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Salient practices in mentoring teachers as researchers: the Goethe-Institute's German as a foreign language continuing professional development programme

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Abstract This paper explores the research mentoring practices of experienced mentors within the Goethe-Institut's continuing professional development (CPD) programme for teaching German as a foreign language "Deutsch Lehren Lernen". The CPD includes a research-based learning project in each module called a "Praxiserkundungsprojekt" (PEP). Within each PEP, teachers engage in research into their own practice, with experienced teacher-mentors supporting them. Based on the qualitative analysis of 17 in-depth interviews with expert teacher-mentors from all over the world, the paper offers 11 salient practices for mentoring in-service research-based learning as a form of teacher education and training. We propose that this approach is potentially transferable to adult education contexts in general, and other practice based training contexts in which novice practitioners are actively engaged in research. A new mentor-specific practice from the narrative accounts in this context contributes to our understanding of the mutual benefits from working in a mentor-

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mentee relationship during research-based learning. It acknowledges the benefit of self-reflection for the mentor – contributing further to the continuing professional development of all involved. This is described as a form of professionalisation in mentoring within teacher training contexts: a form of reflection in action that mentors can model in their mentoring practice (by explicitly reflecting on their own teaching practice as a form of role modelling for the benefit of the teacher-researchers). The demonstration of commitment to reflective practice was unanimously demonstrated by the interviewees, who used this value position to underpin their mentoring.

Keywords Research-based learning · Action research · Teacher education · Reflection · Mentoring · Professional development

1 Introduction

Research-based learning (RBL) has become a more commonly used pedagogic practice in recent years in an attempt to fully engage learners and for the researchers to reap the benefits of self-regulated learning and increased motivation. The efficacy of research-based learning, however, is contingent upon high quality mentoring. Very large-scale empirical research across American Higher Education was used by Kuh (2008) and Kuh, O'Donnell and Reed (2013) to distil elements of 'high impact' educational practices (i.e. those which translate into students achieving successful outcomes). Mentored research was recognised as a high impact practice as it can promote feelings of mastery and efficacy among students. Understanding what makes for effective mentoring has therefore become a focus of recent research into RBL (Shanahan et al. 2015; Vandermaas-Peeler et al. 2018; Walkington et al. 2020). Existing literature mainly focuses on mentoring practices for students new to research at undergraduate level, for example "Ten salient practices" identified from a review of two decades of publications on mentoring college and university students in discipline-based research (Shanahan et al. 2015). These practices are summarised as follows when ordered to reflect the mentoring process: planning for varied ability levels; setting clear and well-scaffolded expectations; guiding mentees in practice-based research; balancing challenge with support; community building; timely, inclusive and personal mentoring; developing researcher autonomy; adopting an experimental and reflective approach; creating opportunities for peer mentoring; and supporting research dissemination. Together these practices act as a pedagogy for mentored research and scaffold the research process from refining initial research questions through to research dissemination. In-depth empirical work to collect narrative accounts from award-winning mentors to try to provide a framework to support mentoring excellence has built upon and clarified this framework of ten practices (Walkington et al. 2020). Furthermore, the benefits of research-based learning through disciplinary research have also been recognised in secondary level (high-school) education, where the salient practices of schoolteachers who are working with high-school student researchers reflect those practices identified in undergraduate research mentoring, but with affordances specific to a school context (Walkington and Rushton 2019). This work acknowledges that while there are persistent similar-

ities in mentoring first-time researchers, the context and level at which this occurs provides interesting novel aspects to the activity which are worthy of investigation.

Pre-service teachers in higher education training programs world-wide are also expected to participate in, or to conduct research (Darwin and Barahona 2023; Fiskum et al. 2025; Szecsi et al. 2019; Van Katwijk et al. 2022). In the German context, mentored research-based learning has been adopted in higher education in general (Riewerts and Wimmelmann 2022), and in teacher education specifically it is often connected to a "practice semester" in schools (Schüssler et al. 2016). This exercise within initial teacher education (or teacher training) calls for the practice of mentoring by teacher-educators. There is a general lack of training material on mentoring teachers who are doing research projects on their own practice. Mentoring practice may be developed "hands-on" and sometimes in informal exchanges amongst teacher-mentors; but not systematically developed. This paper presents mentoring practices specific to a novel context, that of *in-service* teacher professional development. Its focus is on the mentoring of research-based learning as a form of professional development through engagement in practice-based research.

The research context of the paper is an established global programme of professional development for German language teachers run by the Goethe-Institute (hereafter GI) a German Institute operating worldwide to promote German language and culture. The GI run courses for people wishing to learn German as a foreign language. Teachers of the German language courses are required to engage in Continuing Professional Development of their teaching practice by taking a range of modules, which comprise taught elements and research project elements combined. This paper explores the research mentoring practices of experienced mentors of the GI continuing professional development (CPD) programme for teaching German as a foreign language, known in German as "Deutsch Lehren Lernen" or DLL for short (Goethe-Institut 2024). The CPD includes a research-based learning project in each module called a "Praxiserkundungsprojekt" (PEP). It focuses specifically on the mentoring of practice-based research during in-service teacher training. The focus of the research in this case is therefore the efficacy of pedagogic practice in the language classroom and the mentoring focus is on the learning derived from this practice-based research. A novel contribution of this paper is describing eleven specific practices of mentoring a series of successive short-term research projects which can be carried out *in service*. Together the practices form a research mentoring pedagogy for in-service teacher training and/or CPD when mentoring research-based learning.

A new mentor-specific practice from the narrative accounts in this context contributes to our understanding of the mutual benefits from working in a mentor-mentee relationship during research-based learning. It acknowledges the benefit of self-reflection for the mentor and for their professional identity. This is described as a form of professionalisation in mentoring within a teacher training context: a form of reflection in action that mentors can model in their mentoring practice. The demonstration of commitment to reflective practice was unanimously demonstrated by the interviewees, who used this value position to underpin their mentoring.

1.1 The context

The context described here is specifically for language teaching within the GI and relates to the in-service rather than pre-service professional development of teachers of German. The research task of the in-service teachers at the GI's CPD program is generally set within their classroom practice, working from a question pertaining to their teaching, collecting data (i.e. surveys, observations, learner texts, self-reflective notes), analysing it through means of empirical research, drawing conclusions for their practice as well as presenting and reflecting on the learning and research experience in a report (Borneleit et al. 2014). It is intended that through this simple, but open and individually adjustable form of action research, known as exploration in the CPD programme, the in-service teachers develop the practice of looking at their own teaching in an investigative, developmental, reflective and research-led manner, enabling them to understand and change their teaching continuously using evidence they have collected, based on the idea of the "reflective practitioner" (Schön 1983). To develop these objectives of qualification for a very diverse target group, which includes teachers of German in schools, universities, colleges, and adult education, a special kind of mentoring (pedagogy) is needed that unites structured in-service teacher training with support for more autonomous research-based learning. This independent training requires exploratory projects that can be facilitated by a mentor but driven by the teachers themselves.

Practical Exploration Projects (PEPs) are normally conducted in the context of the teachers' own language lessons, on questions they have developed themselves. Alternatively, they can access other teachers' classes or use video recordings provided by the programme (although only in rare cases) for inspiration to develop the question being asked. Inspiration for the research question is based on input from the individual modules of the programme, but can also arise from reflection tasks, discussions during the face-to-face class meetings or exchange via the learning platform. Mentors support the identification of a PEP question, decisions about research method(s) and associated criteria (indicators). To give this process a dialogical character, they use dialogic and questioning approaches to provide impulses for further work on a problem or pick up on questions relating to the interests of the teacher-researchers.

Teachers are encouraged to choose one of the following three PEP variants for their research (Mohr and Schart 2016, pp. 300–301):1. *Understanding (Verstehen) PEPs* have a context orientation: This type refers to exploring a question with the aim of looking at the classroom environment and the students within it; this could also pertain to learning materials or learner texts for example identifying behavioural norms in classroom and the advantages, disadvantages or alternatives to them. Suitable methods could include an analysis of lesson plans, observations or reflective journaling.

2. *Attempting (Versuchen) PEPs* have a practice orientation: This research trials activities or tools from the training with an observation of the impact. For example, observing how learners react when peers correct grammatical errors rather than the teacher. Observations, video recording and analysis, learner feedback (group discussion or survey data) might be suitable as research methods.

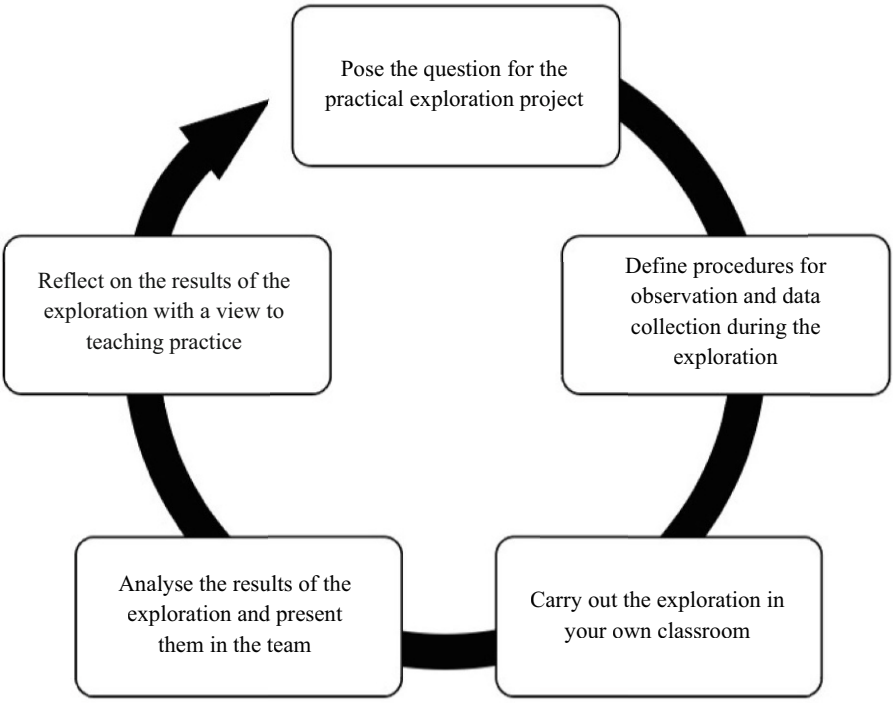

Fig. 1 Cycle of a practice exploration project, translated and adapted from Mohr and Schart (2016, p. 301). Figure created using Adobe InDesign

3. *Changing (Verändern) PEPs* have a problem orientation: This type of research uses teacher-designed changes and understanding their effects with an explicit focus on assessing the outcomes. For example, asking how learner motivation changes when the teacher uses reading strategies to promote independence in the classroom. Data sources for these projects could include reflective journaling, collegial observation, or student feedback.

This type of research can be seen as a progression as the teacher-researchers advance through the sequence from "*understanding*" to "*attempting*" and finally "*changing*" aspects of their teaching. The CPD comprises six modules needed to gain the CPD certificate (which form part of the Green diploma or Grünes Diplom) making it possible to adopt a range of PEP types over time.

The research progress resembles the specific steps of an action research cycle, which is the underlying model of this kind of teacher research. Action research has been promoted in German Teacher Education (Altrichter et al. 2018), and adapted in English-speaking contexts (Feldman et al. 2018). The research approach has been adapted by Mohr and Schart (2016) for PEP-projects (see Fig. 1), using specific tasks to guide the reflection—action—process.

In its design, type 1 ("understanding") focuses mostly on understanding the situation and developing further goals for developing teaching practice; type 2 ("attempting") focuses on trying out methods or materials without predefined goals.

Type 3 ("changing") focusses on attempting to achieve a specific outcome, ideally with measurable indicators showing whether the goal was reached or not. In reality some projects may not fall neatly into one of the three categories, but nevertheless they are all located within the action-reflection-cycle but with varying degrees of rigour, specificity and methodology for teaching development.

2 Methodology

The theoretical approach underpinning the research design was constructivist-interpretivist. To gain an understanding of a pedagogy of mentoring, individual mentor perspectives on practice were solicited. These descriptions are individual perspectives, based upon individual constructions of knowledge, but acknowledge that mentoring is a social activity where knowledge is co-constructed with mentees individually and in groups. The aim of the methodology was to describe a shared pedagogy of mentoring, despite the varied contexts in which German teachers were being mentored through research-based learning.

In-depth interviews were carried out with an international sample of experienced GI teacher-mentors (hereafter referred to as mentors), to provide evidence of what they considered to be effective practice in research mentoring when engaged as a mentor for in-service teacher training. This teacher training used research-based learning.

Actual descriptions of practice were asked for, to elicit 'thick' descriptions of what the mentors do. Interviews covered what mentors perceived to be the defining aspects of their mentoring practice, how this had changed over time as they became more experienced, what mentors perceived to be ingredients for successful mentoring, and how challenges were overcome. The interview questions on mentoring practice were:

- What three key things define your practice when mentoring PEPs? Can you please describe them? What do you do exactly?
- How has your PEP mentoring practice changed over time?
- What do you think makes your PEP mentoring practice effective?
- Can you tell me about a time when your PEP mentoring worked particularly well?
- How have you dealt with any challenges you experienced while mentoring PEPs?

Formal permission was granted by GI who emailed a participant information sheet to the target population of more than 50 experienced teacher-mentors (each with more than 2 years mentoring other teachers with PEPs) so that they could opt in if they wished to participate. Mentors who took part confirmed their willingness to participate and that they met all the selection criteria when they contacted the research team. Ethical approval was granted by the first author's institution and linked to a data sharing agreement to ensure information security for the international transfer of data and international collaboration.

Inclusion criteria to identify the mentor sample was that the mentors must have supervised or have responsibility for the mentoring of GI teachers undertaking research projects called PEPs in their ongoing professional development. As the re-

search projects sit within Teaching German as a foreign language CPD modules, this meant the mentors were also teaching on these modules. The mentors could be based anywhere in the world. Seventeen teachers were selected based on a spread of mentors across the world regions in which the GI operates, to create an international group with the greatest breadth possible from those with the most experience based on the geographical regions represented in teacher training delivery. These regions included: North America (e.g. Canada, Mexico); South America (e.g. Argentina and Brazil); Europe (e.g. Germany, Italy, Ukraine, Bosnia-Herzegovina, Croatia, Greece); the Middle East (e.g. Iran); Sub Saharan Africa (e.g. Cameroon and South Africa), South Asia (e.g. India) and South-East Asia and Australasia (e.g. Indonesia, Singapore).

Participants were sent a participant information sheet, consent form and General Data Protection Regulations (GDPR) notice. The interviews were conducted online via Zoom between January 2023–July 2023. Participants were interviewed online, for up to one hour, one-to-one in German or English. An English-speaking interviewer conducted the interviews with those who preferred to conduct the interview in English. Colleagues from Germany used the same questions to interview in German. All four investigators are experienced qualitative researchers. The interviews were transcribed using the software Amberscript. Transcriptions were checked by each interviewer following translation and corrected if needed, to account for colloquialisms and grammar. DeepL software was used to translate all the German interviews into English so that they could be coded using Nvivo software by authors 1 and 6.

Two authors were involved in the coding, both working in English. A lengthy and iterative process took place as the code book was collaboratively created (Saldaña 2021). Together authors 1 and 6 highlighted descriptions of actual practices within the transcripts in Nvivo software, guided by the question 'What was actually done?' Only this material was going to be coded. The highlighted descriptions of practice mirrored the themes outlined in a pre-existing published framework elicited from a systematic literature review, the ten salient practices of research mentors (Shanahan et al. 2015). This framework of themes has been successfully applied to descriptions of practice in undergraduate research mentoring (Walkington et al. 2020) and the mentoring of school student researchers (Walkington and Rushton 2019).

At this top level, a new practice; 'Development of the mentor's own mentoring practice and professional identity' was identified. This practice, further described at the start of the results section below, was widely mentioned across the group and was described and exemplified by every participant interviewed. The new mentoring practice was added and labelled as Practice 11.

The high-level salient practice themes were an excellent fit, but the specific ways in which each of the eleven practices were carried out was specific to the context of practice-based research in language teaching and these were inductively coded. Author 1 coded material to each theme (salient practice) based on five transcripts chosen at random. These five transcripts were independently inductively coded by author 6. Author 6 then also coded the transcripts using Author 1's codebook at the level of themes. The two approaches, one inductive and one deductive (e.g. see Miles et al. 2020), were compared and discussed by the researchers and as a result the code book was created and further refined. The researchers then applied the agreed

codebook independently to two new transcripts, using the Nvivo software to run an inter-coder reliability test, achieving an 82% score. Following this, a discussion of areas where codes did not match led to further refinement of the codebook. Finally, an inter-coder reliability (O'Connor and Joffe 2020) of 95% was achieved on two new transcripts and the codebook was deployed by Author 6 to all transcripts. The Salient practices with codes are presented in Table 1 in the Appendix.

3 Results

The conduct and analysis of the interviews showed that the teacher-mentors were highly effective in their ability to reflect on and articulate their practice. Many had completed multiple PEPs in the course of their own CPD training prior to becoming a mentor. In this section the practices most frequently mentioned across the group are outlined first. The numbers of practices from the previous literature on Ten Salient practices for research mentoring (Shanahan et al. 2015) are included in brackets in each section header. All ten salient practices were present in the interview transcripts, but not all were mentioned by every participant. However, a totally new practice 'Development of the mentor's own practice and professional identity' was also identified.

In order to distinguish it from previous research findings Practice 11 is outlined first because it was the most widely mentioned practice, described and exemplified by every participant interviewed. Practice 11 focuses on critical self-reflection as a mentor and explicit role modelling of aspects of research mentoring for long term professional development. It is a novel finding arising because it is particularly pertinent in the context of mentors who are promoting reflective practice *through* research. It contrasts with the ten practices of research mentors who are focussed on students learning to do research as a form of skill development, and without the need to deploy this as a method of ongoing self-sustainable professional development. It is for this reason that this novel finding relates so strongly to the identity of mentors in a professional development context. Practice 11 is described first, followed by the rest of the practices in terms of the dominance they formed in the mentors' narratives.

3.1 Development of own mentoring practice and professional identity [SP 11]

The most frequently mentioned practice was the development of the teacher-mentor's *own* mentoring and professional identity, which included being open to try things out themselves in their mentoring, frequently described as having 'a PEP attitude to myself', as the quote below shows:

> 'for me what I find effective is … a PEP attitude towards myself, so to look critically at one's own tutoring again and again, and to look for: "Is it running as it could run? Or could it be better? What's the problem?" I have had a very good experience with this.' [R27]

This practice was described by all the participants in the study and was conceptualised as remaining open to ideas, to approach their mentoring practice with curiosity, and to learning from the in-service teacher-researchers (i.e. the mentees), as can be seen in the following quote:

> 'I also experiment a lot. I think it also helps me to develop professionally and personally ... It's very interesting, it's very exciting and I also take a lot of it with me for my own teaching. So, either ideas and approaches or I make conclusions from some action, from my tutoring practice and I then implement them later. I also find it exciting to communicate with people. I like to see how they transform you, how they develop you.' [R23]

There was a significant amount of collaborative mentoring, so consulting with co-mentors to develop practice in partnership was commonly described; occasionally mentors reported reaching out to mentors in other networks, mostly within their GI world region, but sometimes beyond e.g. from North America to Europe, to compare practice.

Mentors described explicitly role modelling (to their teacher-researcher mentees) this self-development through their mentoring, in particular showing their mentees how serious they were about their work as a mentor through explicitly maintaining professional boundaries, and showing that their own educational practice (i.e. their teaching and mentoring) is important to their professional identity. This role-modelling communicated the importance and commitment to the reflective practitioner approach on which the PEP's are based.

Beyond this overarching practice, the ten known salient practices (SP 1–SP 10) were found in the data, in their specific realisation within the given context. These ten practices are discussed in the following paragraphs in order of the frequency in the interviews.

3.2 Set clear and well-scaffolded expectations for teacher-researchers [SP 2]

Due to the short nature of each eight-week module which houses the research-based learning project, expectations were communicated by outlining the purpose, rules and deadlines clearly and unambiguously. Every interviewee mentioned this theme. Timelines were set so that they were achievable (taking account of the teachers' work and cultural context) and time management was supported in order to achieve good quality research. Several mentors mentioned how they had to handle 'the standard' by communicating the expectations of the research, providing rapid feedback, not allowing the research to begin until it was adequately framed, and to fail teacher-researchers who did not meet the required level.

> 'I find setting clear expectations at the beginning is fair. We set the expectations very early in the course. I also know in order for them to formulate a good question and stick to the rules they need clear rules at the beginning.' [R11]
> 'Time pressure is an essential aspect and in that respect I try to communicate it as quickly as possible so that we start in time.' [R25]

With time the mentors own ability to clearly communicate begins to take over as a measure of successful mentoring, rather than a focus on the findings which the in-service teachers achieve. In the following example the 'principle' refers directly to the idea of a PEP, i.e. an inquiry into the existing practice, researched to gain evidence and then presented to the group:

> 'As soon as I can communicate this principle clearly to them, that is a success for me. Years ago, the **results** of the PEPs were the most interesting thing for me. ... In the meantime, that has changed. I am very happy when I succeed in **clearly communicating this principle** to them.' [R51]

The last quote also showed how the practice of using clear communication to set expectations is reflected upon, and relates back to practice 11—the mentor's own development (in effective communication) being valued as much as the research.

3.3 Guiding teacher-researchers in practice-based research [SP 3]

In order to conduct their projects, the mentees needed to be guided in the process. A significant number of descriptions focussed on how to guide teacher-researchers in the skills, methods, and techniques (or science and art) of conducting practice-based research. This included introducing them to a scientific framework for practice-based research in teaching (e.g. teaching not just how to do research, but also what counts as research). This guidance was done in a very specific dialogic style, mainly through the use of a questioning framework to develop the mentee's question formulation skills, question narrowing and choice of methodological measures, backed up with detailed feedforward (constructive input). Giving examples of questions or designs was also considered useful:

> 'I think it's very important to give concrete examples, but we have to be careful not to limit [the mentees]at the same time. We have to find a happy medium ... It is also very helpful when we discuss unsuccessful question formulations together. The principle becomes much more understandable. I then ask: "Why exactly did this question fail?" Then it becomes much easier for them.' [R51]

Mentors reported how exciting they found the process of accompanying and guiding teacher-researchers in moving from a large-scale idea to a specific question, without being directive. The need to focus the research was mentioned very frequently:

> 'There is often the problem that they want to do a lot and then the project is somehow far too big or far too vague. And then I ask them specific questions so that they try to narrow it down themselves.' [R13]

By guiding the mentees with such critical questions, illustrative examples and specific methodological knowledge, the mentors paved the way for the mentees to conduct their research according to their own interests, yet in a feasible manner (e.g. with respect to time and objective). Being transparent with feedback was seen as a way to provide constructive critique:

> 'It is usually structured in such a way that the participants get in touch with a possible PEP question and that I then give them initial feedback. And then in this communication—which is usually a longer email—I try to cover the different aspects, possibly make suggestions, and I try to be very transparent.' [R25]

Being 'transparent' and open was further recognition of the importance of the mentor's own identity playing a part in the process.

3.4 Planning for varied ability levels [SP 1]

As the GI program fosters a global, heterogenous group of professionals teaching in differing educational contexts (from secondary schools, language schools, adult education), a significant amount of planning was necessary for the mentors to be ready to respond to varying needs and abilities of teacher-researchers throughout the research process. This was implemented by investing time early in the training course to explain the research project, e.g. 'On the first day we talk about the PEP' [28]. Trainees are encouraged to 'read with a pen' [36] from the outset, i.e. to be thinking about a potential research project from the outset when reading for the unit.

Given the varied contexts in which research-based learning was taking place, a further element of planning—how to combine participants in groups—was taking account of this variability, including: educational level; geographical region; the level at which the teacher was teaching German; mentees previous experience of PEPs; time available; and levels of motivation and language skills, as this quote shows:

> 'Often the groups are formed according to region, i.e. Namibia, Zimbabwe, Mozambique, South Africa, etc., simply to promote exchange and to allow networking among the participants. Often also according to the work context, whether one works in primary school or in a university context or in secondary school, high school, or even at the Goethe-Institut. And simply often according to who has worked together before or not. I think this variety is very important.' [R25]

Because of the nature of the course, with repeated modules each having a research project, it was possible to form new groups for each PEP to promote this variety. Forming groups of three (tridems) to reflect a mix of needs and abilities was a common practice, in order to support learning. This quote also shows a way to relieve the mentor and give more responsibility to individual mentees in order to foster independence amongst the teacher-researchers (cf. SP 9):

> 'You ask individuals to help new participants. That is definitely also a criterion. For example, we had two new participants, young teachers, and we deliberately put them in a group with experienced teachers.' [R25]

Tracking teacher-researchers who had underperformed across PEPs, to inform a plan for their next research experience, was mentioned in two cases. This reflects the scale of mentoring support extending beyond each research project.

3.5 Balancing challenge with support [SP 4]

Taking into account mentees' possible feeling of being overwhelmed by the research task, effective mentoring was described as a balance between offering challenge and support. Mentors pushed the teacher-researchers to think and discuss, to 'always throw the ball back' to the mentee to encourage them to reflect further and 'to accompany, not lead,' [36], such that recognising when to step in was seen as a tacit skill aiming to maintain student motivation:

> 'I think that's also a balance that you have to find between not steering too much so that it's still what the participants want to know, but also so that you get to the result. As a tutor I try to accompany. I don't want to lead, I want to accompany. That, I think, is my goal.' [R36]

Holding teacher-researchers to account so that they think about their research is a crucial element of this practice. Besides, mentors thought using questions to avoid over assisting, promoting discussion by pushing them to reflect and explicitly acknowledging that formulating a good question takes time and is challenging, but to encourage perseverance with writing and submitting questions for discussion was important. This is neatly summarised in the following quote:

> 'There's a lot of communication going back and forth where you have to push and pull a little bit.' [R11]

Interestingly as German was the language medium for feedback, written feedback was sometimes seen as a more problematic way to provide a balance between challenge and support, than doing so verbally. Some teacher-researchers found verbal communication easier to access than written feedback. The language level of the teacher-researchers varied within and between contexts. Motivating students via feedback was commonly mentioned by the mentors who praised students' ideas so that they would bring them to the wider group for discussion. Thus, a combination of written and oral exchange posed opportunities and the mentors were able to flexibly respond to various communicative needs in the heterogenous group (cf. SP 1). Trying to maintain student motivation through clear, constructive feedback was important, and part of the strategy to motivate people was to show recognition of good questions, for example, and encouragement of posing and sharing questions:

> 'I generally tried to motivate the person that her point is really very important and that she has to bring it into the group.' [R37]

This practice links a personal mentoring approach to the management of small groups within a cohort. The next practice relates specifically to the personalisation of the learning process.

3.6 Mentoring practice is timely, inclusive and personal [SP 6]

By dedicating time to one-to-one mentoring, the mentors made themselves available so they could respond quickly, after treating everyone as an individual, showing

respect, and noticing when teacher-researchers were not engaged, for instance people not contributing to online discussion forums:

> 'If you don't read anything in the PEP forums, you write to them and tell them that you want an update or *[ask]* where you can help. The participants know that they have support if they have questions and that we as tutors have this supporting role.' [R15]

Dedicating time to being available and responding really quickly was seen as particularly important so that if students did engage, they were rewarded with swift answers, described by mentors as 'being on the ball', and 'making additional time to support students', making themselves available:

> 'I leave time afterwards to ask questions, so I stay online and answer questions.' [R44]

Maintaining contact and showing availability was also conducted through the online platform, and this was done by creating an efficient and inclusive online environment. To make this really inclusive and personalised mentors were constantly ensuring the online space demonstrated how they treated each persona as an individual and showed respect for all students. This was modelled by providing appreciative communications:

> 'You have to write a motivational email every now and then, so you ask: "Why has the learning progress gone down a bit?" Or, "We miss you on the platform," etc.' [R25]

Despite a focus on this kind of personalised feedback and learning, there was also a very strong desire that teacher-researchers benefit from both being in a small group and a wider cohort, as the next practice outlines.

3.7 Community building [SP 5]

This practice was described as a set of ways to build up a sense of community among the teacher-researchers, with effective group dynamics cultivated to create an inviting, collaborative environment. This included intentionally facilitating team development so that the trainees got to know each other, with levels of input varied to encourage peer mentoring and bringing in co-mentors to broaden the input for the mentees. There were several ways in which community building was described. First, through organising the groupings it enabled the mentor to create an inclusive, democratic and collegial environment, so that good group dynamics were facilitated: *'I can create a space where they feel heard and where they feel safe.'* [R11].

Second was practising intentional team development, which involved people getting to know each other in a structured and inclusive way, as directed by the mentor or co-mentors, for example:

> '(What) I've done very often in *[World Region]* with my colleagues is that we've already put the groups together during the online session and have taken the time to immediately send them into groups at the end, [so] that they talk

to each other, exchange telephone numbers, exchange emails, that they already formulate the PEP question a bit together. That's really a huge step forward.' [R15]

Finally, varying levels of support and input to encourage the teacher-researchers to mentor each other (peer-mentoring) was also a strategy frequently mentioned. The programme is based on an exchange of ideas within small groups, so a peer mentoring approach forms part of this, and mentors described deliberately facilitating this:

'The other one [a mentee], maybe they need a little bit more support. And if they don't, if I get the feeling, I request the others to somehow, you know, help them because DLL is all about "Austausch", [exchange] of ideas. It's not just that the mentor or the tutor plays an important role. It has to be within the circle, that they exchange and talk about it.' [R29]

In relation to cooperation and collaborative professional development between mentors (i.e. SP 11), where mentors were known to have developed specific research expertise, there were opportunities for co-mentoring. Mentors would reach out and facilitate meetings between their teacher-researcher group with other mentors who were specialists in a particular research methodology, but from outside the formal mentoring team, for example:

'My colleague from the Goethe Centre [location removed] is a trained sociologist and knows a lot about data collection instruments. And it is almost always the case that all the groups—no matter who supervises the groups—that they have an appointment with him.' [R25]

By modelling this kind of shared responsibility and expertise in mentoring, these mentors were providing a blueprint of reflective, cooperative practice also in their professional context (cf. SP 11). In this way building community was not just seen as between participants, but also between mentors.

3.8 Developing teacher-researcher autonomy [SP 7]

Developing the autonomy of mentees during their research project was fostered by giving teacher-researchers ownership of the research by providing them with autonomy and freedom in decision-making. The mentors prioritised learning from mistakes, recognising that a weak project can still provide learning opportunities. In order to develop the teacher-researcher ownership of the research, mentors fostered autonomy, as R29 stated *'You give them freedom'*. They also cultivated the motivation to own the project by listening carefully to teacher-researcher interests right from the start of each unit to ensure they were working on research questions that they truly cared about. The 'impulse' describes the motivation to investigate a particular aspect of their practice:

'It is very important for me to know the impulse of the participant and to attach importance to it, so that the investigation really has a focus and is interesting for the participant.' [R27]

Finally, by forefronting the learning there was a willingness to supportively 'let them do it' if the mentees were committed to a particular question, to let them realise their mistakes in some instances.

'I think you also have to give the learners the freedom to experiment and that also includes making mistakes sometimes.' [R23]

Because the PEPs are part of each module within the course, the progression of learning and the ability to implement improvements from previous research experiences allows for this longitudinal and developmental approach. The assessment as part of the DLL units is based on a presentation of the research and accompanying reflection, so even a weakly formed project can still address the learning outcomes if a reflective approach is articulated. This provides a very authentic element to the research process. The last quote indicates the authentic learning experience the mentors were willing to create by limiting their own intervention in order to allow students to learn by doing, even if that meant failing to create a more powerful learning experience. This would be unusual when mentoring a single project, but in the context of repeated research-based learning experiences across the units, mentors were able to see the bigger picture.

3.9 An experimental and reflective approach [SP 8]

Supporting teacher-researchers' ongoing professional development through an experimental and reflective approach is central to the PEP approach, but it was still explicitly mentioned as a practice by ensuring that mentees value an experimental approach through using reflective questions to promote reflective competence. Mentees were left in no doubt how much the mentors believed in the importance of reflection as an approach to learning how to change and develop practice. While the GI guidelines ensure that using reflective questions is part of the PEP process, the mentors also conveyed the importance of reflection by adopting this rigorously and ensuring that reflection was high quality, as this quote shows:

'This is very important, enabling them to use the PEPs as a means of self-reflection. This is what a PEP is all about. To reflect on your own teaching patterns and get a deeper insight and from there come to a new place, a different place. Because this is why we do all this, to reflect and to improve.' [R11]

There was a strong sense of commitment to ensuring that teacher-researchers learnt how to change their practice:

'It's very important to understand what our PEP is for, because I think many teachers read a lot of stuff, they go to workshops, they get new ideas. But they usually don't do anything after that. They keep on teaching like they always have. So, I think the idea is that we learn how to change our practice.' [R28]

The latter quote indicates the self-sustainable practice that PEP's provide for teachers, long after the course they are taking is over, providing that the research project contributes to a long-lasting reflective attitude useful in the future.

3.10 Supporting research dissemination [SP 10]

Although supporting research dissemination within the cohort is structurally embedded within the PEP process, some mentors deliberately professionalised the presentation task to heighten the teachers' sense of achievement by inviting other language school staff into the final presentations. In support of research dissemination some mentors ensured that the whole cohort had previously shared their project ideas in sessions, so that students were familiar with the projects that other groups were researching. This provided a scaffold for the dissemination process and heightened interest, expectations and support:

> 'At the end, when they have the presentation, they already know a little bit. They already knew in that case what the others were researching about or were doing. And they have some expectations. They want to see: What happened? How did that come out?' [R28]

A further means of heightening the stakes for the dissemination phase was to invite additional participants to hear the results of the research, but only one mentor reported this: *'So for the presentations I invite other teachers, sometimes my boss also comes.' [R29].*

Interestingly, this description elevates the presentation phase beyond the cohort and raises expectations and a sense of achievement, similar to making research results more public as a means of fostering greater professionalism. However, it seems that this was not always something mentors considered doing, possibly for logistical reasons, but more likely so as not to add pressure to their students when presenting their findings.

3.11 Creating opportunities for peer mentoring [SP 9]

As the use of tridems is structurally embedded into the PEP approach, creating peer-mentoring opportunities was only explicitly mentioned infrequently. These mentors spoke about paying special attention to deliberately creating mixed ability groups (within tridems) to facilitate peer-mentoring and creating cohort learning and realisations from bringing these groups (tridems) together in the classroom/online meetings, but the emphasis was predominantly upon managing the group dynamics (as mentioned in Sect. 3.7). Nevertheless, although peer-mentoring is less visible and controllable from a mentor perspective, the mentor's awareness of its benefits and value were not diminished:

> 'They can self-sustain themselves, yes. So that they can try and solve their own problems, own difficulties regarding, how to formulate a question. Before com-

ing to me they can sit together and discuss this with each other. I'm obviously there to help them out or to support them in any way that they want. But I want them to first discuss this at their level.' [R30]

The final quote indicates that the mentors also recognised the importance that the mentees themselves associated with peer support:

'At the beginning, most course participants are afraid of the PEP, and that's the way it is, it sounds so abstract. And afterwards, after the course, they say: The PEP was the best, the exchange with the colleagues, that was the best.' [R44]

Although the practices have been described in a sequence from the most dominant practice (one shared by all participants and mentioned frequently), to the ones mentioned only by a few, this does not imply that the last practices are more challenging than others. The PEP approach has some mentoring features structurally embedded such as forming small groups, dialogic approaches to refining research questions and methods, giving targeted feedback and setting up group dissemination events. What is novel from the findings is the way that the mentors carry out the practices not only for the benefit of their mentees (the teacher-researchers), but also to sustain their own professional identity. For those who are networked to others (whether that is within an institution, country, or world region), there is the motivation to foster the professional development of their own international peer network.

4 Discussion and implications

4.1 Reflective practice

In the PEP part of the GI CPD program, teacher-researchers are using principles of action research (Feldman et al. 2018; Legutke and Rotberg 2018) to understand their teaching environment and the learners within it, to try out new approaches, methods and materials, as well as consciously changing their teaching practice. In addition to the taught content, a PEP research project is completed in every module, allowing repeated small-scale research experiences to inform a reflective practitioner approach, all with the support of mentors who offer guidance and support through dialogue. This highly novel approach with repeated research opportunities over a series of successive units leads to a pedagogy which builds a commitment to changing one's own practice autonomously and a tried and tested means to do so based on evidence.

This research suggests that the sequential application of short-term reflective practice-based action-research projects in teacher training requires many of the same mentoring skills as when mentoring new researchers doing disciplinary research (Shanahan et al. 2015; Walkington et al. 2020; Walkington and Rushton 2019). However, an additional practice was identified in this study related to the mentors themselves intentionally reflecting on their own mentoring practice and identity. As mentors gain more experience there is a shift in their focus from the content of their teacher-researcher's (mentee's) projects to their own mentoring process.

This extends our understanding beyond ten salient practices reported in previous literature. Described here as Salient Practice 11, it pertains to the mentor themselves developing their own mentoring, securing a *mutual* benefit to the mentor-mentee relationship, more akin to conceptualisations of relationship-rich education (Felten and Lambert 2020).

Due to their applied and exploratory nature, these PEPs might change the self-understanding of teachers from reflective practitioners to teacher-researchers, empowered to explore and alter their own practice more or less independently rather than having to rely on external sources of change. Willingness to change and an open attitude is more highly valued in language teaching than teaching method (e.g. Mann and Walsh 2017).

The practices identified in this study, and the new practice of mentor reflection have utility and value as a mentor training framework and holistic pedagogy. The significance of the findings presented here is the relatively short-term commitment required to do practitioner research, and the development of a future proof modus operandi, allowing teachers to evolve their practice autonomously going forwards. The 11 Salient Practices can thus be a model for similar such 'research in practice' contexts with a strong focus on reflection and the development of researcher competences, such as the "Lernforschungsprojekte" in the German teacher education's practice semester, as well as initial teacher education programmes worldwide. Furthermore, the mentors who adopt the 'accompanying' and dialogic mentoring approach ensures that they take part in Salient practice 11, even if they had not done a PEP themselves before.

The reports about the changing practice of mentors suggest a developmental trajectory from a focus on mentee research project outcomes initially, but, with greater experience, a focus on the process of learning such that the mentor reframes success in their mentoring as clarity of communication of the purpose and aims of the PEP (the PEP process). Then comes the embodiment of the PEP process in the mentor themselves, so they view their own mentoring in PEP terms, and finally reaching out to find out about alternative ways of mentoring from other experts. Such international networking is something that could be further supported through online forums and networks, particularly allowing for dialogue to develop. Some mentors had worked in more than one world region and every participant was motivated to hearing about other mentor approaches.

The results from this in-service mentoring context can provide valuable information also for pre-service teacher contexts, where specific salient practices might be found through an investigation in that field. With a closer look at the practice of continuously checking and improving their own mentoring practice, the study appears to have identified a practice which also bears potential benefits for life-long learning and wellbeing for those involved in mentoring (as teacher-mentors), over and above the benefits of in-service trainees in engaging with research-based learning and reflection on their practice.

4.2 Limitations of the study

The 11 practices outlined in this paper are based on descriptions from 17 experienced professional teacher-mentors; the study did not set out to measure the "effectiveness" of these mentoring practices in their respective settings, and therefore the practices cannot be claimed or judged as 'good' or 'best practice'. Instead, the setting and object of the study are presented as a holistic pedagogy of mentoring, and our work is descriptive in nature with on the ground accounts by participants whose practice has been created within the guidelines of the GI's DLL program and its inherent tasks and structures. Nevertheless, the transferability of the practices to other contexts seems undiminished in the way the practices align with, but also extend, those from the previous literature. Without a larger data set it has not been possible to investigate whether the type of mentoring differs depending on the type of PEP (i.e. the type of research question), our data only suggests that greater autonomy is afforded to teacher-researchers as they gain experience and build relationships with peers. It is also unclear whether mentoring is good for retention of the mentors, as addressing retention challenges through finding enriching aspects of work could be of importance and worthy of further research.

4.3 Implications

A recent UNESCO report (2024) has suggested that globally 44 million additional teachers are needed to achieve Sustainable Development Goal 4 and deliver universal primary and secondary education for all children and young people by 2030. This study suggests that in-service research-based learning benefits the professional development of teachers *and those who provide the mentoring*. A novel contribution of this paper is in describing the specific practices of mentoring a series of successive short-term research projects which can be carried out *in service*. This gives the findings great potential transferability beyond teacher professional development, as the small-scale nature of the research requires a relatively low time commitment occurring *within* the existing work of the participants. It potentially provides a model for research-based learning being something feasible to mainstream in the initial training of teachers (not only for in-service training) but also in other professional areas. For both teachers and mentors, it has shown the importance of developing an attitude of open-mindedness and curiosity towards practice. Effective mentoring is described as embracing change and developing a corresponding professional identity. Mentor training could therefore strengthen this perspective. 'Having a PEP attitude' to one's own practice is a form of self-sustainable professional development that can be supported by a collegiate and collaborative approach.

Collaborative classroom (or school) development, using research-based learning (e.g. Willegems et al. 2017) and a research-engaged school framework (Dimmock 2016, p. 45) can allow teachers to function as professional learning communities. This paper has demonstrated how mentors working within language schools dispersed around the globe could form such a collaboration. This type of cooperation would benefit from collegial mentoring supported by the framework of 11 salient practices as described in this paper. Using these might support professional learning

communities or other educational teams to work in a structured, non-hierarchical way to support each other as teachers and mentors, enhancing individual teaching competence as well as the quality of learning. Furthermore, a wider group of mentees, beyond those working in teacher—education and training, could benefit from the practices outlined here, including in further and higher education, apprenticeships and broader forms of professional development in lifelong learning or professional practice. The practice (11) focused on a mentor's own professional development, could lead to further forms of recognition for this important role that would strengthen the association with professional identity development.

The findings from this paper imply that relationship-rich and networked opportunities for reflection have the potential to help with teacher retention if teachers feel empowered to adapt their practice. A challenge going forwards would be to provide scaffolded networking opportunities to satisfy an appetite for the sharing of effective practice internationally.

5 Appendix

Table 1 Code book with 11 numbered salient practices (in bold) and descriptive subcodes for each practice (number letter combination).

Salient practices and subcodes	
1.	**Do strategic planning to be ready to respond to varying needs and abilities of teacher-researchers (mentees) throughout the research process**
1a.	I invest time early in the process for project explanation and pre-teaching for the PEP (e.g. We tell them on day one; I encourage students to 'Read with a pen')
1b.	I plan to take account of variability in student context e.g. region, teaching level, previous experience, time, motivation and skills. (e.g. I use different levels of German language in feedback or switch to zoom)
1c.	I form groups (tridems) to reflect a mix of needs and abilities
1d.	I track students across PEPs to inform a plan for their next research experience
2.	**Set clear and well-scaffolded expectations for teacher-researchers**
2a.	I outline expectations by communicating the purpose, rules and deadlines clearly and unambiguously
2b.	I set achievable timelines and support time management (e.g. to achieve good quality research)
2c.	I 'handle the standard' (e.g. I communicate the standard, provide feedback, fail them if necessary; I don't let them start till I say so)
3.	**Guide teacher-researchers (mentees) in the skills, methods, and techniques (or science and art) of conducting practice-based research**
3a.	Introduce students to a scientific framework for practice-based research in teaching (e.g. I teach them how to do research and what counts)
3b.	I guide students through the research process in a dialogic way (e.g. I use a questioning framework to develop their question formulation; question narrowing; choice of measures)
3c.	I provide detailed feedforward (e.g. constructive input)
4.	**Balance challenge with support**
4a.	I push them to think and discuss (e.g. I encourage them to reflect further 'always throw the ball back'; 'I accompany, not lead')
4b.	I recognise when to step in (eg level of German, more support)
4c.	I maintain student motivation through constructive feedback
5.	**Build a sense of community among the researchers (mentees)**
5a.	I facilitate good group dynamics (e.g. I organise the groups, create an inclusive, democratic and collegial environment)
5b.	I practice intentional team development (e.g. facilitate them getting to know each other)
5c.	I vary levels of input to encourage peer mentoring
5d.	I use co-mentoring to benefit inputs to the mentees
6.	**Dedicate time to one-on-one, hands on mentoring**
6a.	I make myself available and respond quickly (e.g. being on the ball, making additional time to support students)
6b.	I effectively manage the online platform (e.g. I make an efficient and inclusive online environment)
6c.	I make the experience personal (e.g. treat everyone as an individual, show respect for my students, provide appreciative communications 'we missed you')

Table 1 (Continued)

Salient practices and subcodes	
7.	**Develop teacher-researcher ownership of the research**
7a.	I foster autonomy by giving students ownership of the research
7b.	I cultivate the motivation to 'own' the project by listening to researcher interests
7c.	I forefront the learning (a weak project can still have good learning) e.g. 'let them do it'/let them realise
8.	**Support teacher-researcher (mentees) ongoing professional development through an experimental and reflective approach**
8a.	I make mentees value an experimental approach
8b.	I use reflective questions to promote reflective competence (I convey the importance of reflection)
8c.	I make mentees learn how to change their practice
9.	**Create opportunities for peer mentoring**
9a.	I deliberately create mixed ability groups (tridems) to facilitate peer-mentoring
9b.	I create cohort learning and realisations from bringing groups (tridems) together
10.	**I support research dissemination**
10a.	I support research dissemination within the cohort
10b.	I professionalise the presentation process to give a sense of achievement (e.g. I invite the boss and other tutors in to the presentations)
11.	**Develop my own mentoring practice and professional identity**
11a.	I'm open and try things out myself e.g. 'I have a PEP attitude to myself' and remain open to ideas and to learn from my mentees
11b.	I consult my co-mentor to develop my own practice
11c.	I reach out to mentors in other networks (e.g. beyond my co-mentor—in the region/internationally)
11d.	I show I'm serious about my work, e.g. maintain professional boundaries, show my work is important to my professional identity

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Declarations

Conflict of interest H. Walkington, C. Saunders, B. Helmbold, M. Schart, A. Ebid and S. Frodsham declare that they have no competing interests.

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