

Conceptualising and facilitating active learning: teachers' video-stimulated reflective dialogues

Ed Powell*
Anglia Polytechnic University, UK

This account of a research project explores postgraduate in-service teachers' understanding and facilitation of active learning in primary, secondary and higher education in the UK. Qualitative data were elicited from nine teachers during 2003–2004 using video-stimulated reflective dialogues of classroom practices illustrative of active learning. Outcomes of 18 dialogues have been taped, transcribed and analysed. The dialogues have begun to reveal teachers' thinking, feelings and actions as facilitators of active learning. Findings, which are presented as case studies, indicate that teachers associate active learning, inter alia, with learner autonomy, empowerment, developing higher order thinking skills and cooperative group activities. Increasingly, teachers devolve the locus of control of learning to their learners with appropriate guidance, monitoring and interventions. Classroom practices reflect an emphasis on discourse between learners and with teachers, guided discovery learning and learning as an essentially social process. The evidence suggests that video-stimulated reflective dialogues are an effective method for revealing teachers' tacit knowledge about their pedagogy.

Introduction

This paper focuses mainly on data elicited from primary and secondary school teachers' video-stimulated reflective dialogues on active learning. The data represents a small sample from a larger, two-year study (2003–2005) which is expected to result in 36 video-stimulated reflective dialogues with nine teachers. It is not my intention in this paper to engage in an extensive, critical interrogation of literature on the subject of active learning (see, among others, Jones & Merrit, 1999; Livingstone & Lynch, 2000; Broadhead, 2001; Niemi, 2002; Birenbaum, 2002) and reflective dialogues (Moyles *et al.*, 2002). I am concerned with conceptualizing

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^{*}Faculty of Education, Anglia Polytechnic University, Bishop Hall Lane, Chelmsford, Essex, CM1 15Q, UK.

video-stimulated reflective dialogues, outlining my research methodology and describing and interpreting findings presented as case studies.

My research is based on a belief that teachers' continuing professional development involves critical reflection on practice (see, among others, Brookfield, 1998). The first year (2003–2004) of this research project has been concerned primarily with revealing teachers' thinking, feelings and actions as facilitators of active learning. The second year of the research will focus on using video-stimulated reflections to critique teachers' practice as well as the data-elicitation method. The research will then be developing as a reflective critique of reflective practice.

Conceptualising video-stimulated reflective dialogues

Video-stimulated recall (VSR) has a lengthy pedigree as a data-collection method in research into teaching (see Lyle, 2003). VSR 'is an introspection procedure in which normally videotaped passages of behaviour are replayed to individuals to stimulate recall of their concurrent cognitive activity' (Lyle, 2003, p. 861). This narrowly focused definition is somewhat limited because it omits a reference to an individual's affective responses. VSR has been influenced by interpersonal process recall (IPR) which is 'the basic process of reviewing a videotape with a person trained in recall technique' (Kagan, 1976, cited in Dawes, 1999, p. 203). 'Kagan believed that IPR could provide people with a way of seeing themselves in action and of getting to know themselves more deeply and in new ways' (ibid.). The use of visual stimuli can be problematic as:

Calderhead (1981) ... notes that there are issues arising from the subjects' anxiety, the limitations of the visual cues (i.e., not being from the subjects' perspective), whether tacit knowledge can be verbalized, and conscious censoring of the recall by the subject. Calderhead, therefore, stresses the need for rapport, familiarity with the technique, and 'screening' the research goal from the subject. (Lyle, 2003, p. 864)

Video-stimulated reflective dialogues have, according to Moyles et al.:

... similarities with procedures adopted in Interpersonal Process Recall (IPR) ... used for training mental health professionals. ... Reflective dialogue is, however, different from IPR in one crucial detail—it is the practitioner who controls the focus and pace of the prompts. This was vital to us in our research because we wanted the practitioners to feel a sense of ownership over the research and not view it as something which is 'done to them'. (Moyles et al., 2002, p. 465)

The video-stimulated reflective process is a collaborative inquiry between research partners—teacher and researcher. It is intended to reveal teachers' thinking and feelings about specific, classroom episodes which they choose to reflect upon with the researcher. The video sequence provides the stimulus for dialogue between the two so that they may:

... draw on each other to extend and develop their pooled thinking about practice using a shared source of information—a video. The dialogue then focuses on thinking about aspects of that practice by the practitioner, scaffolded and supported by the tutor research partner. (Moyles *et al.*, 2003, p. 142)

That scaffolding involves reflective questions (Appendix 1(b)) 'which are ... based on the conceptual framework of reflective thinking developed by Hatton and Smith (1995) and rooted in the work of Habermas (1973)' (Moyles *et al.*, 2002, p. 464). Essentially, the reflective dialogue method is a tool for professional development.

Research methodology

The first year (2003–2004) of my research used video-stimulated reflective dialogues to

- reveal postgraduate teachers' conceptualizations and facilitation of active learning in primary, secondary and higher education;
- explore teachers' thinking, feelings and actions as facilitators of active learning; and
- articulate dimensions of an effective pedagogy for active learning.

The research involved a selected sample of six experienced teachers drawn from primary and secondary education. Each teacher is currently studying on an in-service MA (Ed.) programme in the School of Education at Anglia Polytechnic University (APU). Informed consent and access to classrooms were obtained from teachers and senior managers. Ethical approval was given by APU.

The video-stimulated reflective dialogue process

- Phase 1 (2003–2004): teachers were issued with a briefing document based on the work of Moyles *et al.* (2002) which outlined the purpose of video-stimulated dialogues, gave guidance on filming procedures and the framework of reflective questions which cover teachers' intentions and purposes, self-awareness, practical and technical reflection, perceptual awareness and critical reflection (Appendix 1(a), 1(b)).
- Teachers were requested to identify a learning and teaching session that involved active learning. I used a digital camera to video thirty minutes of active learning as directed to do so by the teacher.
- The digital film was copied to VHS format and given to the teacher who was
 encouraged to use the reflective question framework to inform and guide their
 reflections. Teachers were asked to identify three extracts to be the focus and stimulus for reflective dialogues with me.
- Reflective dialogues were audiotaped and transcribed. Transcriptions were coded using NVIVO software and coding summary reports for each case study were generated.
- The coding summary reports were used to produce tables containing selected descriptions and subjective interpretations of the data. These were used as the basis for elaborated, descriptive and interpretative accounts of each case.
- Analysis of and reflection on the data focused on emerging concepts and themes associated with active learning as well as commonalities and differences across individual cases in primary and secondary education.

Case study findings from the video-stimulated reflective dialogue process

The following sections provide descriptive summaries of teachers' responses to questions selected from a reflective framework (Appendix 1(b)). In my view, these findings represent an account that is congruent with the evidence collected. Therefore, I argue that there is significant internal validity without making any claim about the findings being generalisable.

Three primary teachers

- 1. Julia (Years 3 and 4: science, theme: friction).
- 2. Clare (Early Years: painting a rainbow).
- 3. Luke (Years 3 and 4: science, theme: friction).

Video-stimulated reflective dialogues revealed teachers':

Intentions as facilitators of active learning. Julia focuses on revealing learners' prior knowledge of friction with a view to extending their learning about it through discovery learning in small groups. She uses an orthodox question and answer approach with the whole class to elicit learners' responses. Clare wants to extend learning and complete the task through pair work and peer support. She views active learning as an essentially social process. Learners learn from each other through cooperation and 'taking each others views into account'. Clare wants to promote her learners' thinking skills through encouraging them to reason and 'to puzzle out'. Luke:

... wanted to give the children equal access to all the activities, and I didn't want to give any hint whatsoever that science was anything other than a subject that ought to be studied, enjoyed and learnt by children of both sexes.

Luke shares Julia's intention to use a discovery learning strategy which emerges as being synonymous with active learning.

Technical reflections. Julia's strategy involved giving learners' adequate thinking time. She is promoting investigative learning through collaboration which is characterized by discussion, hypothesis testing while sharing and valuing each other's ideas. Julia stimulates learners to think inductively. Clare continues the theme of learning as a social activity. She aims to encourage learners to interact verbally. This is done through discussion and listening to each other's views. Julia wants learning to develop spontaneously through discovery as learners learn from each other. She delights in their discoveries. Her role is multifaceted: observing, listening, encouraging and thinking ahead about open-ended questions to use at a later stage in the learning process. Julia sees herself as facilitating learning through reinforcing and encouraging language development. She wants learners to marshal their thoughts by offering explanations to her of their engagement with the activity. Luke doesn't want to get in the way of learners' learning. He sees himself as a facilitator and guide whose main aim lies in promoting

independent learning. For him, active learning involves, among other things, learners working together, observing each other and applying concepts in concrete situations. Learning is about learners' 'putting it together in their own minds in a way that makes sense to them'. Thinking is developed through learners explaining and listening to each other. Then teaching becomes learning and learning becomes teaching. Luke:

I think the most difficult judgements to get right is (sic) when to intervene and when not to intervene. ... A lot of that is about gut reaction, and I suppose your experience of having worked in the past and knowing the children in your class.

Practical reflections. Julia assumes that 'teachers don't give enough thinking time. We pose lots of questions and we end up asking lots of closed questions'. Her assumption derives partly from personal experience and Alistair Smith's courses on thinking about thinking. Julia stresses the importance of linking prior learning with new learning. Her teaching strategy has been influenced by the value she places on cooperation, sharing ideas and teamwork. She is aware that this valuing derives from her professional career and childhood. She wants her pupils to be lifelong learners who associate learning with enjoyment. Julia assumes that learners learn in different ways. She trusts her learners to seek out information. Clare acts on the assumption that each child has something valuable to contribute and believes that peer support extends learning. This suggests the notion of peers as teachers. Her teaching assistant experiences, teacher training and literature have influenced her assumptions. Observing learners' experimenting and exploring have also contributed to the formulation of her assumptions. She believes that if learners see relevance in learning then they will engage with it. Clare values learner interaction through encouraging cooperative working on an activity. Luke cites the influence of his initial teacher training, reinforced by experience, on his attitudes towards practical activities. He associates the best learning in science with practical activities which develop deeper conceptual understanding. Learners are 'learning about themselves'. They are 'experiencing how things happen'. Encouraging participation by all represents a value-in-action. The locus of control of learning resides with the learner: 'learning is what you do for yourself'. Luke stresses learning as doing, talking and reflecting with a view to making sense of events. He assumes that:

... when they begin the activity they won't be as much on task with the way their mental processes are working. ... I do tend to assume at the beginning that they're going to need all that input. ... Sometimes I'm right about that and sometimes I'm wrong.

Perceptual awareness. Julia sees that 'everyone's writing, everyone seems to be involved in that task. They all seem to be coping well'. She is now aware that she hadn't noticed that some learners are intimidated by the whiteboard and need supporting. Clare refers to the difficulty of the task. Luke observes the beginning of the friction activity: '[it] shows ... the mistakes they make, and the sort of things they get involved in when they first start doing the activity independently and actively'. He is aware of interaction between himself and learners. Luke gives support and guidance. Luke enjoys the evidence of concept attainment through independent learning. He is aware

of the learners' ownership of their learning: 'they're doing the work, they're doing the learning'. He comments that the video enabled him to view groups working outside the classroom where the cooperation between learners pleased him. There is strong sense again of Luke as facilitator—guiding, observing and interpreting learners' learning.

Self-awareness. Julia felt pleased: 'I was feeling that I wanted to probe deeper into what they had found out'. She feels that she talked too much and needed to reduce the number of questions. Clare questions the possible influence of the video on pupil behaviour—they seem more muted. Luke is aware of trying not to intervene. He was thinking that pupils were learning from each other. He is thinking about how learners talking with each other can reinforce their learning.

Interpreting primary school case studies

In this section I hope to offer some provisional interpretations of the preceding and subsequent summaries. They are provisional because I believe that events are open to multiple interpretations (see Brookfield, 1998). As knowledge is provisional so are the meanings that we attribute to events which then become our experience. My interpretations are what Geertz (in Badley, 2004, p. 3) refers to as 'constructions of other people's constructions'. I am now telling it as I see it.

Each teacher demonstrates clarity of purpose as they plan and facilitate active learning. This type of learning involves learners in taking more responsibility for their learning. Responsibility is characterized by learners learning from each other in cooperative and supportive ways. Learners begin to direct more of their learning through guided discovery and problem solving activities. This is consistent with a view expressed, among others, by Tileston (2000, p. 13) that 'life is not a spectator sport; it is an exercise in active involvement and education should reflect that active involvement'. These teachers recognize that they need to monitor, support and guide learners. It cannot be assumed that all learners will adapt readily and easily to learning as an interactive social process.

Teachers' tacit assumptions about active learning were made explicit through the reflective dialogue process. Revealing and articulating tacit knowledge (a fuzzy concept) can be problematic. These teachers tend to teach as they prefer to learn. They value learners as individuals. This means that active learning ought to promote the individual's social, personal and academic growth. The importance of learning how to learn (Bruner, 1966; Rogers, 1993) is not a recent development. It emerges as a core value for each teacher in this study and an essential part of active learning.

Three secondary school teachers

- 1. Emma (Drama, Year 11).
- 2. Thomas (Integrated studies, Year 8).
- 3. Isabella (Science, Year 8).

Video-stimulated reflective dialogues revealed teachers':

Intentions as facilitators of active learning. Emma wants learners to utilize skills acquired during drama classes. She envisages learners making decisions and taking responsibility for their own learning. Emma is handing it over to them. The teacher wants learners to apply skills individually and as a group of cooperative learners. Thomas wants his learners 'to think very deeply', especially synthesizing and evaluating. Lesson content is used to stimulate critical thinking. He wants to empower learners who will be learning to learn. Isabella intends providing a 'degree of direction but not leading them to answers'. She wants learners to develop analytical and critical thinking within cooperative groups. Isabella shows an awareness of individual needs based on diagnostic assessment. She is sensitive to those needs as she decides carefully on pairing learners. Active learning involves teachers in encouraging learners to stimulate each other's learning. The teacher is the facilitator of the conditions in which that stimulation might occur.

Technical reflections. Emma talks about conceptualizing active learning: 'there are different ways of describing active learning. Active learning is what drama is all about. It is not about telling learners what to do but asking 'how are you going to do it? How are you going to take that forward and why are we doing it that way?' Emma states that 'the majority of learning is achieved by doing'. Her role, among other things, lies in promoting among learners different ways of thinking: negotiating, sharing and building on each other's ideas. She is aware of the importance of grouping learners appropriately for effective working relationships. Emma is aware of their preferred learning styles. She refers to 'soft skills in active learning': articulation, feeling secure in a group, the ability to ask questions. Emma has opportunities for informal, formative assessment. She is responsive to needs gleaned from observing learners. Stress is placed on evaluating and analysing on an on-going basis at each change of task.

Thomas is interested in having empowered learners. Skills development is more important than content. 'Accessing, evaluating, differentiating information; analysed it, synthesized, applied it. Understanding the importance of reflecting and applying critical judgements'. The concept of the 'empowered learner' involves the extent of involvement and making choices about activities. Thomas circulates around the room to encourage learners. There are no right or wrong answers. He wants to stimulate critical thinking. He realizes that he 'took ownership away from them'.

Isabella focuses on one pupil because she believes in learners influencing learners to learn. She wants to ensure appropriate support and encouragement from herself and a peer. She is aware of a variety of activities to meet learning styles. Structure and direction are important parts of the learning environment. She wants to let go more to allow discussion in science.

Practical reflections. Emma assumes that 'kids are motivated when they understand why they are doing something'. Learners need to be given a rationale for what they are expected to do. She refers to the 'why and how they're going to achieve'. Learners

need to be allowed to use clarifying questions. 'I constantly think about me and what I needed when I was that age'. Emma sees herself as 'facilitator and guide'. 'We teach them skills, then they apply those skills in different ways and add to them. You're not just teaching them about your subject, you've taught them how to learn'. There is the notion of skills progression through acquisition and application. She values contributions from all learners. Learners ought to encourage each other and thereby build self-esteem. Active learning involves collaboration, discussion, developing ideas and learning from her learners.

Thomas states that 'children are active in the process of learning. They're not passive receivers of the information'. He emphasizes his science teaching background where practicals were a key influence on his understanding of active learning. Thomas emphasizes higher order thinking: analysis and evaluation. Active learning is characterized by 'they (learners) would have substantially more (ownership) of what they're actually learning' which involves as 'little direction' as possible with 'very open-ended tasks'. For him, '(ownership) of what and how they're learning' results in 'better learning'. Thomas states that 'I learn best when it's something I value'. This accords with Emma's stance on valuing and relevance in learning. He is developing their abilities to learn how to learn. He believes that 'everything seems to be moving towards the situation where learners will be valued as learners and not empty vessels to be filled'.

Isabella believes that 'learning is a social activity' in which learners need 'encouragement and direction'. 'Autonomy' and 'independent' are terms that are synonymous with active learning. She sees herself as part of this process. Influences on her facilitation of active learning include 'personal experiences', 'how I learn' and using evidence (direct experience) to inform practice. She feels that 'I have to create an environment in which they can discuss things productively'. Isabella encourages learners to debate issues and to think logically and critically.

Perceptual awareness. Emma sees learners learn 'through doing and preparation of performance'. She is aware of one group's 'analysis of (the) other group's interpretation of a poem'. She allows learners to learn in cooperative groups with opportunities to articulate their interpretations of peers' work on a poem. Higher order thinking and feedback are apparent. There are verbal interactions between learners.

Thomas is aware of a pupil 'synthesizing an idea'. He goes on to say 'that pupil was evaluating' and 'they were drawing upon ideas from things we'd done before and they were synthesizing'. He is aware of prior experiences and their relationship with the current activity. 'They (learners) had thought through at a deeper level the idea of human motivation (after a further week)'.

Isabella comments on seeing an increase in pupil's confidence: 'I think this is the moment that raised my spirits the most when I viewed the video'. She believes that learners' discussions would have gone unnoticed without the video. Isabella notes the logical and analytical thinking expressed in discussions. She says that she has become aware of 'some values there that have come to the surface since I've watched that. I knew that I certainly valued learning as a social process'.

Self-awareness. Emma is aware of physical movements and that she is 'constantly thinking ahead'. She says that she was aware of her enjoyable thought processes as learners worked as a team. Emma is aware of the need for clarity of expression and she is thinking about what the other person is seeing. Thomas felt that he 'talked too much' and 'I am in panic mode'. Isabella focuses on not being aware of a particular learner. She is aware of self in her role as informal, formative assessor.

Interpreting secondary school case studies

Each case study suggests a strong focus on using active learning to develop learners' cognitive abilities. Teachers want to see learners use critical, analytical and evaluative thinking skills. Active learning is couched in terms such as learner autonomy, the empowered learner, and learners learning to learn and stimulating each other's learning. The teacher emerges as the facilitator of the conditions in which learners take more control of their learning. Teachers recognize the importance of positive affective responses from learners, as active learning is a complex, holistic process. Emma's reflections indicate a strong sense of wanting to embed learning. There was also a fluency and depth of response from her which suggests an intimate involvement with direct experience of active learning issues. She appears to be drawing from a deep well of personal and professional experience. Isabella believes that peer support can stimulate reluctant learners when teacher interventions are less effective in the active learning process.

The will to learn (Bruner, 1966) is based on the teacher providing a clear rationale for the activity and its relevance to the learner. Active learning involves collaboration, discussion, developing ideas and teachers learning from their learners. Learners are provided with an active learning toolkit designed to facilitate independent and interdependent learning. These teachers' pedagogical decisions are influenced, in part, by their personal learning preferences which become their teaching strategies. Learners are valued as individuals whose contributions to active learning are valuable.

Concluding note

The evidence suggests that video-stimulated reflective dialogues enabled teachers to articulate their thinking and feelings about active learning. Video sequences provided teachers with a sharply defined focus and context for inquiry into dimensions (Appendix 1(a), 1(b)) of their professional practice. The philosophy of active learning as expressed by these teachers will be critiqued in the next phase of the research.

The reflective framework of questions (Appendix 1(b)) designed to scaffold and support inquiry into practice will be revised in the light of a critical reflection on the video-stimulated reflective process. The second year of my research will be informed and shaped by this critique of the data-elicitation method. I intend developing a critical reflective framework of questions to move the research from an emphasis on teachers' revelations to critiquing what has been revealed.

Notes on contributor

Ed Powell is a senior lecturer in Continuing Professional Development (CPD) in the Faculty of Education at Anglia Polytechnic University (APU). His doctoral research focuses on using video-stimulated reflective dialogues to develop primary, secondary and higher education teachers' positive critiques of their classroom practices. Ed has been awarded a number of APU research grants to investigate the impact of extended, accredited CPD on teachers and teachers' conceptualizations and facilitation of active learning. He has contributed to a text on leadership in secondary education and also to various academic journals.

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Appendix 1(a). Towards a reflective dialogue

The dialogues aim to:

- Reveal your own personal knowledge and theories about active learning.
- Highlight the assumptions you make in your thinking and teaching.
- Help you critique your thinking and practice.
- Provide a model of reflective practice.
- Enable you to develop expertise in using them to scaffold and extend the process of reflection in and on learning and teaching practices.
- Encourage you to think reflectively about active learning.
- Generate a model of effective pedagogical practices in relation to active learning. Source: Powell (2004)

On page 14 there is a framework for reflection that will be used in the reflective dialogue. The intention is that you will direct the focus of questioning about the lesson on video. The researcher will support you in this, and draw attention to further questions or themes that may be applicable. The themes are as follows:

Intentions and purposes

The object here is to explore your intentions and goals in order to review what they are based on. What are your criteria for effectiveness? It is important to recognize that change is a personal process influenced by your previous experience, current school and classroom.

Self-awareness

The object here is to bring your attention to yourself in the moment of teaching. What do you sense about yourself—physical feelings, emotions, thinking and attitudes-in-action.

Practical reflection

Educational ends and means are viewed in terms of the value commitments underlying them. The aim here is to explain and clarify the assumptions and predispositions underlying teachers' practice. Practical reflection seeks out alternative assumptions, claims, perspectives as well as solutions and weighs competing practices.

Technical reflection

This involves identifying the educational basis for intentions and providing reasons for action. It aims to assess the effectiveness of practice used to attain defined educational goals.

Perceptual awareness

The object here is to help you focus on perceptions, not your thinking. Where is the focus of your attention/ What is noticed from the video that was unnoticed in action? What additional foci might be developed 'live'?

Critical reflection

Both the ends and the means of teaching, and its context, are seen as value governed selections from a range of possibilities. Critical reflection aims to question and critique the goals and practices of the profession; to raise awareness of the impact of unsurfaced professional aims and ideology and take account of social, cultural and political forces in teachers' practice. Based on the desired and potential outcomes for pupils and other stakeholders, critical reflection questions the ethical and moral justification for educational ends and means.

Source: Moyles et al. (2003).

Appendix 1(b). The reflective framework

The following framework sets out a range of possible questions which may be appropriate to specific selections from the video.

Intentions and purposes

- What were your intentions/aims/purposes in using this strategy?
- How far were you successful in this?
- How did you come to this view?
- What did you expect learners' response to be?
- How/why was it different?
- What does this tell you?
- On what basis were your purposes formed?
- Did the context (school policy/time of year etc influence your purposes?

Self-awareness

- What were you thinking in this moment?
- What were you feeling in this moment?
- What are the roots of this feeling?
- What did you learn from viewing yourself?

Practical reflection

- What assumptions are you making about teaching and learning?
- What are these assumptions based on? Personal experience, teacher training, other professionals, school/professional culture, research evidence?
- What alternative actions/solutions/views might be appropriate?
- How might you decide what is appropriate to you situation?
- What source of new/alternative knowledge/ information might useful?
- What values are represented in the teaching?
- What other values might be applicable to the teaching?
- What does being professional mean to you?

Technical reflection

- What were you dong/aiming for here?
- How did you decide what outcomes were appropriate?
- Why did you choose this strategy/subject matter?
- What evidence/information did you base this choice on?
- Can you break down what you were doing into different elements?
- How might different/individual children perceive/respond differently to the strategy?
- How did your prior experience of the class influence your actions/thinking?
- How might your actions be improved
- What kind of learning was promoted? How do you know that?

Perceptual awareness

- What were you aware of in the classroom at this moment?
- Where was your attention focused?
- What did you notice now that you weren't aware of during the lesson?
- What alternative foci might there be?

Critical reflection

- What ethical/moral choices have been made here?
- What alternative moral/ethical positions are there?
- What wider historical, socio-political, cultural forces/constraints apply here interpersonal, classroom, school?
- How are pupils affected by your actions beyond the classroom/in subtle ways.
- What covert messages might be conveyed?
- Does the practice offer equality of opportunity? Is it just? Judged by what criteria?

Source: Moyles et al. (2003).

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