regarding their research. Specifically, I used the WhatsApp group to send reminders and share interesting and relevant information on teacher research. When responses such as reflections, research questions, data collection tools, and so on, were not submitted by the project target dates, I would initiate phone calls to motivate the TRs to sustain their engagement in their research endeavours.

Induction Workshop

In the first month of the project, I conducted a one-day induction workshop to orient the TRs to teacher research and sensitise them to turn classroom problems and successes into research. We also discussed the characteristics of continually developing teachers. The workshop included five sessions, and after each session, they reflected on and discussed the insights they gained.

Mid-Review Workshop

In the fifth month, I conducted a one-day mid-review workshop to familiarise TRs with the nature and types of data for teacher research, different data collection tools, procedures of analysing and interpreting quantitative and qualitative data, and how data can be presented with the help of illustrations like tables, figures, and diagrams. Additionally, I had a one-to-one interaction with them to review and scaffold the progress of their research.

Consolidation Workshop

In the ninth month, I conducted a one-day data consolidation and research communication workshop to support and prepare the TRs for reaching conclusions about their work. In this workshop, the TRs were provided with a model publication as a reference to help them develop an outline of their drafts.

Table 2. Timeline, Purpose, Activities, and Duration of the Three Workshops

Workshops	Timeline	Purpose	Activities	Duration
Induction	First month; one-day workshop	To orient the TRs to teacher research and sensitise them to transforming classroom issues into research problems	Introduction to the project's objective, policy, timeline, funding, and focus themes	30 min
			Reflection on successful and challenging teaching experiences	60 min
			Introduction to research and discussion on the characteristics of teacher research	75 min
			Identifying classroom issues and developing a focus on EAR	90 min
			Analysis and reflection on two case studies of teacher's action research	90 min
Mid-review and data collection and analysis	Fifth month, one-day workshop	To review and scaffold the progress of their research and to discuss data collection and analysis	Data for teacher research: nature, types, and tools	90 min
			Data analysis: qualitative and quantitative	90 min
			Data presentation: tables, figures, and patterns	60 min
			One-to-one interaction to review and scaffold the progress	60 min (about 15 min each)
Data consolidation and research dissemination	Ninth month, one-day workshop	To support and prepare TRs to arrive at and communicate findings	Data consolidation to finalise the findings and conclusions	90 min
			One-to-one interaction to review and scaffold the finalisation of the findings and evidence	80 min (about 20 min each)
			Discussion on how to prepare a report of the findings	90 min
			Discussion on how to make an oral presentation of the findings using PowerPoint slides	90 min

Webinars

Two webinars were organised for TRs to make mock presentations. In the first webinar, TRs made mock presentations to the mentor and co-TRs. The TRs appropriately incorporated the suggestions of the mentor and other TRs. The second webinar was held to make mock presentations to the project coordinators. The coordinators offered feedback and suggestions, which were incorporated before making presentations at the dissemination seminar.

Table 3. Timeline, Purpose, Activities, and Duration of the Webinars and Seminar

Activity	Timeline	Purpose	Happenings	Duration
Webinars for mock presentations	Tenth month	To provide TRs with practice and offer feedback on the presentations	TRs made mock presentations, and co-TRs and the mentor offered feedback	100 min: 15 min each for presentation and 10 min each for discussion
			TRs made mock presentations, and the project coordinators offered feedback	80 min: 15 min each for presentation and 5 min each for discussion
Face-to-face dissemination seminar	Tenth month, one day	To share the findings with other teachers	The mentor briefed the participants on the project and its objectives and discussed how classroom issues can be researched	90 min
			TRs presented their research findings	100 min: 15 min each for presentation and 10 min each for discussion

Dissemination Seminar

After the mock presentations, I organised the dissemination seminar, which was attended by three TRs as co-speakers and 15 teachers as participants. One TR could not participate as he had to attend a local body election training on that day. The 15 participants positively responded to our invitation to the dissemination seminar, facilitated through established local professional networks and personal contacts. The seminar included two sessions. In the first session, I led the discussion. The session focused on introducing the participants to the project and its objective, sharing how classrooms' successes and challenges can be turned into research, and introducing them to the concept of teacher research and how it can be done by practising teachers. We also discussed the characteristics and benefits of teacher research. In the second session, the three TRs presented their studies, and I delivered the presentation on behalf of the TR who was unable to attend. Some of the participants asked questions about the research of the TRs, and those questions were promptly answered. When we asked for feedback, they appreciated our work and the funding agency's efforts in sensitising teachers about teacher research.

Data Analysis

Qualitative interpretation of the journal entries and WhatsApp chats of the TRs was conducted by adapting the steps for thematic analysis suggested by Braun and Clarke (2006). The interpretation included four recursive steps: (a) familiarising with the data, (b) generating initial codes, (c) developing themes, and

(d) reviewing the themes and extracts. The first step involved thoroughly *familiarising myself with the data* by reading through the journal reflections and WhatsApp conversations multiple times to identify potential themes. This process generated an initial list of six rough ideas about the data, highlighting interesting elements driven by the study's objective. In the second phase, the data were reread to *generate initial codes* according to the list of ideas developed previously. The generated codes were (a) reflection on teaching, (b) research initiation aptitude, (c) evidence collection, (d) evidence analysis, (e) action initiation, and (f) research communication. The third step involved arranging and organising the initial codes and collating the relevant data extracts to *develop themes* of competencies. In the fourth phase, all the *coded extracts in each theme were reviewed* to consider whether each extract in a theme appeared to be coherent with others in it and whether each theme was distinctly constructed from others. The identified themes are presented and illustrated with relevant extracts in the Findings section.

Findings

The study explored the impact of a teacher research project on developing teachers' EAR competencies. Before providing details on how the teachers began to develop these competencies, it is useful to indicate the range of EAR studies they undertook (see Table 4).

Table 4. A Summary of Teacher-Researchers' Studies

Name	Research questions	Data tools	Action	Findings
Raju	Why are my students unable to perform the tasks of reading tables and graphs? How do I improve their performance on the tasks of reading tables and graphs?	Tests, interviews	Design and use of a bilingual vocabulary bank on the keywords	Students did not understand the keywords of the tasks on reading tables and graphs A bilingual vocabulary bank helped students improve their performance on the tasks of reading tables and graphs
Bharat	Why do my students make errors in capitalisation and punctuation? How do I impart appropriate capitalisation and punctuation?	Tests, informal interviews	Raising awareness of capitalisation and punctuation through innovative tasks	Students were not aware of the basics of capitalisation and punctuation Raising awareness of capitalisation and punctuation through innovative tasks improved students' performance
Vamsi	Why do my students not write English legibly? How do I develop legible handwriting skills in students?	Tests, observation of notes and copywriting, and interviews	Personalised individual counselling and practice	Students demonstrated a relatively slower pace of learning across languages Personalised individual counselling and practice improved students' writing legibility
Venu	Why do my students make errors in the mechanics of writing? How do I develop the mechanics of writing among my learners?	Tests, interviews, observation of notes and copywriting	Grouping-of-similar-letters training	Students demonstrated a relatively slower pace of learning across languages Grouping-of-similar-letters training improved their writing

It should be noted that the TRs were initially apprehensive about their participation and ability to successfully complete the project. This initial apprehension about the progress and success of teacher research is common and has been reported in the literature (Buğra & Wyatt, 2021; Burns, 2014). However, after encouragement and support, they took a serious interest and gained confidence. Providing continuous encouragement and scaffolding throughout the process of research is a significant aspect of mentoring teacher-researchers (Smith, 2020). As Venu noted:

> At first, I wondered whether I would complete this project or not. Because I did not know how to do the action research. I came to know [about action research] through the mentor. I got confidence after listening to my mentor. (Reflective journal)

Despite their initial apprehension, their reflections and WhatsApp comments indicated their development in six EAR competencies during the project, as presented in the following sections.

Reflection on the Learning and Teaching Process

Data from TRs' journals and WhatsApp discussions reveal that the project appeared to enhance the TRs' critical reflection on the learning and teaching process. For instance, in the reflective journal, Raju noted the importance of reflecting on his teaching methods to better facilitate student learning: "Before the project, simply I taught the lesson and go. [During the project], I could realise that there should be some reflection about my teaching. And through this project I could know how to analyse my teaching."

The following extracts from two TRs reveal the specific challenges they faced in their classrooms, particularly concerning students' language skills and classroom activities:

> [This project] helped me to identify the problems in my class. For example, my students have problems in pronunciation of silent letters, using pause and intonation while reading a text, and mechanics of writing. (Bharat, reflective journal)
>
> There are many problems in my class. [Students] don't understand English. They can't read simple words. They can't write simple words. They can't speak in English. There are also problems to implement group activities in the class. (Venu, WhatsApp)

These excerpts reveal that the TRs were able to engage in critical analysis of the learning and teaching process to diagnose their students' learning problems. Together, these excerpts underscore the diverse and multifaceted nature of the classroom challenges they faced.

Research Initiation Aptitude

The data reveal that the TRs were able to turn their classroom problems into research questions. When they identified several issues, they were asked to select a specific problem they would like to explore based on its significance to them. Three TRs noted that they would explore students' writing skills:

> Though I identified many problems, I decided to do action research on conventions of writing because it is more important for the students to use capital letters in the right place. (Bharat, reflective journal)
>
> I observed that many of the students have not been able to write the letters of the English alphabet properly . . . They don't know the difference between capital and small letters, and they use irregular spacing between words. Some of them even do not identify and write the alphabet. I thought that this is the suitable topic for my action research. (Venu, reflective journal)
>
> I came to know about learning difficulties of my students . . . especially in writing notes. They are also unable to read . . . their own handwritten scripts. (Vamsi, reflective journal)

Bharat's reflection and Venu's comments (the use of "even" in the above excerpt and the mention of "many

problems" in the extract included in the previous section) show a prioritisation process where, despite identifying numerous issues, they chose to focus on writing, emphasising its importance for students. Raju, on the other hand, focused on his students' data interpretation skills: "I have identified so many problems faced by the students related to English language learning. One of the problems was how to improve data interpretation skills among VII class students" (reflective journal).

Reflections from Bharat, Venu, and Raju show their progression from identifying broader issues to focusing on specific, actionable research questions. While Bharat explicitly mentions and Venu implicitly indicates a decision-making process in choosing their research focus, Vamsi and Raju seem to arrive at their research topics more straightforwardly based on observed difficulties.

After selecting and defining the problems, the TRs turned them into EAR questions (see Table 4). An EAR question will have two components: *why* and *how* (Smith & Rebolledo, 2018). To give a general example, *why* are my learners unable to perform something (exploration), and *how* can I improve their performance (action)? Smith (2020) admits that helping teachers develop suitable EAR questions can be challenging. Despite such a challenge, the TRs were able to turn the pedagogical problem into an EAR question, including the "why" and "how" components.

Evidence Collection

It was found from the reflective notes that the TRs could identify appropriate data collection tools and administer them to collect evidence to answer their research questions. The following extracts from WhatsApp show how Raju moved from identifying the problem to guessing the reasons for the problem to interviewing students to collect evidence to verify his guess: "7th class students are not able to answer questions under study skills (identification of the problem)." When prompted to reflect on his students' inability to answer questions on study skills, Raju analysed the problem and identified possible reasons for their inability:

> It may be lack of exposure to English. They may not be knowing the meaning of the question word. They may not be knowing the difference between a question and a sentence (statement). They may not know which is "why" question and which is "yes/no" question.

To verify his hunch, Raju interviewed his students and confirmed that they needed help understanding the keywords in the questions as they contained many unfamiliar words.

The following extract from Venu shows that he could collect evidence from various sources. He collected data by conducting a general test and a writing task and observing other sources such as notebooks, copywriting books, and answer scripts to confirm the problem.

> I have designed simple writing tasks and conducted a general test to all the students. After that, I identified the students who have not been able to write properly. I observed their writing in notebooks, copywriting books, examination answer papers and I found many problems in their writing. (Reflective journal)

The above excerpt reveals that the TR could employ data triangulation by collecting and using data from different sources to answer the same research question. Data triangulation is a method researchers use to increase the credibility and validity of their research findings and provides a valuable approach in EAR.

Analysis and Interpretation of Evidence

The EAR project appeared to develop TRs' analytical skills to interpret the collected evidence to answer their research questions:

> After completing the activities and worksheets I analysed the data and found that there was a tremendous progress in their performance. All the students could perform better. (Bharat, reflective journal)

> I have noted I can analyse the data qualitatively and quantitatively and interpret the data and reach a conclusion. (Vamsi, reflective journal)
>
> By using t-test, mean, and bar chart I could analyse my data. (Raju, reflective journal)

These excerpts provide insights into the TRs' abilities to identify and address student learning challenges, as well as their developing skills in data analysis and interpretation. Bharat reports "progress" in students' performance after his action, indicating the effectiveness of his intervention. Vamsi's statement reflects his growing confidence in his ability to interpret evidence to reach conclusions. Raju mentions using statistical tools like the t-test and mean statistics to analyse his data, demonstrating his comfort with statistical analysis to evaluate teaching outcomes (he completed a Statistics in Educational Research course during his MEd). Collectively, these excerpts illustrate the TRs' evolving skills in diagnosing student difficulties, assessing instructional interventions, and employing various data analysis techniques to inform their teaching practices.

Initiation of an Action

It was found that the TRs were able to propose and implement actions based on the evidence they gathered and their interactions with co-teachers and their students:

> [Students] suggested me to instruct in their mother tongue. I incorporated their suggestions into my teaching . . . I taught vocabulary related to study skills using bilingual method. (Raju, reflective journal)
>
> Practice was given through similar letters in groups.
>
> ... a, e, o, b, c, d, q, g … one group
>
> … m, n, h, r, f, l, t, y, u, s ... second group
>
> … w, v, y, z, k … third group. (Venu, reflective journal)
>
> I planned and designed self-paced learning like easy to difficult, simple to complex according to their abilities (Vamsi, reflective journal)
>
> I developed few activities which were suitable to the students to develop their knowledge in placing punctuation marks. I initially targeted the capital letters, where to use a capital letter. I explained it through activities and worksheets. (Bharat, reflective journal)

These excerpts indicate that the TRs could design innovative interventions and workable solutions to their local pedagogical problems. Raju's action of responding to his students' suggestions by incorporating a bilingual method into his teaching highlights his flexibility and responsiveness to student feedback. Venu's action of grouping similar letters, taken from a standard reference book, reflects a systematic and organised strategy to improve letter recognition and writing skills. While Vamsi and Venu explored comparable problems and found similar evidence for the "why" part of the EAR question, the variety in their actions (Vamsi's individualised counselling and practice and Venu's grouping of similar letters) highlights their contextual and personal theories of pedagogy. Collectively, these excerpts show that the TRs devised and implemented concrete, student-centred plans, showcasing their growing competence in action research and instructional adaptation and their ability to become agents of innovation by exploring novel and practical teaching methods.

Research Communication

At the end of the project, the TRs disseminated their research journey to other members of the professional community:

> The coordinators gave some guidelines to alter the presentation . . . alterations were made according to their guidelines . . . The answers were given to the questions raised by the participants. (Venu, reflective journal)
>
> The action research that I did was presented to my mentor and co-researchers. They gave a few suggestions and appreciated my work. After revising it, I have presented it to the representatives of the funding agency [and] at

> the dissemination seminar. It was really applauded and appreciated. (Bharat, reflective journal)
>
> I can share my experiences with subject experts and resource persons and other teachers and take suggestions from them. (Vamsi, reflective journal)

One key feature in Bharat and Vamsi's reflections is their benefit from the iterative process of presenting research multiple times. This cycle highlights the importance of feedback and revision in disseminating knowledge. Bharat's acknowledgement of the positive reception at the dissemination seminar underscores the importance of recognition within the academic community. Vamsi's statement indicates his developing confidence in engaging with subject experts, resource persons, and other teachers, showing his readiness to seek and incorporate suggestions for improvement.

While one TR diligently pursued publication of his work, the other three were unable to progress beyond drafting reports of their studies due to personal challenges. Additionally, one participant highlighted the absence of institutional mechanisms for acknowledging such accomplishments. However, communicating their research and experiential knowledge can boost teachers' confidence through appreciation and critical feedback, allowing them to turn their understanding of pedagogy into public knowledge.

Discussion

The study has presented the reflections of four teachers regarding their engagement in EAR and its impact on their action-research competencies and teaching practices. One potential contribution of the study is that it provides evidence for the teachers' improvement in six EAR competencies. The TRs showed development in the way they critically reflected on their teaching context; selected a research question; collected and interpreted evidence; designed, implemented, and evaluated an action; and shared their research journey in a public forum. The findings of the current study add support to the slowly developing body of research (Burns, 2023; Rebolledo et al., 2016; Shrestha et al., 2023) that highlights the benefits of EAR for teachers' professional development.

The study's findings also support arguments for a bottom-up approach to teachers' CPD. Adopting such an approach, this EAR project provided the participating teachers with experiential, developmental, collaborative, and transformative experiences of CPD. Johnson and Golombek (2011) argue that experiential knowledge about teaching emerges from teachers' critical reflection on their experiences and (re)construction of the pedagogical processes. The TRs were able to generate experiential knowledge of pedagogy through their research. The developmental role of the project supported the TRs by encouraging them to reflect on their teaching practices, gain deeper insights into pedagogy, and develop their personal theories of learning and teaching. The collaborative nature of the project triggered their willingness to collaborate with other teachers and stakeholders of the education system to understand the intricacies of teaching in their classrooms. Previous researchers (Atay, 2008; Yuan & Burns, 2017) have highlighted the significance of teachers' willingness to collaborate with others for their CPD. Teachers' CPD, according to the transformative model, should empower them to reflect on and research their classroom happenings to identify the problems and solve them to improve the teaching and learning process (Mann & Tang, 2012). The transformative goals of the project recognised teachers as the co-constructors of knowledge about teaching rather than just receivers of knowledge from others.

The findings suggest that engaging in EAR may improve teachers' action-research competencies, a factor emphasised by previous researchers (Shrestha et al., 2023; Smith, 2015, 2020) as crucial for enabling teachers to become self-transforming professionals. The findings on the development of the six competencies through teacher research are consistent with previous studies, which

have shown that teacher research enhances reflective skills (Atay, 2006; Burns, 2014; Wyatt & Dikilitaş, 2016), systematic practice exploration (Kayaoglu, 2015), evidence collection and interpretation (Burns, 2014), implementation of novel interventions (Kayaoglu, 2015), and dissemination of research (Wang & Zhang, 2014).

Participating teachers in the project could also turn their learning into public knowledge by sharing their research with other teachers. One desirable feature of teacher research is its dissemination to the relevant public (Borg, 2010; Pinninti, 2022). While there are questions on whether the knowledge produced through teacher research qualifies as academic scholarship, many researchers (Anderson, 2023; Borg, 2010; Hiebert et al., 2002; Pinninti, 2022) argue that teacher research can generate the experiential knowledge needed for the field as it is situated in the lived experiences of teachers. Teacher research can produce both local knowledge, which is helpful for teachers and their teaching communities, and public knowledge, which can be beneficial to school systems and policymakers. Disseminating teacher research would also help them view teaching as a "professional activity that can be continuously improved if it is made public and examined openly" rather than viewing it as a personal private activity (Hiebert et al., 2002, p. 13). When teachers share their research with others, they are not only consumers but also creators of knowledge. While EAR has been presented as a two-phase process—exploration and action implementation (Shrestha et al., 2023; Smith & Rebolledo, 2018)—a third phase, "research dissemination," can be added to highlight the significance of communicating the research journey with the wider educational community.

While the current study added some evidence for the benefits of engaging in EAR, it has a few limitations. First, the study's sample of only four teachers and the context-specific nature of EAR limit the generalisability of the findings. Future research could aim to include a larger and more diverse sample to provide more generalisable findings. Second, this study utilised reflective journals and a WhatsApp group for data collection. While these methods offered valuable insights into participants' experiences, they are subjective and may not capture the full range of perspectives. To triangulate these methods, future studies might consider incorporating third-party interviews to gather more objective perspectives. Although administering a quantitative survey on EAR competencies to the participants was considered, the absence of a standardised instrument and the limited number of participants precluded this approach. Future research could focus on developing and validating a survey to assess EAR competencies and employing it with a larger sample to enhance the reliability and generalisability of the findings. Third, the six EAR competencies identified are not exhaustive. Future studies should aim to expand and refine these competencies to develop a more comprehensive framework.

Despite the above limitations, the study's findings imply that teachers' engagement in EAR can improve their reflective abilities, sensitivity to learning problems, and systematic exploration of pedagogic practice. It can also generate local pedagogical models and contribute to teachers' professional growth. Based on the study's findings, three recommendations can be proposed. First, universities could include EAR as a central component in pre-service teacher education programs such as BEd and MEd. This would prepare future teachers to engage in reflective practice and professional growth from the outset of their careers. Second, in-service teacher education programs designed for English language teachers could incorporate EAR as a significant module. Incorporating such a component can empower teachers to address classroom challenges proactively and collaboratively, leading to improved teaching practices and enhanced student learning outcomes. Last, administrators of both government and private schools could reward teacher-researchers by organising workshops, conferences, and competitions focused on EAR. Such initiatives could

incentivise teachers to engage in research and share their findings, fostering a culture of continuous improvement in teaching practices.

Conclusion

This study sought to explore the impact of a teacher research project on four teachers' EAR competencies. The mentor helped the teachers conduct EAR in their teaching contexts through various face-to-face and online activities. As a result, the teachers developed a deeper awareness of their teaching practices, identifying what worked and what did not, thereby improving their teaching effectiveness. The evidence showed that they were learning to design, implement, and evaluate specific actions to facilitate better learning. Furthermore, they were able to collaborate with other stakeholders in education for their professional development, generate and disseminate experiential knowledge, and transform themselves into better teachers. The findings indicate that conducting EAR can be rewarding and empowering for participating teachers, influencing their EAR competencies and enhancing their ability to integrate teaching and research.

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