Title: Accomplishing Dialogic Change in Primary Classrooms through Critical Participatory Action Research

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Abstract
This article focuses on the interactional accomplishment of dialogic pedagogical change among primary teachers and their students. It is well documented that classroom talk and interaction is dominated by the prevalence of teacher management and mediation of turns at talk in lessons; and furthermore, changing enduring resistant patterns of classroom talk is a complex undertaking. This article presents findings from an eight-month critical participatory action research (CPAR) whereby 12 teachers from 10 Australian schools were supported to investigate the taken-for-grantedness and intricacies of classroom talk and to change their patterns of interaction in response to their particular students. Participants examined their own talk and interaction practices as a foundation from which to build their own CPAR projects. Thematic analysis of video-recorded lessons, teacher reflection journals and interviews provide insight into accomplishing pedagogical change, and highlight the attribution participants gave to their participation in CPAR as pivotal for developing interactive change.

Keywords: action research, classroom talk, dialogic pedagogies, professional learning, talk moves
Introduction
The focus on classroom talk as pedagogical practice is longstanding. Examining its patterns, features and influences has been central to the work of scholars interested in understanding language, linguistics and learning in classrooms as social contexts. Scholarship in the field has well documented the ways that much classroom talk and interaction between teachers and students is not only patterned but dominated by the prevalence of teacher controlled turns. In fact, it is well established that teacher management and mediation of turns at talk is well entrenched in the day-to-day enactment of lesson talk and interaction. Changing the patterns, features and influences of talk and interaction in classrooms has also been the subject of considerable international study. This is particularly so in research designed to shift the dominance of teacher-led talk towards a more dialogic approach to instruction that creates for students more opportunities (turns) for talk. These two broad fields – examining and understanding and changing classroom talk and interaction practices – are the fundamental ideas featured in this article.

Broadly speaking, examining, understanding and changing the nature and influence of dialogue on learning in classroom lessons is not new. It has long been the focus of decades of intense research across the globe as evidenced in Howe and Abedin's (2013) comprehensive review of 40 years of research conducted on classroom dialogue. Earlier work by James Britton (1970), Douglas Barnes (1976), and Gordon Wells (1981) for instance, established strong foundations for decades of influential research investigating the nature and role of talk for learning (for example, Alexander, 2008; Baker, 1991; Bakhtin, 1981; Barnes, Britton & Torbe, 1986; Cazden, 1988; Edwards & Westgate, 1987; Heap, 1991; Freiberg & Freebody, 1995; Sinclair & Coulthard, 1975; Wells, 1981). Collectively, this body of work (among a growing field) forms a strong rationale for provoking pedagogical, and so interactive, change. The interest in changing what has been described as the default, and in many ways, resistant patterns of classroom talk has been instrumental in a movement towards dialogic approaches to teaching and learning (Skidmore, 2006). With a movement away from teacher dominated talk, relinquishing teacher management and control of classroom turn-taking forms what has been described as “the dialogic turn in pedagogy” (Edwards-Groves, Anstey & Bull, 2014, p. iii). Dialogic pedagogies (or its variants) have been argued to loosen the stronghold of teacher’s turns that typically monopolise the conduct of classroom discussions.

It has been suggested that a hallmark of dialogic pedagogies is its capacity for opening up classroom exchanges to enable students more time and more substantive opportunities for engaging in productive, academically enriched talk (Michaels, O’Connor & Resnick, 2008). Dialogic talk in lessons is talk that prioritises deepening students’ understandings as they think about, enact (‘go public’) and evaluate meanings taken from classroom talk, tasks and texts (Edwards-Groves et al., 2014). More fully developed pedagogical dialogues not only assist student’s thinking and learning (Mercer & Littleton, 2007), but are pivotal for developing students’ oral language and literacy (Alexander, 2008; Barnes, 1976, 2010; Britton, 1970) through more robust, participatory classroom discussions (Anderson, Chapin & O’Connor, 2011). Understanding, then changing, classroom talk and interaction formed the central premise of the study presented in this article. Building on the extensive body of
literature in the field, the broad rationale for the project presented in this article asserts that effective dialogic pedagogies can improve teachers’ ability to teach responsively and students’ ability to use language more flexibly, productively and purposefully in their learning (Edwards-Groves, 2014).

The Study

The article specifically focuses on the interactional accomplishment of dialogic pedagogical change among primary teachers. It draws on findings from an eight-month critical participatory action research (CPAR) (Kemmis, McTaggart & Nixon, 2014) where 12 primary school teachers from New South Wales (NSW), Australia, were supported to investigate the taken-for-grantedness and intricacies of classroom talk in order to change their patterns of interaction in their own classroom settings in response to the particular students and circumstances in their school communities. Classrooms were located in schools that varied from small rural schools, larger regional schools to low SES metropolitan schools where the school populations mainly included students from Australian Aboriginal, refugee and migrant backgrounds; many students were English as Additional Language Learners (EALL). In these classrooms, where linguistically diverse students were expected to develop oral language and interactional competence, the teacher dominated the talk. Thus, the study had two central aims:

- to assist teacher participants to examine their own interaction practices as a springboard for understanding and changing classroom talk and interaction,
- to develop dialogic pedagogies that support students’ participation in primary school lessons in ways that develop oral language (through extended talk and interaction) and reflect shared knowledge-building, clarity of talk and a high degree of intellectual focus.

To address these research aims, the research investigated how changes in classroom teacher’s interaction practices may lead to improved opportunities and experiences of student’s oral language in literacy lessons. The overall study was guided by the following overarching questions and related sub-questions:

1. What changes in teacher practices enable the development of dialogic pedagogies?
   - How do these changes come about?
     i. What particular “talk moves” produce academically enriched teaching and learning?
     ii. How does varying the IRF exchange bring about productive talk-in-interaction?
     iii. In what ways can dialogic pedagogies improve the capacity of all learners to develop their oral language and literacy?

As a starting point, we argue that for teachers to make a shift towards a dialogic stance, there first requires an understanding of the nature and influence of classroom talk and turn-taking patterns at play in their own lessons. Therefore, in this study, teacher participants began their
action research by examining their own talk and interaction practices as a foundation from which to design their own action research projects that focused on developing more dialogic approaches to pedagogical practice. This aspect of change is the main focus of this article; but first we present a brief, and necessarily abridged account of some relevant literature.

**Understanding classroom talk and interaction as patterned and default: a rationale for pedagogical change**

Talk as a central resource for teaching and learning has come under close scrutiny since the 1970s by sociologists and sociolinguists interested in understanding the distinctive relationship between teachers and students’ interactions in classroom conversations. Talk in lessons functions to induct students into ways of displaying meanings by bringing into view declared agendas and the production of lessons; other things, such as the teacher’s program, the curriculum or lesson intentions exist as adjuncts to actual enactment of the ‘lesson’. As Freebody asserts, “it is through communication that the social order in which educational activities take place is itself displayed, and thereby given structure and significance” (2003, p.91). From this, a central premise of the study presented in this article is that pedagogy is the social construction of mutually produced courses of action (Heap, 1991); and thus, much of the burden of pedagogical work is carried by the spoken word encountered in and through interactions between classroom participants.

Our focus on talk and interaction sits within an extensive research field in education. As Freebody (2003) states a central purpose of educational research is to study:

“how education is ‘done’, brought off collectively, collaboratively and recognisable by the members of a culture, with a view to understanding and changing practices. It is in the interaction in which people are engaged educationally – modelling, watching, chatting, lecturing, listening, accessing, reading and writing textbooks, websites and all the rest – that make up our prime sense of what education is, and thus that comprise our objects of study.” (p.91)

Therefore, it is necessary to consider the interactional conditions students experience as they participate in lessons. As they participate through listening and talking, students learn what it is necessary to know, do and say in that area of social life (Edwards & Westgate, 1987, p. 12). At the same time, they learn the production of it, which means making ‘visible’ the curriculum in both its ‘manifest’ and its ‘hidden’ forms (Hargreaves, 1978, cited in Edwards & Westgate, 1987). These notions form essential foundations for examining, understanding, and then changing the social exchanges between teachers and students in lessons.

**The IRF**

It is well established that student learning is comprehensively and unrelievably influenced by the talk and interaction patterns at play in the sequential flow of teacher-student exchanges in lessons. Seminal research by Sinclair and Coulthard (1975) and Mehan (1979) closely examining classroom talk sequences between teachers and students led to the identification of a tri-part turn structure or commonly referred to as the Initiation-Response-Feedback
structure (IRF) (Sinclair & Coulthard, 1975), or later the Initiation-Response-Evaluation (IRE) (Mehan, 1979). The IRF is an enduring turn structure where teachers initiate the topic of talk generally through a question (I), a student or chorus of students respond in one way or another (R), and the teacher evaluates (E) or provides feedback (F) to the response. As Cazden (1988) showed, the teacher is typically the one who controls who gets a turn to talk, the development of the topic and what counts as relevant to it (p. 30). Also described as the essential teaching exchange (Edwards & Westgate, 1987) or the recitation pattern (Cazden, 1988), its impetus for decades of research into the efficacy of instruction has been significant.

The IRF, among other teacher talk moves (Sinclair & Coulthard, 1975) such as pseudo-questioning, preformulating and reformulating (French & MacLure, 1981), appear as dominating patterns that directly influence how turns are distributed, organised and managed in instructional talk. Preformulating and reformulating practices, for instance, function to control, monitor and repair student responses and to scaffold the learners to ‘get the right answer’ (French & MacLure 1981). These practices, described as a more monologic or teacher directed, have been found to limit the opportunities and scope for students to talk in extended, substantive ways. Wells (2009) claims the IRF, as it is traditionally enacted, overrides students’ natural pre-dispositions to talk and interact, and at the same time undervalues the contributions that students can make towards their learning and the learning of others (p. 310).

Counter to monologic approaches to instruction, dialogic pedagogies - characterised as more participatory approaches to teaching - have been the subject of considerable research (e.g. Alexander, 2008; Mercer & Littleton, 2007). Positioned within the broad body of social theory, dialogic instruction has emerged as a response to calls for pedagogies that focus on building talk among students in classrooms as approaches that support student participation, motivation and active learning.

**Dialogic pedagogies**

Dialogue as a pedagogical resource has been described and conceptualised among researchers across the world for well over four decades (e.g. Barnes, 1976; Britton, 1970; Cazden, 1972). Dialogic approaches to teaching and learning have been variously defined as:

1. **Dialogic instruction**, (is) characterized by the teacher’s uptake of student ideas, authentic questions and the opportunity for students to modify the topic (Nystrand, 1997);
2. **Dialogic inquiry**, stresses the potential of collaborative group work and peer assistance to promote mutually responsive learning in the zone of proximal development (Wells, 1999);
3. **Dialogical pedagogy**, whereby students are invited to retell stories in their own words, using paraphrase, speculation and counter-fictional utterances (Skidmore, 2000); and
Although these portrayals of dialogic talk bring to the surface nuanced understandings and foci, they have been regarded as being very similar (Muhonen, Rasku-Puttonen, Pakarinen, Poikkeus & Lerkkanen, 2016) in that their fundamental interest lays in the strategic interactive moves the teacher makes to more overtly bring students into classroom learning conversations. In this, their intrinsic goals are participation, clarity and engagement in academically productive and intellectual learning conversations.

Dialogic pedagogies “also reinforce the value of classroom talk which encourages students to assume control, initiate and challenge ideas and contribute to shaping the verbal agenda” (Newman, 2016, p. 108). The shift towards student participation and engagement through dialogues is argued to form cursors for classroom discussions richly imbued with academically productive talk (Chapin, O’Connor & Anderson, 2009) or accountable talk (Michaels, O’Connor & Resnick, 2007) whereby students share in the responsibility for their learning (Edwards-Groves & Davidson, in press).

**Changing talk and interaction practices: the problem**

In classrooms where a key curriculum goal is to support students develop their oral language and interaction capacities, it is well documented that teachers (still) do most of the talking. Even after decades of research have exulted the virtues and value of more dialogic approaches to student learning, it seems there has been a limited impact on pedagogical practices (Nystrand, 2006; Reznitskaya, 2012). In an attempt to capture and secure interactive change, Alexander’s (2008) prominent North Yorkshire project studying talk in thirty-four primary classrooms in showed that it was possible for teachers to develop more dialogic talk. His conclusions made the case not for a focus on teaching ‘speaking and listening’ per se as reported in curriculum documents and policies, “but for a distinctive pedagogical approach called dialogic teaching which reaches across the entire curriculum” (Alexander, 2004, p. 9). This was exemplified in his findings characterising more dialogic approaches to classroom talk, whereby:

i. pupils [were] building upon one another’s ideas, considering a point in an extended way rather than pursuing a rotation of questions around the class;

ii. pupils [were] listening more carefully, “talking collectively to a common end rather than at or past each other”;

iii. [there was] greater involvement of less able pupils, attributed in part to a reduction in competitive bidding for turns;

iv. pupils [were] demonstrating greater confidence with oral pedagogy, speaking more clearly and readily, offering more detailed explanations and justifying their views; and

v. reading and writing of all children [were] “benefitting from the greater emphasis on talk” (Alexander, 2008, p. 46).

However, even with the persistent focus on classroom talk, it seems the possibilities for, and sustainability of, interactive change remain debatable. Nystrand (2006), a notable scholar in the field of dialogic pedagogies, claims however that classroom talk and interaction practices have “have remained remarkably unchanged over the last century and a half” (p. 394). In fact, as Skidmore suggests that a central barrier to change is unsettling the dominance of the IRF
as the default ever-present pattern of classroom talk, suggesting it is “the groove into which classroom pedagogy so easily settles by default” (Skidmore, 2006, p. 511), unless deliberate moves are made by teachers to achieve more dialogic talk practices (Edwards-Groves et al., 2014). Reznitskaya (2012) argues that there has been little change in classroom talk practices because:

- i) teachers do not have many opportunities to study them “systematically” and “deliberately”, and
- ii) for effective change teachers need to examine their own practices, find the limits and bring about change, and “continually question their conceptions of effective pedagogy” (pp. 454-455).

In response to Reznitskaya’s reasoning, the research presented in this article was designed to provide participating teachers with supported opportunities to examine, understand and change their talk and interaction practices through processes of critical participatory action research, described next.

**Context of the study: design, conduct and analysis**

Teachers and students from 12 classrooms in 10 primary schools in two diverse geographic and demographic sites located in New South Wales, Australia, participated in the study. Regions involved both suburban/city and rural/regional contexts. Teachers were nominated by system personnel based on their recognised experience, knowledge and interest in literacy and the efficacy of classroom pedagogy. Teacher participants ranged in age (from 23 to 45 year of age) and teaching experience (from 2 to 26 years); and classes spanned the primary school spectrum (from Kindergarten, the first formal year of schooling, to Year 6) forming a comprehensive coverage of primary education stages of learning. Permission to participate was sought from the relevant university ethics committees in addition to school-sector jurisdictions and principals from each school; informed consent was sought and obtained from participating teachers along with the parents and students from the particular classrooms.

Critical participatory action research (CPAR) was used. CPAR is a qualitative approach that follows a long philosophical tradition of educational research with its roots in the “practitioner-as-researcher” movement (Carr & Kemmis, 1986). Underpinning this position is that action research, and its constituent methods, is not simply a technical endeavour but a social, practical and ontological one, distinguished here by Kemmis, McTaggart and Nixon:

“[it is a practice that involves] the recognition of the capacity of people living and working in particular settings to participate actively in all aspects of the research process and the research conducted by participants is oriented to making improvements in practices and their settings by the participants themselves” (2014, p. 4).

In this vein, to build their action research projects, teachers participated in a range of research activities which began with identifying their own theories-of-action as related to their knowledge, experiences and sites. Research activities assisted teachers design their focus in relation to their site. Teachers participated an introductory seminar, two spaced teacher
dialogue conferences, researcher visits and local interim support meetings where possible. A lesson and final interview were video-recorded in each teacher’s classroom at the end of the external data gathering phase.

At the Introductory Seminar participants were introduced to the project, to the processes of action research, to data gathering and analysis, and to the nature and role of classroom talk through the presentation of relevant background information. At this meeting, communication procedures, ethics, information sharing and participant data gathering protocols were introduced and set up; informed consent forms signed. The concept of teacher talk moves (Chapin, O’Connor & Anderson, 2009; Edwards-Groves, 2014; Sinclair & Coulthard, 1975) was introduced through examining transcripts examples. Specifically, this included examining lesson transcripts and videos whereby different turns at talk moved the exchange sequences beyond the recitation script, the IRF, in exchange structures that created opportunities for students to:

1. extend their turns
2. sustain and deepen their line of thought
3. support responses with reasons and evidence
4. extend, build on, elaborate and develop their points further
5. respond to the thinking of others by agreeing and disagreeing
6. introduce and explore alternative ideas, opinions and viewpoints
7. ask questions of the teacher and other students
8. probe others for clarification or further information
9. challenge the thinking of others
10. generate further questions to sustain a topic or idea
11. reflect on, summarise and review the talk. (adapted from Edwards-Groves, Anstey & Bull, 2014, pp. 88-96)

To understand these talk moves, in relation to their own lessons and transcripts, participants were subsequently supported through two Teacher Dialogue Conferences, researcher visits and ongoing visits from in-school support teams or, in some cases, school-based supervisors. These research activities were designed for teachers to share, present and critique developing insights, key learnings and challenges experienced with the development of their own and other participant’s particular projects.

Independently, teachers engaged in other research activities including preliminary video-recording and transcribing their own lessons, professional reading, written reflections, and further ongoing recording, transcribing and critiquing their own lessons. Each of these research activities formed the critical, participatory and active nature of the teacher learning experiences that assisted teacher participants to develop and refine their projects and teaching practices connected to the overall focus of enacting dialogic pedagogies. Data were generated from each of these teacher research activities. All recorded material was transcribed for analysis and detailed thematic analyses were conducted.

Thematic analysis
The intent was to develop a ‘thick’ description of the data collected for the project by the two co-investigators and through the individual work of practitioner researchers. The main form of analysis in the project was thematic analysis as outlined by Braun and Clarke (2006) who suggest a six-phase process, including:

- Familiarising yourself with your data
- Generating initial codes
- Searching for themes
- Reviewing themes
- Defining and naming themes
- Producing the report, (Braun & Clarke, 2006, pp. 16-23).

Thematic analysis of transcribed data from recorded interviews, classroom lessons, teacher dialogue conferences and researcher visits was an intensive process. It began with an extensive immersion in the data and the development of numerous transcripts of video- and audio-recordings, to be coded along with transcripts provided by teachers over the course of their individual projects. Initial coding was conducted, using nVivo to facilitate the process. This generated an initial set of 46 categories. Codes were refined during the process of searching for themes. Some codes were collapsed into others. At this stage, both investigators reviewed coded data to reach agreement on individual coded items. Four broad themes were generated and refined:

- Teacher learning about talk and interaction through action research,
- Developing a repertoire of teacher talk moves,
- Accomplishing student-student talk in classrooms,
- Dialogic pedagogies for literacy learning

Each final theme consisted of a number of sub-themes. The identification of themes enabled clear descriptions to be written for each and selection of data to best illustrate themes/sub-themes. The detailed analysis at this point encompassed written accounts of all sub-themes and connecting those together within the over-arching themes. Findings related to the first theme are presented and discussed in this paper.

**Findings and discussion**

The teacher-designed projects addressed a number of issues concerning the teaching and learning of English including: oral vocabulary for enriching writing, active listening, improving reasoning and producing evidentiary talk. These individual projects led to teachers and students developing a repertoire of talk moves that produced different kinds of classroom talk and interaction in relation to their topic. Thematic analysis revealed four key findings related to theme one - *teacher learning about talk and interaction through action research*. Discussion points are supported with brief transcript excerpts drawn from the corpus; these are provided as explanatory material. Note: pseudonyms are used throughout.
1. Teacher learning about classroom talk and their articulation of it showed how critical participatory action research, and its methods, made the taken-for-grantedness of classroom talk visible to them.

It was found that classroom talk and interaction can be changed under particular conditions afforded by critical participatory action research. Teacher accounts clearly identified that the action research approaches to teacher learning and development were essential for illuminating, and consequently changing, classroom talk and interaction practices. Examination of teacher reflections and transcripts of teacher dialogue conferences, researcher visits and interviews revealed that for participating teachers, the taken-for-grantedness of talk and classroom interaction was illuminated at a fundamental level by turning the focus of critique back on themselves and their own talk and interaction practices. That is, that participating in the study, and the research activities that constituted it, was considered significant for revealing, then changing, teacher’s default talk and interaction practices.

Findings suggest, however, that even for experienced, knowledgeable teachers, talk and interaction and its role in classroom teaching and learning will remain hidden, under-theorised and taken-for-granted unless processes for illuminating it are inaugurated. This is a point recognised in the teacher (with 11 years’ experience) comment below:

Yeah, so to start my project, I was, um, really confident. I knew these kids that I was teaching really well. I’ve taught them before. And I’ve always found them to be really strong communicators. I felt like they were great participants in class discussion, and so going in I actually felt like I would just be adding a little bit here and there, in student’s discussion techniques and strategies. But after a little while though I did realise there was a lot more for me to learn and implement than I originally thought. (Harriet, Year 5 teacher, interview)

As with a number of other experienced teachers in the study, the next teacher (with 14 years’ experience) highlighted in her final interview that it was still “early days” for her. That is, she still needed to work on using her questioning in order to probe for sustaining the thinking during classroom talk.

So, I’ve had to try and really be mindful, to step back, give them the time, and then I obviously learn more about the child and what they know if I do probe deeper and say, “How do you know?”’, “Why?”’, “Can you give me an example?”’. So, I’m trying to get better at doing that and that’s probably the biggest change I’ve made to my teaching since starting the project. I’m trying to give more time to respond and find out more about how they know. (Maree, Year 3 Teacher, interview)

The teacher’s comments here highlight that incorporating particular talk moves was a big change for her. The teacher goes further to articulate that accompanying her use of probing questions is the need to give students “more time to respond”. This data suggests that making changes in talk regardless of teaching experience was found to be a challenging process – not an automatic action of simply selecting a talk move and using it, for example.
A key finding was the value teachers placed on designing and developing their own projects and that they attributed this feature to the extent to which they changed their talk and interaction theories and practices. It was found that because participating teachers built their own projects based on initially identifying their personal theories-of-action, individuals were able to develop tailored research projects in ways that reflected their distinctive professional knowledge and experience and responded to the unique conditions and circumstances of their students, school, community and system change (for them) was possible.

This teacher-centred researching practice was a contrast, or even counter, to the more typical previously experienced professional development delivered in pre-packed or pre-scribed modes. Although it was found that at the beginning this was the most challenging part participation for some teachers, these same teachers acknowledged in the final interviews that working through the processes from the ground up was critical for developing ‘deep’ knowledge and essential for long term sustainable change. This challenge was recognised by Wendy (17 years’ experience) below:

> And do you know, at the time, yes it was hard. I just wanted to know. I wanted the outline, I wanted to know what I was working towards. In hindsight, no, because it was the struggle that helped the process. It helped me redefine where I was going, what I was trying- what personally I was trying to achieve for me as a teacher and as, you know, and for my students. So, hindsight, no, it was better to let us go through but at the start I would, I would have liked a framework or something to, you know, I felt that’s what I needed to get me through it. (Wendy, Kindergarten teacher, interview)

This study maintained a focus on teacher’s developing their own theories-of-action and modifying or refining these theories (and associated practices) over time. Through the use of action research, teachers developed projects that arose from, and responded to their own contexts. As identified by the participants, this was both challenging but, eventually, rewarding.

Comments in interviews conducted at the end of the project suggest teachers’ awareness of the importance of responding to their own situations through understanding the needs and potential of their own students. This formed a premise upon which they were able to change their own talk in lessons in ways that promoted greater opportunities for extending students’ talk.

> There, there were certainly times throughout this project where I got to a certain point and I thought, “I wish I’d, somebody could just tell me what to do. Tell me what the next step is”. But, that, that wasn’t the case, I couldn’t, because it was all about turning a mirror on myself as a professional and looking at my own practice and redefining what my own understandings were. And so, the nature of this action
Participant quotes articulate one way that teachers might learn about and implement something new – through the use of more specific steps or programmed ways to do it. Being told how to “do it” was an option that some teachers articulated at times. However, more notably, teachers, like Nicholas, Stella and Paula (below) recognised the critical role that designing their own projects had for their teaching practices.

Had I had a list of things that I had to do and try and report back on, I think – in all honesty-I probably would have not implemented them the way that somebody had told me to implement them anyway. Or, I would have implemented them and reported back what I thought that they wanted to hear about that. But because it, it was a truly honest process with myself, and because I have identified myself the area of my teaching that I wanted to examine, and really wanted change my understanding, I have that ownership over it myself … it came back down to me and my decisions for my students and I think, having that ownership over what you do for your own students, you know them the best and what direction you need to take them in, I think is the most powerful thing. (Nicholas, Kindergarten Teacher, interview)

And, when it’s authentic and organic in that particular way, I think that, that’s when we get the greatest impact on our teaching. (Stella, Kindergarten Teacher, interview)

I don’t think I’ll ever finish um doing my action research I might still be sending you guys reflections um next year. (Paula, Year 1/2 teacher, interview)

Generally, therefore, it was found that to change talk and interaction practices in classrooms, there was a need for teachers to change the particular practice architectures (Kemmis et al., 2014) that influenced doing talk and interaction differently. That meant changing the conditions of both their teaching and their professional learning.

3. Teacher-produced recordings and transcriptions were integral to individual’s identifying and changing particular features of their classroom talk and interaction.

Without exception, teachers particularly attributed their initial recognition about the nature and role of classroom talk – in particular the prevalence of the IRF in their own teaching– to recording and transcribing their own lessons. This activity emerged singularly, as pivotal for initiating changes to the features of talk and interaction practices and generated the impetus, and focus, for the individual teacher-designed projects.

It emerged that each teacher's critique of their own talk was central to their learning and the changes they made. Early in the study, teachers noticed that they were for example: talking too much; overly controlling the direction of talk while espousing that they wanted to hear children's responses to texts; cutting children's talk short because it wasn't relevant to the direction of talk they had predetermined; limiting children's participation to single turns or
words, and; not using talk to enable children’s pursuit of deeper understanding of texts. Some of these teacher learnings are identified here in these next comments:

And when I realised, you know when I transcribed my first interaction for this study, I was thinking, “Oh”, you know”, I looked at it and went, “Yeah, no, I’m talking way too much”. (Maree, Year 3 teacher, interview)

I found out, especially through my earlier recordings that I spoke probably too much. (Marley, Year 2 teacher, interview)

Although teachers in the study were aware of previous research that established the domination of the IRF and teacher talk in classrooms in many classrooms, it was learning this about their own talk that provided a powerful motivator for seeking to change classroom talk. Critique of their own domination of classroom talk, according to the amount of talk they did, was common across the teachers. Further, sharing and critiquing transcripts at the dialogic conferences confirmed for teachers that too much teacher talk was not an individual problem or characteristic of individual teachers; it was shared across teachers in the projects.

I guess for me really the big thing that I noticed was from the transcripts was how many turns teachers take. (Cameron, Kindergarten teacher, interview)

It was evident that for our teacher participants, the recordings and transcripts emerged as a central method in the research process for enabling teacher learning about the details of classroom talk and interaction; explained here by Gaby:

I wouldn’t have noticed a lot of my teaching practice had I not had taken the time to do recordings, to do transcripts, and to really focus in on what I was doing as a teacher, um, to facilitate this classroom talk. (Gaby, Year 3 teacher, interview)

Reflecting on recordings and transcripts was not limited to teacher noticings about their own talk. Transcripts provided teachers with documented evidence of student talk in their lessons. Teachers also commented on: domination of talk by some students, some students not saying anything or being unable to get into conversations, persistent and unacknowledged attempts to talk to the teacher, and, eventually, evidence that students’ talk in the classroom was changing as the study progressed.

Subsequent recordings and transcriptions provided teachers with data for refining and further developing their own practices over the course of the study. Furthermore, as a result of critiquing lesson videos and transcriptions with others, teachers identified that pedagogy itself (regardless of the lesson topic or content) was about the talk and interaction between students, and between students and teachers.

4. Through systematic practice, teachers can develop a flexible repertoire of talk moves responsive to their local classroom conditions.

It was found that taking time to practice new interactional routines was critical for the development of a repertoire of talk moves if these were to be drawn upon in more flexible
and responsive ways in the conduct of lessons. This is a feature of teacher learning recognised in these teacher’s comments:

Alright, so I’ve been able to, so by participating, by participating in the project and working with the small group of children, I’ve been able to practice talk moves and I guess the next step for me is how I’m going to transfer that into the classroom into my everyday teaching, not just in that small group, that small groups just given me a chance, I guess, to practice those talk moves, but then what does that look like in the classroom? (Eliza, Year 3 teacher, interview)

If there’s a moment where students, I feel like they want to tell me more, then I’ll give I’ll allow them to turn and talk so they’ll tell each other rather than telling me. (Paula, Year 1/2 Teacher, Interview)

Talking with teachers about their action research projects, and examination of transcripts of recordings, showed that the process of action research entailed teachers learning about classroom talk and dialogic pedagogies and how these are enacted interactionally through a range of talk moves. Over time, these formed a repertoire that could be drawn upon, sometimes within the same lesson. In other words, as particular talk moves were practiced for periods of time they then became included in classroom talk in more seamless ways. One teacher described this process.

So with, in regards to using talk moves and how it started – at first, I was quite overwhelmed by the idea of how many talk moves prompts there were, in a particular reading that we read. I didn’t know which ones to start with. So, we picked one and we focused on extending and deepening thinking. And so we would use that. We would have a particular question and then use talk move prompts to guide the conversation. And, I found that a little bit easier because, I guess by doing that I wasn’t too overwhelmed. Then when I felt a little bit more comfortable with one particular talk move, I was then able to add on, you know, develop it more. (Eliza, Year 3 teacher, interview)

As oriented to above, it was identified in the accounts of teachers and in lesson observations that to develop a repertoire of talk moves, teachers went through an initial more technical or deliberative phase where they, for example, systematically relied on particular statements or question stems as they were learning to do it. It was apparent that this phase was followed by transference across phases within literacy lessons as students and the teacher moved in and between classroom groupings (from paired, small group, or whole class arrangements) and also across subjects. This is a point captured in above by Eliza, and next in Sammie’s comments:

I’ve seen how powerful using talk moves are, um, in the classroom. And, I’ll definitely continue doing exactly what I’ve been doing with, um, the use of ICT and questioning and probing questioning. And it’s actually something that I’d like to extend into other areas of my teaching, and I have started to. (Sammie, Yr 6 teacher, interview)
From observing lessons over the period of the study, it seemed that the action research process provided time for systematic practice that led to particular talk moves becoming more routine (for them). These became more flexible in their utility in lessons as teachers developed, varied, differentiated and adapted particular talk moves to respond to the ontological conditions in their sites. Development, variation, differentiation and adaptation, as oriented to by the teacher participants, suggests transformation. Transformative practice was illustrated in comments made by teachers who became more discerning in the purposive selection of particular talk moves depending on the particular lessons or on particular groups of students. There was evidence that in some cases, particular talk moves were differentiated to respond to the interactive requirements of particular students.

Taken together, teacher accounts revealed that the close and systematic examination of their own lessons enabled them to develop a meta-awareness of how classroom talk, in the context of its sequences of turns (in interactions), is mutually produced interactive courses-of-action. Teachers began to recognise and articulate the consequences of how particular turns - and indeed talk moves - influenced subsequent turns and they showed it in their lessons.

**Limitations of the study**

In the conduct of this study some limitations emerged. First, that since this study was a critical participatory action research, it relied on teachers making identifiable changes within the restricted timeframe of the study; that is, within the eight-month period that included a six week Christmas school holiday break. This meant that for some teachers there was a need to rethink and adjust their project focus ‘on the run’ because they had a new grade level in the subsequent year. In reality, for the teachers the study was only conducted over five months (or two terms of schooling). The limited timeframe of the research itself restricted the data that could be collected at the ‘end’ of the study, even though all participants recognised that it was not at the end of their learning and change or their action research. Second, participants identified that their school-based supervisors who were supporting them needed to ‘be more knowledgeable about classroom talk and interaction and its influence on language and literacy development’. Third, the sample size was relatively small.

**Implications**

Results and findings of this study have important implications for theory and methods for supporting teacher development through action research and for developing dialogic teaching practices. Each of these will be treated in order. There are two broad theoretical implications. First, results contribute to the body of literature theorising dialogic pedagogies by suggesting that dialogic pedagogies is not simply about talk and the particular talk moves that teachers make, but that it is about i) talk and interaction, and ii) the talk moves that students make.

Results have strong implications for teacher education practices in two distinct realms: i) teacher professional learning and development; and ii) pre-service teacher education. First, teacher professional learning about classroom talk and interaction and dialogic pedagogies requires site-based approaches, like CPAR and its methods, which provide teachers opportunities to design and build their own profession learning projects. With time and guided expertise dedicated to supporting teachers to recognise, practice and critique talk and
interaction practices in their classroom lessons, teachers can reconceptualise talk and interaction as pedagogical practice. This implies the need for the development of a distinctive professional meta-language for describing, discussing and critiquing talk and interaction and the repertoire of talk moves required for teaching in a dialogic classroom.

Second, there are implications for explicit teaching about dialogic pedagogies in teacher education courses. Findings strongly suggest that to develop a dialogic stance in teaching, forming alternatives to the default IRF pattern of talk that prevails in classrooms is required. This necessitates the design of programs that enable pre-service teachers to explicitly learn about, practice and critique talk and interaction in lessons, both theirs and the lessons of others, which will be formational for their career as a teacher. An implication of this is that re-designing pre-service courses to account for and prioritise the development of individual interactional capacities, metalanguage and knowledge about the nature of role of dialogue in lessons is both necessary and critical for the beginning of the teaching career (Edwards-Groves 2014). This focus may make it be possible for the talk and interaction practices of future generations of teachers to flexibly enact a variety of interactive talk moves as productive pedagogical resources.

Conclusions
This study broadly focused on understanding and developing what is often a taken-for-granted aspect of pedagogical practice - quality classroom talk, oral language and dialogic pedagogies. In this study, through the process of CPAR, we have documented teachers’ employment of particular talk moves in lessons so as to change talk in their own classrooms. Analysis established that teachers can learn to use talk moves that are new to them, although it takes time, practice and expert support.

Overall, the findings raise interesting possibilities for how the field might think further about some aspects of supporting teachers to change their talk and interaction practices in ways that are more dialogic. In light of the serious lack of change in classroom talk and interaction over many years, findings from this study are important for understanding ways to accomplish more sustainable change in classroom talk that shift it away from the default, more sedimented IRF. We argue this is because of its CPAR approach to professional learning. Differing from Alexander’s findings, teachers in this study were supported to build understandings through individually designed projects that responded to their unique site and circumstances. Recording, transcribing and analysing their own lessons formed an enabling condition of the approach to this study reported in this article.

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