THE ROUTLEDGE HANDBOOK OF LANGUAGE TEACHER ACTION RESEARCH

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A collaborative action research study

Olcay Sert and Carolina Jonsson

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Introduction

The study of classroom interaction has a relatively long history in the field of language teaching and learning. Researchers investigated a number of interactional phenomena in classrooms, including how teachers give instructions (Markee, 2015), the types of questions learners ask (Waring, 2011), and how teachers create opportunities for language learning through the types of responses they give to learners' utterances (e.g., Sert, 2017). Drawing on research findings on classroom interaction, a more recent line of studies has contributed to teacher education and development by encouraging student-teachers (Sert, 2019) and teachers to reflect on their own video-recorded classroom interactions. This data-led approach to reflection (Mann & Walsh, 2017) on classroom interaction, however, has not thus far bridged the gap between research and practice in a way that would benefit the teachers involved directly. To fill this gap, teachers and researchers need to work together to co-explore aspects of classroom interaction that contribute to student-learning.

One of the ways researchers and teachers can work together is to conduct collaborative action research (CAR, Burns, 2015), which can be based on a partnership between teachers and facilitators (e.g., a university-based researcher/teacher educator). CAR draws on the principles of action research, defined as 'an approach to research and change which is best represented as a self-reflective spiral of cycles of planning, acting and observing, reflecting and then re-planning in successive cycles of improvement' (Kemmis et al., 2014, p. 2). As a 'mode of action research' (Arefian, 2022), CAR engages 'practitioners and researchers in a working partnership to investigate the concerns of practicing educators' (Wang & Zhang, 2014, p. 224). A central concern of practicing teachers is the way they manage classroom interaction. Through their choice of language and management of interaction, teachers can 'create opportunities for learning' and 'increase opportunities for learner involvement' (Walsh, 2002, p.6). In order to improve classroom interaction, however, teachers need to engage in dialogic reflections (Mann & Walsh, 2017) using their own lesson videos (see Sert, 2019; 2021). CAR, we argue, can provide a powerful structure to facilitate these dialogic reflections and help practitioners make data-led decisions on their teaching and interactional practices. In this chapter, we will review and explore the use of CAR with a focus on language classroom interaction and data-led reflective practice. After a review of research on

the benefits of CAR and how it can be used to enrich reflections on classroom interaction, the 'Our case study' section will document findings from a CAR case study in which a mobile video observation and reflection tool was utilised as part of a university—school partnership project in Sweden.

Literature review

Collaborative action research in the field of language teaching has empowered teachers and positioned them as agents of their own professional development. Through collaboration, teachers 'start to see themselves as knowledge producers when they understand the value of their contribution of knowing-in-action' (Olin & Pörn, 2021, p. 1). CAR promotes the idea that 'teaching and researching can be integrated into one process to inform each other once we make research a necessary part of teaching and teaching a natural context for research' (Wang & Zhang, 2014, p. 225). Teachers and researchers have been involved in CAR to address a variety of foci that are central in (language) education, including teacher autonomy (Wang & Zhang, 2014), competence for teaching (Ceylan & Comoğlu, 2023), and note-taking (Siegel, 2019). Despite its transformative power, in countries like Sweden, which is the context in which we work, 'action research frameworks are only beginning to be discussed among government and educational bodies' (Siegel, 2019, p. 82). This is an important problem considering that we do need to close the gap between research and practice through action-oriented teacher-research partnerships. As Olin and Pörn (2021) put it, 'a well-functioning teacher-researcher collaboration' is key for the 'production of new didactic knowledge' (p. 15). We do, then, need to draw on the reflective cycles that are embedded in action research frameworks to investigate key pedagogical phenomena to co-produce new and contextual knowledge by and for teachers. Classroom interaction is one such phenomenon that is at the heart of teaching practice, as it has been found to be central to the development of teacher expertise (Sherin & van Es, 2005).

Over the last two decades, classroom interaction phenomena such as teachers' and students' questions (Koshik, 2010; Duran & Sert, 2021), the interactional resources for evaluation and feedback (Waring, 2008; Sert et al., 2024), and multimodal resources (e.g., gestures, Sert, 2015; Matsumoto & Dobs, 2017) have been investigated by researchers around the globe. This line of research has revealed that classroom communication is crucial for student learning, and interactions in classrooms need to be balanced between teacher-led activities and collaborative learning in student groups (e.g., Kunitz, 2018; Sert & Amri, 2021). Classroom interaction researchers have shown, for instance, that the overuse of 'very good' in language classrooms may obstruct student participation opportunities (Waring, 2008); synchronising hand gestures with vocabulary explanations can result in student learning (Sert, 2017); insisting on allocating a turn to an unwilling student results in interactional troubles (Sert, 2015). However, for teachers to develop an understanding and skills in classroom interaction, they need to engage in reflective practices with a focus on classroom interaction using videos of their own lessons (see Sun & van Es, 2015). The benefits of reflecting on classroom interaction has encouraged researchers to combine reflective cycles with a classroom interaction focus (see Walsh, 2011; Sert, 2021). Teachers have been supported to reflect on micro-details of their classroom interactional practices together with peers and mentors using videos of their lessons in teacher education contexts (e.g., IMDAT framework, Sert, 2015, 2019; also see Waring & Creider, 2021; Carpenter, 2023), which helped teachers transform the ways they communicate with students during lessons.

Sert (2019; 2021) utilised a video annotation tool, VEO, that visualised aspects of classroom interaction like types of teacher questions, use of multilingual resources, responding to student

utterances, to help student-teachers notice their classroom interactional practices for deeper reflections. In one of their case studies, Bozbıyık et al. (2021) tracked how a student-teacher changed the questions she asked over time to create more engaging language classrooms, which was possible through reflective cycles that involved the use of a video annotation tool. In a recent study (Sert et al., 2024), researchers and teachers integrated digitally enhanced reflections on classroom interaction into the teacher-education practicum in Sweden. They documented how a student-teacher of English changed the way she evaluated learners' incorrect answers after she engaged in data-led dialogic reflections and feedback sessions. Despite these promising studies that put reflection on classroom interaction at the centre of professional development and teacher education, there is a dearth of action research which draw on researcher/teacher educator partnerships and that would 'provide teachers with a powerful analytic lens through which to view language use in their classrooms...to make pedagogical changes that can enhance learning' (Hale et al., 2018, p. 54).

One of the earliest attempts to conduct collaborative action research with a focus on class-room interaction is Wells & Arauz's (2006) study. They reported that collaborative action research fuelled 'significant changes in the characteristics of teacher—whole-class discourse, with a shift toward a more dialogic mode of interaction' (p. 379). In another study, Hale et al. (2018) present a rationale for how a focus on classroom interaction can enrich reflective practice. In their action research project, the teachers focused on aspects of classroom interaction like turn-taking. Through engaging in reflections on classroom interaction as part of an action research cycle, teachers were able to change their teaching practices which 'resulted in more student-directed communication, in particular a marked increase in student-initiated speaker selection' (p. 63). Yet, we need more action research that also addresses teacher-researcher or university—school partnerships, as collaboration between stakeholders is key for sustainable teacher development initiatives. In what follows, we present an illustrative example to demonstrate the impact of CAR for transforming classroom interaction practices.

Our case study: A collaborative action research project to facilitate data-led reflections on classroom interactions

This section, first, provides information on our partnership and the collaborative action research framework. We then present how the ways data-led reflections on classroom interaction facilitated awareness and change in teaching practices. The section will be closed by presenting joint reflections on the affordances of CAR and the data-led reflective approach we employed.

Description of the researcher-teacher partnership and the research process

The background to how this researcher–teacher partnership to conduct CAR awoke was due to a teacher-candidate. Olcay (the first author) was supervising the teacher-candidate at the university, whereas Carolina (the second author) was mentoring the same candidate at the upper secondary school where she works. The first meeting was during a practicum visit, in which Olcay in his role of the facilitator and supervisor used the VEO-tool (Haines & Miller, 2017; Sert, 2019), a video-tagging and observation tool available on a tablet computer, during the observation and post observation feedback (POF) session. This session led to an increased interest in the use of the VEO-tool as well as a mutual interest in starting some kind of collaboration between Olcay and Carolina. This kind of partnership is what Burns (2015) describes as a facilitator–teacher partnership, during

which a university-based researcher and teachers collaborate and the 'research expertise of the researcher is combined with the practical expertise of teachers' (p. 14).

Shortly after, a collaboration project was created as part of a larger university-school partnership initiative called the Digi-REFLECT project (Sert et al., 2024; Gynne et al., 2022). We collaboratively decided to employ the same data-led reflection framework for Carolina's lessons. Since Olcay carries out research on classroom interaction and Carolina had a burning engagement for this aspect of teaching, it was a clear choice to focus on classroom interaction. However, we decided to have a more open structure without determining in advance which aspects of classroom interaction to focus on (see the 'unmotivated looking' perspective integrated into action research by Hale et al., 2018). Moreover, it was decided that the collaboration project was going to take place at the upper secondary school where Carolina was stationed. The participants were students in Carolina's English 7 class. English 7 is the highest level English course in Swedish Upper Secondary School. This course is not mandatory for all students, meaning that the students who participate in this course have actively applied for the course. Since these students were older than 18 years old, they were able to fill in a consent form in which they agreed to take part in this project, without having their parents' consent. Ethical research guidelines of the Swedish Research Council (2017) were followed throughout the project. The description above was the first step of the action research (AR) cycle: planning.

In the following phase, the other three steps of AR were implemented: action, observation, and reflection. During a 2-month-period, Olcay (facilitator) recorded classroom observations during the English 7 lessons. He was there as a non-participant observer, using the VEO-tool to record and tag different aspects of classroom interaction and teaching. Apart from the classroom sessions, there were also two sessions outside the classroom where Olcay and Carolina met to discuss and reflect on a variety of aspects of classroom interaction. During these meetings, the post-observation reflection was guided by the classroom interaction-focused VEO-tagset (see Figure 10.1) as an outset for reflection, but still allowing a free reflection without a structured set of questions. The post-observation session allowed Carolina to make some decisions based on the aspects of classroom interaction she noticed, which were then tracked by Olcay in the following lessons he observed. The VEO-tagset (Sert, 2019) included aspects of classroom interaction like the use of L1 (Swedish) and L2, teacher and student initiations (e.g., questions), shaping learner contributions (Walsh, 2011, e.g., repairing learner utterances), visual aspects of interaction (e.g., gestures), and time spent on classroom communication modes (e.g., whole-class interaction, pair/ group work). To sum up, the AR-cycle (planning, action, observation, and reflection) was utilised throughout the whole research process, whereupon revised planning and action could take place afterwards due to evaluation during the reflection sessions.

Our collaborative action research helped us to see the ways this digitally enhanced professional development framework creates affordances for interactional change in instructional practices.

The following research questions were addressed:

- RQ1: Which aspects of classroom interaction were reflected on during the action research project?
- RQ2: In what ways did CAR and the data-led reflections facilitate awareness of and change in classroom interaction practices?
- RQ3: What were the benefits of this collaborative action research?

In order to analyse the dataset, first, the first author went through the audio-recordings of the post-observation feedback sessions with a grounded approach after the project was completed.



Figure 10.1 One of the VEO tagsets used for the collaborative action research.

All the recordings were first transcribed in great detail, by considering the data based on the postobservation dialogue as a discursive event (Talmy & Richards, 2011). The transcriptions were coded in a qualitative data analysis software (NVIVO, see Woolf & Silver, 2018) to identify the aspects of classroom interaction that were reflected on (RQ1). This coding process also included revisiting the video-recordings and tags on VEO portal to view and review each classroom moment mentioned by the teacher and the facilitator. A separate collection has been made for those codes that indicated noticing and awareness of classroom interactional events. In response to RQ2, all those instances of classroom interaction based on which Carolina took transformative decisions, or reflected for action (Schön, 1987), have been collected and tracked across the dataset. Detailed transcriptions of these interactional events in the classroom were made for closer analysis. Finally, a separate collection was made in response to RQ3, which involved Carolina's perspectives on CAR and the use of this data-led classroom interaction reflection method.

Data-led reflection on language classroom interaction: From awareness to change of practice

The first phase of the research project involved identifying which aspects of classroom interaction were subject to dialogic reflection when we used the VEO tool during our meetings. The content analysis revealed that *classroom management*, *instructions*, *learner initiatives*, *on-task*

feedback, use of Swedish/language policing, and communication modes received the lion's share. Our findings show that we spent more time watching, discussing, and reflecting on episodes from the lessons that relate to these aspects of classroom interaction. Reflections on instructions, on-task feedback, and communication modes were mostly facilitated by the time measurement feature of VEO, while discussions and reflections on classroom management, learner initiatives, and use of Swedish/language policing were mostly facilitated by the input afforded by the tags on the right and left side of the VEO screen.

A closer analysis into the post-observation reflections revealed that our collaborative action research project facilitated change and transformation in particular when it comes to two aspects of classroom interaction: time spent on the communication modes (e.g., whole-class interaction vs. teacher monologue) and the use of Swedish/language policing. In what follows, we will first (in the next subsection 'Reflection on...') present how positive aspects of classroom interaction were noticed and reflected on with reference to instructions and on-task feedback. We will then illustrate how reflection on action became transformative for the teacher, leading to change in classroom interaction practices over time (subsection 'From awareness to...'), through reflection for action (Schön, 1987).

Reflection on instructions and on-task feedback: Increased awareness through data-led reflection on classroom interaction

Instructions and on-task feedback have been mentioned multiple times during the post-observation reflection session. The extract below illustrates a moment when the teacher makes rounds in the classroom (Jakonen, 2020) while the students are working on a task. These interactions are known as between desk instructions (Amri & Sert, 2022), during which the teacher monitors the students' work while also checking understanding and responding to students' questions. Extract 1 (see Sert & Amri, 2021, for the transcription conventions) is a case in point. The episode comes from the lesson on the second week of the project and was watched on VEO during the post-observation reflection session. The extract starts with a student's (ST1) question to the teacher (C) when she stops next to the group's desk to monitor the students' progress. ST1's question addresses the procedures related to the task and seeks clarification on the number of articles to be used for the task.

Extract 1: Sources, 14 10 19 2 simplified version

```
can i choo:se e:::r (0.4) °like° (0.8) a:::n (0.2)
01 ST1:
02
         a limited >amount of< articles to to re↑fer to or
03
         do you choose just ONE of these.
         .hhh (.) er WEll the thing is that everythi::ng
04 C:
          that you: "eh:::m" (0.3 )in your discussion
0.5
06
         you wan↑na [sup
                           ]↑port=
                    [°yeah°]
07 ST1:
08 C:
          =what you're saying with these resour↑ces.
          can y- can you use other sources. (0.2)
12 ST2:
13 C:
          of course of [course] these are just exam[ples] to
14
          help you=
                       [°veah°]
15 ST2:
                                                     [okay]
```

After ST1's question in lines 01–03, C explains that the arguments need to be supported by resources. Following this explanation, in line 12, another student follows up with another question, asking if other resources can be used, which receives a confirmation from the teacher. The explanation is acknowledged by the student in line 15. This extract and others are watched and discussed during the session and are used during the dialogic reflection. Extract 2 below is a sample reflection sequence, in which the teacher (C, author 2) and the facilitator (O, author 1) discuss this particular episode and others, and it is argued that these in-betweendesk instructions encourage students to ask questions so that interactional space is created, and the tasks are clarified during these moments.

Extract 2. Data-driven reflection on on-task feedback

```
01 C: =the thing is that (0.5) i think i do it (0.5) more in
      eng- during english class than i do it in
      swedish class;
03 O: huh [uh
04 C:
          [u:h i think that i'm i- (0.6) like i'm not the same
05
      teacher >in swedish class as- u:h as i am in english
06
      class< because i feel that
                                   [i need to
                                                      1<clarify
      more things> (0.5) in english=
07
08 0:
                                     [that's interesting]
09 C: = class just because- =
10 O: =why do you think-
11
      (0.2)
12 C: ↑i don't [know
13 0:
               [is tha- is [that the situation
14 C:
                            [i- but i think that i (0.4)
15
      explain more >and i< give more u- u:hmm like
16
      (1.1)
17 C: feedback like this=
18 O: =huh uh=
19 C: =during english class than i do in swedish class
20
         (1.5)
21 O: [.hhh
22 C: [when- when- when i reflect upon it
```

During this dialogic reflection, C notices that she performs in-between desk instructions more in English classrooms than she does in her Swedish lessons (lines 01–02). She argues that she needs to clarify more things in English lessons (lines 05–07). She justifies this by stating that she can explain more (line 14) and give more feedback to students (line 17).

The classroom excerpt (extract 1) and the reflection on it through VEO (extract 2) illustrate that dialogic reflection through a digital tool can help us notice aspects of classroom interaction, enrich our reflections, and thus potentially, increase awareness on the pedagogical practices in the classroom. The analysis thus far has not, however, shown how reflection on classroom interaction can lead to change and transformation in teaching practices. The following section will depict how this happened as a result of our CAR project.

From awareness to transformation in classroom interaction practices through digitally-supported dialogic reflections

As we stated before, two aspects of classroom interaction were particularly important, as the teacher reflected for action (Schön, 1987). These aspects of classroom interaction are (1) the amount of time spent on different communication modes and (2) use of Swedish/language policing (i.e., English-only rule).

The VEO tool allowed us to measure and see how much time is spent on whole-classroom interaction, pair/group work, individual student work, and teacher monologue. The visual analytics based on the recorded lessons have stimulated rich reflections on the time dedicated to different classroom communication modes. During the post-observation meeting, the teacher was able to notice these and become more aware of how much time she spent on different communication modes. Figure 10.2 was used during the reflection sessions.

During the post-observation reflection session, the teacher was able to look at these pie charts that represent the time dedicated to each classroom communication mode. Each figure represents a 90-minute lesson on a given date. In the session, it was discussed that the amount of time spent on pair/group work is very positive, as the students find the opportunity to interact as well as work alone. However, in the first three pie charts, teacher monologue takes much more than quarter of

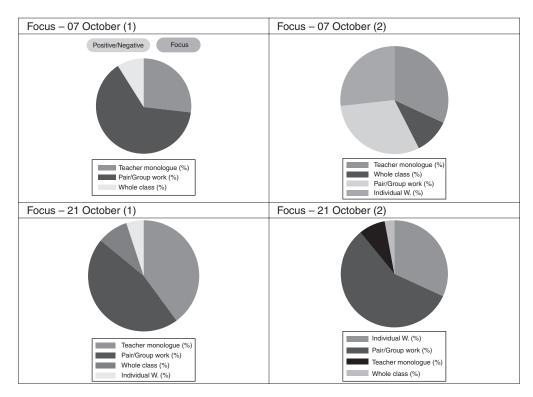


Figure 10.2 Focus time on classroom interaction modes.

the time spent in instruction, while whole-class interaction (i.e., when students and teacher communicate altogether) is found to be limited. The extract below illustrates the initial reflections of the teacher during the post-observation reflection session.

Extract 3: You do not know how much you actually spend as a teacher

```
01 C: it's very interesting because (0.7) u::r (1.4)
02
      >i mean< i try to: (0.7) e::r >give them< a lot
03
      of time [but still] you don't know exactly how much
04
      time you actually spend as a teacher (0.5)
      e:r trying to:: give instructions (.)it's very- it's
0.5
06
      ↑very interesting er seeing the >differences<
12 O: when you are:: (0.2)introducing all these
      instructions=
13
14 C: =yes=
15 O: =and then that takes a lot of time and then
      that's like=
17 C: =ye[ah
18 0:
       [actually necessary [so ]
19 C:
                              [as-] as long as as long as
20
      (0.4) they (0.8) have the: [:: greater] parts
21 0:
                                [uh hum
```

In line 01, C makes an assessment, saying that she found the results very interesting. She adds that although she tries to give students enough time to speak, it is difficult as a teacher to know how much time is spent on, for example, giving instructions (line 05). She continues saying that it is very interesting to see the differences. The extract shows that the reflections on visual output on communication modes helps a teacher notice how much time is dedicated to students to interact, and being able to see the differences is, to say the least, interesting. In the second part of the extract, the facilitator and the teacher go on to talk about instructions and agree that they may take time. The teacher, in lines 19–20, states that as long as the students get to speak and interact, it would be okay. This shows the importance of student participation in language classrooms, according to the teacher.

As the discussion on these figures continues, O and C argue that some more time could have been spent for whole-classroom interactions as the teacher could have gathered the responses of students in a whole-class interaction mode and make transitions between activities to make sure that all students are on board, etc.

Extract 4: I should do that more

```
08 C: =yeah i think s- yeah
09 O: it's also a time management issue because we have
10
      priorities maybe you [want them to work] alone=
11 C:
                            [yeah still
12 O: =would- [would that be:: valuable?]
              [>yeah i think yeah ( )< ] yeah i think so
13 C:
      too because (.) if- when i see: u:::h the charts
14
15
      here ((they look at VEO)) then i see that it's (.)
16
      like (0.4) i thought (.) that i did more=
17 O: =huh [uh
18 C:
           [ (
              ) like a whole class=
19 O: =huh uh
20 C: u::h so it's really interesting when you see it this
      (1.0) ((they look at the pie chart))
22 C: i should def- u:h yeah >i'm definitely gonna work
      more with< whole class situ[ations
23
```

The extract demonstrates a clear example of what Schön (1987) calls reflection for action, when C says 'I should do that more' in line 03. Upon hearing this decision, O asks for confirmation and an elaboration question on this statement of C. C further agrees with O's point in line 13 (yeah I think so too) and justifies her alignment with O's recommendation by referring to the figures on the VEO (lines 14–15). She further states that this process has changed her own perception (I thought that I did it more, line 16) and makes a clear statement on what she will change in the future in lines 22–23 (I'm definitely gonna work more with whole class situations). This extract shows how data-led dialogic reflections can trigger teachers' noticing and awareness, and facilitate transformative decisions. This becomes evident in the data multiple times, as our thematic analysis has shown, for example, when the teacher said 'that's something that I could develop as well' later during the session. This is evidence for a developmental mindset, which is at the heart of continuous professional development.

The awareness raised through data-led dialogic reflections and the teacher's decisions for transformation and change of practices becomes visible in the future lessons. Figure 10.3 illustrates how the teacher's reflection for action facilitated change in classroom interaction practices, when it comes to the amount of time dedicated for classroom communication modes.

As can be seen in Figure 10.3, more time for whole-classroom interaction has been spent by the teacher while also balancing the time dedicated to other modes of communication. During the observations, it was obvious that the teacher spent more time on eliciting more responses from the learners between activity transitions and instructions. This increased the time for whole-class interactions

As we stated at the beginning of this section, another change that was facilitated through CAR was related to language policing (Amir & Musk, 2013; Gynne, 2019; Sert, 2021; Sert et al., 2023). In the first few weeks of the collaborative action research project, "English-only" policy has been very visible. There were many instances of "languaging policing"; i.e., asking students to switch to English if they were speaking Swedish. The extract below, from the second week of the project, exemplifies one of these cases:

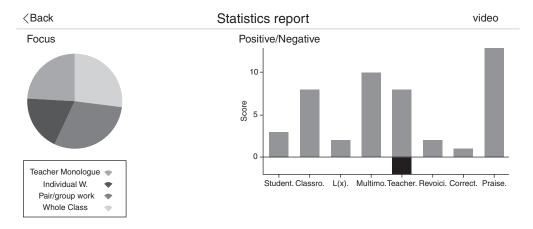


Figure 10.3 Change in the time dedicated to different communication modes.

Extract 5: You are not speaking English!

```
01 Stu: ((speaks Swedish))
02 Tea: Stu you are not speaking English!
03 Ss: (laughter and jokes)
```

"In English!" was the most common phrase used especially in this lesson. In extract 5, the teacher notices that one of the students is speaking in Swedish, and in line 02 the teacher sanctions this and states that the student is not speaking English. During the post-observation feedback session, the teacher comes to realise this through the VEO tool, as they watch the episode in extract 5 and some others. The facilitator then asks the teacher what she thinks, and whether this helps the students or does it hinder communication. The teacher explains that it would be useful to use Swedish to clarify things, but also justifies the English-only policy during her reflection, saying that Swedish would not help them in a real-world situation when they have to speak English. However, she also reflects on this and acknowledges the need for the use of Swedish in some cases:

Extract 6: Reflection on language policing

```
01 C: yes u:h but it's but i- i under- i- i- i see
02
      the problem and i and i- i- <understand> that it's
03
      >sometimes- because< i know that (.) if there are::
04
      like students that have difficulties understanding it
05
      then they like ask to get (.) clarification
06
      and it's easier to ask a friend in swedish than to ask
07
      me because i'm just gonna be like (0.7) try to
08
      explain in another way in English.
15
      but perhaps i'm not gonna ↑silence them (0.4)as much.
```

In extract 6, C argues that the students would at some point stop asking questions to her knowing that she would insist on English. Following this reflection, she decides not to silence

them when the students speak Swedish although she would still try to maximise the use of English in the classroom.

The dialogic reflection, based on the episodes the teacher watches, becomes transformative, as the teacher allows the use of Swedish in some cases, especially when the students have difficulties in answering questions and when there are long silences. Extract 7 is a case in point:

Extract 7: 11.11, You can say it in Swedish

The extract comes from a lesson which took place three weeks after the video-based reflection session. In this extract, the teacher emphasises the difference in stress. In lines 01–02, she shows how the meaning of the word 'conflict' changes based on the position of the stress and shows this on the whiteboard. She then tries to elicit a response from the students, asking the difference. However, there is no response from the students for almost 7 seconds. The teacher then, in line 06, relaxes her English-only rule and tells the students that they can speak in Swedish if they want.

There are examples of how the English-only rule transformed into moments in classroom interaction like in extract 7 (see Sert et al., 2023, for a longitudinal analysis of the change of language policing practices). This shows that digitally-enhanced reflections as part of the collaborative action research helped the teacher become more aware on practices of using different languages in the classroom. Reflection for action facilitated transformation and change.

Reflections on the benefits of the collaborative action research project

Carolina's reflection

After working as a teacher for over 20 years, you believe you have a strong sense of knowing a great deal about yourself as a professional certified teacher. Over the years I have also been taking part in the process of becoming a lead teacher at my school. During this process you are observed by different principals in your classroom, and they give you feedback. However, in this CAR project, there was a video observation tool with a tagset (VEO) which was used to record and tag key moments during the lessons. This was beneficial for me as a teacher since I was able to use the recording after the lesson to review and reflect upon what had happened in the classroom. To look at my role and my classroom situation from an outside perspective, using key moments and visual analytics, have enlightened me and let me reflect upon new perspectives. The greatest benefits from a teacher perspective have been the following: (a) development of personal professional teaching skills; (b) being able to make other types of student-centred decisions.

To begin with, I want to reflect on the development of personal professional teaching skills. Not only has it led to a greater understanding of my own teaching methods and practices, but also created an increased awareness of personal language performance, body language, and how

I move around in the classroom. For instance, one lesson that I learned was the fact that I took up more interactional space in the classroom than I thought. This reflection has enabled me to change my practices; letting my students take more interactional space in the classroom. As a result, this has led to a greater opportunity to let the students interact more with each other as well as give them more time to work on their own, in pairs, or in groups.

Furthermore, I was able to make other types of student-centred decisions. As a consequence of reflecting upon one's own professional skills and also being given proof of what is taking place in the classroom, a deeper understanding of students' needs has been visualised. The experience has provided new thoughts concerning how to engage students more in interactions during class, how to make use of L1 in order to develop L2, how to work with instant feedback during class, and also how to motivate the students. For example, since I was able to go back and observe my students, I was given the chance to assess them a second time. Since you are not able to be everywhere in the classroom during lessons, I could pick up on things I had missed, for example, opportunities to speak. It was easier for me to see who took the opportunity to interact and in which language when I was not close by. It helped me to understand that some students benefitted from using a few words in their L1. Moreover, it became more clear what type of interaction was used to which extent (who uses questions, who leads the interaction, who develops what others are saying etc.)

To conclude, engaging in collaborative action research (CAR) has been very beneficial for my own personal development as well as in my approach to students, colleagues, and English networks. It has changed the learning environment for my students and fellow language teachers by polishing the quality and standards. It has also led to an ongoing reflection concerning professional development and systematical improvements concerning classroom interaction by using the stages planning, acting, observing, and reflecting. Furthermore, it has increased meaningful collaboration between language teachers. All in all, the whole process has opened my eyes to how CAR can improve personal development, collegial work, and schools as institutions in general.

Olcay's reflection

This CAR project has benefitted me as a teacher educator in a number of ways. First of all, I got the opportunity of working with an experienced language teacher like Carolina and have been part of her developmental journey in which she used a digital tool to reflect on classroom interaction. In the past, both in Sweden and in Türkiye, I supervised student-teachers' practicum practices by supporting them with digital tools like VEO (see Sert, 2024). However, this was the first time I collaborated with a very experienced teacher. This was a professionally and intellectually rewarding process as I had to step out of my 'feedback provider' comfort zone and assumed a relatively more passive role by only 'facilitating reflections.' When Carolina and I went through the classroom recordings through VEO together, I witnessed her professional vision and realised that the ways experienced teachers notice moments in their teaching might be different from how inexperienced teachers do that. Nevertheless, we both figured that our expertise is complementary as her teaching experience and my research experience build on each other. Going through the process of CAR has been rewarding as well as challenging as it was the first time I used this method. The power of CAR with its emphasis on reflection and taking transformative action has enabled me to see aspects of classroom interaction that I had less insights into.

Secondly, this project benefitted me personally as a classroom interaction researcher. Although I have been carrying out research on many aspects of classroom interaction with or without the VEO tool over the years in different countries, Carolina's professional reflections and the way she noticed aspects of teaching and learning through her interactional moves inspired my analytic decisions. This was possible thanks to CAR. In particular, her reflections for action (i.e., when she

made transformative decisions after she reflected on her interaction) fuelled multiple research foci that I will follow in the following years. For instance, with other colleagues in the Digi-Reflect project, we started tracking the change in language policing practices of Carolina and started writing a research paper on how she develops her interactional practices over time as a result of her engagement with digitally enhanced reflections on classroom interaction. All in all, this CAR project has been fruitful for us and we believe that this collaboration will benefit our students, other teachers, and researchers in the future.

Implications for development through collaborative action research

Reflections on classroom interaction that is part of a collaborative action research project can help systematise professional development. Being able to review your teaching methods and classroom interactions can bring new perspectives and insights into the ways one makes small changes to improve teaching. The case we presented illustrated that teachers who engage in CAR can become more aware of aspects of classroom interaction like instructions and on-task feedback. We also showed that thanks to CAR, the teacher was able to transform two other aspects of classroom interaction, namely time spent on the communication modes (e.g., whole-class interaction vs. teacher monologue) and the use of Swedish/language policing. We argue that CAR and data-led reflections would lay the ground for teachers to notice and change many more aspects of classroom interaction for the purposes of increasing student engagement and maximising opportunities for the development of language learners. Such an approach, if integrated into professional development and teacher education contexts, can help us develop new models for teacher education that are practice-oriented, collaborative, and evidence-based. When CAR between university-based researchers/teacher educators are combined with reflective and classroom interaction-focused digital observation tools (e.g., Sert, 2021; Sert et al., 2024), this might help close the gaps between theory and practice.

On a personal level, participating in this CAR project has led to an increased within-school collaboration. More discussions (within Carolina's own English department) concerning class-room interaction have taken place. A better collaboration with other mentor-teachers concerning pedagogical aspects when mentoring teacher-candidates was another gain. Sharing these findings among colleagues has helped develop the whole school's teaching practices (see Burns et al., 2022, for the impact of AR on institutional development). The inspiration from this project facilitated a co-teaching system in the school, in which Carolina collaborated with another teacher. This collaboration has brought more motivation for Carolina as a teacher since she and the other teacher can give instant feedback to each other and future CAR projects between teachers can be facilitated. As Godinez Martinez (2022) notes, CAR 'goes beyond a search for solutions to immediate problems and towards the creation of a professional learning culture within professional communities' (p. 91).

Carolina, as a lead teacher, believes that increasing the usage of more CAR can lead to a greater professional development in the teaching community in Sweden. Therefore, she suggests more collaborations between different educators as well as more time for post-observation reflections with digital tools and a systematic focus on classroom interaction. This could be the reality if the Swedish schools systematise more time for collegial learning led by, for example, lead teachers or other types of pedagogical leaders at the schools. During these collegial learning sessions, the teachers could, for instance, work more with post-observation reflections; use case studies or research papers to reflect on a range of pedagogical challenges; or simply share own reflections from the teacher's own experience that the other teachers can reflect upon. It should, however, be kept in mind that 'time' is an important challenge as

collaborations between different institutions or within schools take time. The issue of time has also been problematised in earlier action research literature (Wang & Zhang, 2014; Olin & Pörn, 2021). It is crucial that extra time is given to teachers and other parties involved by taking off parts of the ordinary amount of workload for those involved. We should remember that successful school–university partnerships have overarching benefits for the society. This, however, is not without challenges. One of the most important challenges arising from university–school collaborative action research is 'the sustainability of action research' (Yuan & Mak, 2016, p. 385). Researcher–teacher partnerships that focus on aspects of classroom interaction can be one way to transfer research skills to mentors and experienced teachers in schools for schools to develop their own CAR frameworks, which would then lead to continuous, sustainable, and a more contextualised in-house action research in schools.

Recommendations for further research

We call for more CAR projects that involve digitally-enhanced, data-led reflections, as we have shown that being able to watch and work on real lessons through visual evidence provokes rich reflections that become transformative. One possible research direction is to involve colleagues in schools rather than matching teachers with university-based teacher educators. One way to do so would be to encourage experienced teachers who use video-annotation tools to work together with novice teachers in schools, which would lead to building a professional development mindset in schools. Another research direction is to integrate this lesson observation tool into online teaching through its web platform and explore how this method can help teachers navigate the challenges of online education. A final recommendation is to use corpus tools for reflection, where teachers can use databases of their own classroom interactions to find patterns of engaging talk and use such findings in collaborative reflection sessions (see Wulff-Sahlén et al., 2023). This would help increase awareness of English language use especially in settings where language teachers collaborate with content teachers (i.e., CLIL, EMI).

Discussion questions

- 1. What are the benefits of the use of lesson videos in post-observation feedback sessions?
- 2. Which other interactional aspects of teaching can teachers focus on, in addition to the ones analysed in this chapter?
- 3. What are the potential challenges of integrating video-annotation tools to professional development practices?

Further reading

Hale, C. C., Nanni, A., & Hooper, D. (2018). Conversation analysis in language teacher education: An approach for reflection through action research. *Hacettepe University Journal of Education*, 33, 54–71. The authors present a novice action research framework which draws on findings from conversation analytic research. Drawing on data from their own classrooms in Japan, Thailand, and the US, the authors show, step by step, how teachers can improve their own pedagogical awareness by getting engaged in this action research framework.

Kunitz, S., Markee, N., & Sert, O. (2021). Classroom-based conversation analytic research: Theoretical and applied perspectives on pedagogy. Springer.

This edited volume features research from different countries reported by researchers and teacher educators who analyse real-world examples of classroom interaction from their contexts. In addition to chapters on

classroom teaching and learning, the book also features chapters on teacher education and professional development, showcasing how teachers and teacher candidates can analyse interactions in their own classrooms.

Sert, O. (2019). Classroom interaction and language teacher education. In Walsh, S., & Mann, S. (eds.), *The Routledge handbook of English language teacher education*. Routledge, pp. 216–238.

Part of a handbook on language teacher education, "Classroom Interaction and Language Teacher Education" presents a reflective framework for teachers which can help them work with colleagues or other facilitators to focus on different aspects of classroom communication. The chapter also includes transcriptions from different classrooms that can be integrated into action research frameworks. Furthermore, the appendices include previously used guidelines and tasks that can be utilised for reflection and peer feedback in action research projects.

Sert, O., Gynne, A., & Larsson, M. (2024). Developing student–teachers' interactional competence through video-enhanced reflection: A discursive timeline analysis of negative evaluation in classroom interaction. *Classroom Discourse*, 1–30. https://doi.org/10.1080/19463014.2024.2337184

This research paper illustrates the reflective journey of a novice language teacher. The researchers showcase a teacher education framework and demonstrate how the teacher changes her classroom interaction and teaching practices after getting feedback and reflecting on her classroom videos. The teacher development project presented in the paper can inspire novice teachers to integrate technological tools into their action research projects.

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