

## Practice, Role and Position: Whole Class Patterns of Participation\*

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### Abstract

*By examining classroom practice over sequences of ten lessons, the Learner's Perspective Study provides data on the teacher's and learners' participation in the co-construction of the possible forms of participation through which classroom practice is constituted. The use of post-lesson video-stimulated interviews offers additional insight into participants' intentions, actions and interpretations. This paper first postulates the existence of co-constructed whole class patterns of participation and then documents one such pattern of participation: Kikan-Shido (walking between desks), both as it is enacted and as it is perceived by the classroom participants. In the course of detailing the use of Kikan-Shido in three Australian classrooms, this paper addresses the relationship between practice, participation and learning, and draws a distinction between Kikan-Shido as an internationally-recognisable whole class practice, having a certain visible form, and kikan-shido as a locally-enacted pattern of participation to which teacher and students subscribe and which teacher and student have agency to exploit and to shape.*

### INTRODUCTION

Eugene Ionescu is reputed to have said, "Only the ephemeral is of lasting value." Social interactions are nothing if not ephemeral and, since it is through social interaction that we experience the world, the understanding of social interactions must underlie any attempts to improve the human condition. Our difficulties in characterizing social interactions for the purpose of theory building are compounded by the fluid and transient nature of the phenomena we seek to describe. Attempts to categorise social behaviour run the risk of sacrificing the dynamism, contextual-dependence and variation that constitute their essential attributes. This poses a challenge both for methodology and for theory. The ephemeral nature of social interactions is something that must be honoured in the methodology but transcended in the analysis.

The juxtaposition, in this paper, of participation, position, role and practice reflects a perceived gradation in the constructs that might be used to model the fluidity of social interaction. Barnes (2003) has usefully drawn on the work of Harré, Davies and others (eg Davies & Harré, 1991) to distinguish position from role: Where *role* is taken to have an

institutionalised status and to constitute a more lasting categorization (eg teacher or pupil), while *position* is a social artefact constructed through the interactions of a social group smaller than an institution and less enduring in its membership (eg leader or expert). *Participation* is the social mechanism whereby both positions and roles are enacted and the patterns of participation that provide the focus for this paper are the regularities of *practice* engaged in by a social conglomerate – in this case, a teacher and her/his pupils.

*Practice* also requires explication. Greeno observed that “Methods of instruction are not only instruments for acquiring skills; they also are practices in which students learn to participate” (Greeno, 1997, p. 9). With regard to the learning of mathematics, some classroom practices will resemble those of other communities who habitually make use of skills specific to mathematics (the mathematical activities of accountants or surveyors, for example), and some practices will be classroom-specific in the sense of relating to the process of learning (providing particular forms of explanation, asking particular types of questions when in doubt, seeking and offering assistance, and so on). Greeno also made reference to “patterns of participation” developed by students (Greeno, 1997, p. 9). This is a particularly apt phrase, combining the fluidity of participation in a social setting with the implicit regularity of a pattern. If we are to understand what occurs in social settings, it is the patterns of participation that are likely to offer insight. As will be argued, in considering social interactions in the classroom, the teacher must be considered co-participant with the students in any practices of the classroom community.

Analyses focusing upon the practices evident in a system (or setting) offer our best hope of accommodating the complexity of the phenomena we are interested in, but doing so in a manageable fashion. In this paper, the notion is posited of an individual having constructed a body of practice in which s/he engages regularly and with some consistency, but which is subject to refinement, modification, rejection, and replacement over time. The practice of individuals (a teacher’s practice or a learner’s practice) is distinguished from ‘professional practice’ in the sense of established ‘legal practice’ or ‘medical practice.’ Such individual practice will be a subset of the practices of the various communities of which each individual has membership and will conform to the affordances and constraints of the settings and situations in which those individuals find themselves.

Like Wenger (1998), this analysis of patterns of participation in classroom settings stresses the multiplicity and overlapping character of communities of practice and the role of the individual in contributing to the practice of a community (the class). Clarke (2001) has discussed the acts of interpretive affiliation, whereby the learners align themselves with various communities of practice and construct their participation and ultimately *their* practice through a customizing process in which their inclinations and capabilities are expressed within the constraints and affordances of the social situation and the overlapping communities that compete for the learner’s allegiance and participation. By examining classroom practice over sequences of ten lessons, the Learner’s Perspective Study provides data on the teacher’s and learners’ participation in the co-construction of the possible forms of participation through which classroom practice is constituted (cf. Brousseau, 1986).

But co-construction *of practice* and joint participation *in practice* do not connote commonality of purpose among the participants in that (classroom) practice. To some extent both teacher and student share a common interest in advancing the student's learning, but they are not positioned identically within that purpose (cf. Davies & Harré, 1991), and their classroom participation will both confirm these positionings and co-construct them.

This paper reports the analysis of data from sequences of lessons, supplemented by post-lesson video-stimulated interviews, and uses one particular whole class pattern of participation (*kikan-shido* or walking-between-desks) to illustrate differences between the function of practice, role and position in the context of eighth-grade mathematics classrooms.

## CLASSROOM PRACTICE RECONCEIVED

Previous research, and much of our theorising, has tended to dichotomise teaching and learning as discrete activities sharing a common context. It will be argued below that this dichotomisation is a particularly insidious consequence of the constraints that language (and the English language, in particular) imposes on our theorizing. It is a major premise of this paper that such dichotomisation misrepresents both teaching and learning and the classroom settings in which these most frequently occur. It is appropriate to make some specific points in support of this position. There is no intention to challenge the separate integrity of “teacher” and “learner” as roles; that is, as classifications for individuals engaged in particular practices or discourse modes. Rather, data collection in the project reported in this paper was predicated on the possibility that classrooms are more effectively understood as sites for bodies of mutually-sustaining practice that in combination characterize a group activity that we might call (in English) “teaching/learning”.

Any discussion of learning as a social activity calls inevitably upon the writings of Vygotsky. In this discussion, I want to examine the manner in which any understanding of Vygotsky's theorising must be grounded in an understanding of the language available to him, and the limitations (constraints and affordances) that language places on our theorising about classrooms. In particular, it appears that readers of Vygotsky in English have been denied a richness of meaning present in the original Russian text. Consider the key differences in two published translations of the same passage:

From this point of view, instruction cannot be identified as development, but properly organized instruction will result in the child's intellectual development, will bring into being an entire series of such developmental processes, which were not at all possible without instruction (Vygotsky, 1982, p. 121, as quoted in Hedegaard, 1990, p. 350).

The translation used by Hedegaard is referenced: “Vygotsky, L.S. (1982) Om barnets psykiske udvikling [On the child's psychic development]. Copenhagen: Nyt Nordisk.” In this translation, the juxtaposition of “instruction” and “development” is an uneasy conjunction, although the suggestion that “organized instruction will result in the child's intellectual development” seems transparently appropriate. The passage in this form can be

read as a celebration of the role of instruction in facilitating intellectual development in directions not otherwise possible.

However, in another translation *of the same passage*, but this time in the widely-cited 1978 translation published as *Mind and Society*, we find:

From this point of view, learning is not development; however, properly organized learning results in mental development and sets in motion a variety of developmental processes that would be impossible apart from learning (Vygotsky, 1978, p. 90).

In this translation, the distinction that is being drawn between learning and development takes on special significance, and it appears to the reader that Vygotsky's point is to distinguish intellectual development through maturation from intellectual development in response to the environment (which would include instruction). However, in this translation, the phrase "properly organized learning" need not connote instruction as this is conventionally understood, since "properly organized learning" could conceivably consist of structured occasions for the child to interact with their environment without the mediation of an adult or more competent other but just by immersion in particular environments – as might be the case on a trip to the zoo or a visit to an art gallery.

The pivotal assertion that must be understood is whether Vygotsky was asserting the impossibility of certain forms of intellectual development "without instruction" (which presumes an actively interactive more competent other) or "apart from learning" (which on one level seems a tautology, but which could also be interpreted as equivalent to the assertion that properly organized interaction with the environment is essential for certain forms of development to occur). This distinction is non-trivial, since it calls into question the significance of the mediation of another more able individual (the teacher/instructor). Given what we know of the significance Vygotsky attached to the role of the teacher, it would appear that the most appropriate reading of the major premise is "a variety of developmental processes would be impossible without instruction." This accords with the significance attached, in the passage quoted below, to the child's interaction with "people in his environment" rather than just with all aspects of that environment, with or without the mediation of others.

The 'conflicting' translations arise because of a duality of meaning in the original term employed by Vygotsky. This duality has been noted previously, but its significance seems to have been given scant consideration in the interpretation and application of Vygotsky's work.

The theoretical framework of Vygotsky entails specific understanding of learning, development, and the goal(s) of development. In Vygotsky's usage, the term *obuchenie*, frequently translated as learning, more accurately indicates the interaction of teacher and student (Wertsch & Sohmer, 1995, p. 332).

As we have seen, the same term ("obuchenie") is also translated as "instruction" and clearly shares with corresponding terms in other languages the capacity to invoke both teaching and learning, as these are named in English. Once this duality of meaning is recognized, our reading of Vygotsky and our theorizing about the teaching/learning process are greatly enriched. For example, in one of the most famous passages from the translated Vygotsky, the

word “learning” can be replaced by the word “teaching” and the resultant text is still meaningful – but, perhaps, with a different meaning.

We propose that an essential feature of learning [*teaching*] is that it creates the zone of proximal development; that is, learning [*teaching*] awakens a variety of developmental processes that are able to interact only when the child is interacting with people in his environment and in collaboration with his peers (Vygotsky, 1978, p. 90).

With regard to the passage just quoted, the suggestion by Wertsch and Sohmer that the word in question be read as “the interaction of teacher and student” makes the latter half of the passage almost tautologous with regard to the role of the teacher and inconsistent with regard to peer collaboration. A more useful reading is obtained if the term “obuchenie” is interpreted as evoking a conjoined practice in which both teacher and learner participate. This joint participation in a single body of practice does not require that participants contribute to the practice in the same way. It does, however, commit us to a reading that simultaneously invokes the presence (and participation) of both teacher and learner. Such a social interactive reading seems wholly consistent with Vygotsky’s identification of the primacy of social interaction in the learning process.

On the one hand, it is comforting to feel that we have some understanding of what Vygotsky intended, despite inconsistencies in translation. It is more to my immediate purpose, however, to reflect on the significance of the translators’ difficulties in interpreting a term that simultaneously invokes both teaching and learning, and the implications that this has for our theorising about classroom practice.

Speakers of Russian are not alone in their use of a term that combines both teaching and learning. In Japanese, “tagushushido” combines teaching and learning in the same way. In Dutch there is one term that means both learning and teaching: “leren”. To distinguish between the practices of teaching and learning, the Dutch say “leren van” to signify “learning” and “leren aan” to signify “teaching”. A teacher is a “leraar” and a student is a “leerling” (I am indebted to Martin Van Reeuwijk for explaining all this to me). In French, the term “didactique”, and particularly Brousseau’s use of that term (Brousseau, 1996), invokes a mutuality of responsibility and participation not always found in American or Australian interpretations of the classroom. This paper and the companion papers that constitute the symposium “Patterns of Participation in the Classroom” address that mutuality very explicitly. It is this explicit acknowledgement of the mutuality of teaching and learning that holds the promise of a significant contribution to current efforts to better connect the disjoint fields of research on learning and research on teachers and teaching.

The argument just outlined underlies the basic premise on which this paper is founded: That classrooms can be usefully studied and understood by consideration of the patterns of participation in practice in which the members of that classroom (teacher and students) engage.

## A THEORY OF CLASSROOM PRACTICE

The theory of learning on which this paper is grounded is one that starts from the social situation of the individual in interaction with others, but which accords a significant role to the individual's interpretive activity. Particular significance is attached to social interaction, and learning proceeds by the iterative refinement of intersubjective understandings that include social and content-specific (in this instance, mathematical) meanings, as well as values and modes of collaborative practice. These understandings are enacted as the progressive increase in valued practice, including the appropriate utilisation of technical language. Every account of learning provided in the papers that constitute this symposium invokes a negotiative process that presumes interaction with others (this point is argued most compellingly for the case of the "silent participant" (Remedios, 2003)). These interactions are predicated on an interpretive affiliation that situates the learner with respect to the values and goals of others in the learning environment (the classroom) and an interpretive characterisation of the other, by which the capabilities, motivations, values and actions of other participants in the classroom are inferred and this characterisation is then iteratively refined through on-going social interaction. Context is also a matter of interpretation and internalization (see Clarke & Helme, 1998). Essential to an understanding of the nature of social activity in classrooms is the co-constructed nature of the practices of these classrooms, and the role of negotiation not as a subordinate activity *through* which classroom practice is constructed but as an essential activity *from* which classroom practice is constituted.

Classroom Practice is a form of communal collaborative activity constituted as it is constructed through the participation of both teachers and learners and only understood (and optimised) through research that accords value and voice to all participants. Teaching and Learning are not simply distinct but interdependent activities that share a common setting, rather they should be conceived as aspects of a common body of situated practice and studied as such. It is ironic that recognition of this fundamental unity is enshrined in several languages other than English and that the dichotomisation of Teaching and Learning may be, in part, an artefact of our use of English as the lingua franca of the international Education community. This paper and the analyses reported in this symposium provide evidence of the mutuality of teaching and learning and support their interpretation as components of a single body of communally constituted practice. We are assisted in this argument by Harré's work on social positioning (Davies & Harré, 1991) as this gives recognition to the mutuality of social practice, where the positioning of an individual carries both rights and responsibilities and is only sustained by mutual compliance. Of course, a position can be contested and negotiation is a constitutive element of classroom practice (see Clarke, 2001). Classroom Practice as a form of communal collaborative and negotiative activity is constituted as it is constructed through the participation of both teachers and learners and only understood (and optimised) through research that accords value and voice to all participants. It is for this reason that the Learner's Perspective Study supplements the multi-camera documentation of classroom activity with post-lesson reconstructive interviews of the participants.

The implicit confusion in English of process and product offers an important perspective on both negotiation and intersubjectivity. As has been argued elsewhere (Clarke, 2001; Williams & Clarke, 2003), intersubjectivity is not to be seen exclusively as the product of classroom negotiative activity but also as a prerequisite condition for the viability of that activity. Similarly, classroom practice (Teaching/Learning) is not to be seen solely as a consequence of negotiation, rather negotiative activity is the essence of classroom practice. The matter of that negotiation can be “values”, for example, or it can be “mathematical meaning”, it can even be and individual’s social “position,” but critical to any understanding of classrooms is recognition of the organic nature of practice and the iterative and reciprocal refinement of the constitutive elements of that practice through its enactment. It is this organic character that our data collection and our theorising must capture.

### *Participation*

Lave and Wenger provide a plausible connection between practice and learning, in which the learning is constituted as participation in practice and the mediating mechanism is the situated negotiation of meaning: “Participation is always based on situated negotiation and renegotiation of meaning in the world” (Lave & Wenger, 1991, p. 52). In this view, participation is not the medium by which learning is afforded, it is the thing itself. As such, patterns of participation take on a heightened significance as established forms of practice. Legitimate participation in institutionalised practice is taken to signify learning or the acquisition of knowledge. My focus in this paper (and in the symposium of which this is a part) is on those patterns of participation that stand in the same regard to the practices of the disciplines of science or economics as the classroom does to the research laboratory or the stock exchange.

### *Agency and the Distribution of Responsibility for the Generation of Knowledge*

Popular in recent educational literature as descriptors of classroom practice are the terms ‘teacher-centred’ and ‘student-centred.’ These terms vary in definition and in use, but they represent a key dichotomy driving much of contemporary Western educational (particularly pedagogical) reform. From one perspective they appear to offer mutually exclusive alternatives with regard to the location of agency in the classroom. Western educational reform advocates student-centred classrooms, and research in Western settings confirms the value of practices associated with these classrooms (Chazan & Ball, 1997; Clarke, 2001). Asian classrooms have been typified as teacher-centred by both Western and Asian researchers, yet the students in these classrooms are highly successful in international studies of student achievement (‘The Asian Learner Paradox’) (Leung, 2001). Recent research in Chinese classrooms suggests that classroom practice is misrepresented by such a dichotomy (Huang, 2002) and that a theoretical framework is needed by which the ‘teacher-centred’ and ‘student-centred’ characteristics of classrooms can be more usefully characterised and investigated, without the assumption of an absolute dichotomy. Again, we find in recent research, reasons to reconceptualise classroom practice in non-dichotomous ways.

Clarke and Lobato (2002) have recently proposed a theoretical reformulation of teachers’ communicative acts in terms of function rather than form. This reformulation is founded on

the distinction between “eliciting” and “initiating.” By focusing on function (intention, action, and interpretation) rather than form, some of the difficulties experienced in analysing the efficacy of teacher practices from a constructivist perspective are overcome. Such a framework offers a more incisive tool for the analysis of the teacher’s contribution to classroom discourse. In particular, it offers a language in which to frame the devolution of the responsibility for knowledge generation from the teacher to the student, or, alternatively, the concentration of that responsibility in the hands of the teacher. For example, teacher acts that take the form of a question but have the function of telling can be identified and the responsibility for the initiation of a new mathematical idea can be correctly located with the teacher rather than the responding student. Equally, the capacity of the student to contribute to the generation of knowledge can be recognized, and classrooms can be compared according to the extent to which the student is accorded the opportunity to make this contribution. The fundamental consideration is the distribution of responsibility for knowledge generation.

In her analysis of small group work in senior calculus classes, Barnes successfully identified those individuals who initiated a mathematical idea into the conversation and who it was who subsequently adopted, rejected or extended that idea (Barnes, 2003). Ohtani has drawn on “revoicing” (O’Connor & Martins, 1996) to investigate the social formation of mathematical activity in a Japanese classroom. Revoicing means a particular kind of re-utterance of one’s contribution by another participant in a discussion. Ohtani’s preliminary analysis of transcripts of video-audio records of Japanese lessons revealed that revoicing is extensively and exclusively used by the teacher during classroom interaction (Ohtani, 2002). In combination, these two approaches offer the means to characterise the generative process whereby a new mathematical idea is introduced into classroom discussion and then subsequently accorded status (or not). It is my contention that the investigation of these generative processes and their association with subsequent learning holds great promise for the resolution of the “Asian learner paradox” and for the evaluation of key elements of the Western reform agenda in Education. In relation to the focus of this paper, the responsibility for knowledge generation and the practice of revoicing are important facets of the patterns of participation operating in our classrooms. The first is helpful in understanding the consequences of some of the documented patterns of participation, and also in identifying the nature of the agency accorded to classroom participants (albeit an agency constrained by culture and by institutional and societal norms). The second offers one type of action from which a particular whole class pattern of participation might be constituted.

In this paper, I discuss one whole class pattern of participation (*kikan-shido* or walking-between-desks) from several perspectives: Its form as observed on the video record of class activity; its meaning as reconstructed by teacher and students in post-lesson video-stimulated interviews; and its function (intention, action, and interpretation). My intention in describing and discussing this pattern of participation is to examine the legitimacy of the characterisation of *kikan-shido* as a whole class pattern of participation, and to situate the actions of teacher and learners in relation to this pattern of participation. It will be argued that while engaging in *kikan-shido*, the teacher and the students participate in actions that are mutually constraining and affording, and that the resultant pattern of participation can only be understood through consideration of the actions of all participants. It will be further argued that a characteristic of

kikan-shido, as it is practiced in the Australian classrooms that provided the data for this study, is the implicit devolution of the responsibility for knowledge generation from the teacher to the student, while still institutionalizing the teacher's obligation to scaffold the process of knowledge generation being enacted by the students.

### KIKAN-SHIDO (WALKING BETWEEN DESKS)

Japanese teachers possess an extensive vocabulary with which to describe their practice. Among the myriad terms available to them is the term 'Kikan-Shido,' which means 'walking between desks' in which, while the students are engaged in "practice", either individually or in groups, the teacher walks around the classroom, observing students at work, and may or may not speak or otherwise interact with the students. This activity is a familiar one to teachers in American and Australian classrooms, and to teachers in many other countries as well. As the translation (Walking Between Desks) makes clear, the Japanese term for this activity focuses on describing the teacher's actions. If I were to use the English translation as the label for this pattern of participation, I would be maintaining the focus on the teachers activity, whereas the whole purpose of my argument is to demonstrate the mutuality of teacher and student participation in this activity. So, for the purposes of this discussion, I will use the Japanese term, 'Kikan-Shido' as a signifier or cipher for a more general conception of the particular activity – one that takes into account the patterns of participation of both teacher and students in the activity designated by 'Kikan-Shido.'

The analyses reported in this paper are largely drawn from the Learner's Perspective Study (LPS) (Clarke, 2002) ([www.edfac.unimelb.edu.au/DSME/lps](http://www.edfac.unimelb.edu.au/DSME/lps)). The Learner's Perspective Study involved videotaping sequences of ten or more consecutive lessons in each of three schools in demographically different regions of a major city in each of ten countries. The teachers were selected in each country on the criterion that their classroom practice was considered 'competent' or 'of good quality' by the local community. The classroom video data was supplemented by post-lesson reconstructive interviews with teachers and students, and by test and questionnaire data, and copies of student written material.

In the Australian LPS video data, it is clear that all three teachers make extensive use of "walking between desks" in every lesson, and commonly for extended periods of many minutes. During this time, the Australian teachers monitored the students' current activities and, sometimes, whether or not homework had been completed. While walking around the classroom, the Australian teachers frequently conversed with the students: Questioning, prompting, and generally scaffolding the students' activity. In the lessons analysed in this study, the scaffolding activity was much more likely to involve questioning students than simply telling them an answer or a procedure to use.

For the Australian teachers, the activity of "walking between desks" appeared to have at least three principal functions: (i) monitoring and encouraging current on-task activity, (ii) actively scaffolding this on-task activity, and, sometimes, (iii) monitoring the completion of

homework. On many occasions teachers would kneel or sit beside a student (or students) and engage them in conversation about the task they were attempting.

One aspect of this event type that varies even within the Australian data is what the other students were doing during this activity, particularly while the teacher was ‘tutoring’ a particular student. This (what the others are doing) may be one of the more useful characteristics that distinguishes the version of kikan-shido practiced in one classroom from that practiced in another.

The three examples included in the Appendix to this paper show how each of the three Australian teachers engaged in the activity of “Walking Between Desks” – the three examples were chosen to illustrate the diversity of practice evident within the Australian data.

Example 1: A1-L8 (0:33:47 to 0:36:26) Guided Questioning by Teacher – Non-Routine Task

Example 2: A3-L8 (0:27:59 to 0:31:52) Guided Questioning by Teacher – Routine Task

Example 3: A4-L12 (0:31:18 to 0:33:27) Explicit Teacher Demonstration

## THE CO-CONSTRUCTION OF WHOLE CLASS PATTERNS OF PARTICIPATION

Of major interest for the purposes of this paper is the evidence that Kikan-Shido was a pattern of participation to which both teacher and students subscribed and which was co-constructed by them. Appendix One provides the transcript and some descriptive comments taken from the video record of three different instances of kikan-shido. These three examples convey something of the form of the interactions occurring between teacher and students during kikan-shido. The video record documented sufficient instances of kikan-shido for it to be classified as a recognisable classroom activity. In designating kikan-shido as an example of a “whole class pattern of participation” I need to demonstrate that it had a recurrent form, recognisable to those participating in it. This is not to say that the meanings attributed to the activity by those participating in it were correspondent. The point has already been made that individuals can participate in a practice whilst being positioned differently within it, and whilst attributing different characteristics to the activity. That is, without being identical, the participants’ descriptions of the activity make it clear that they are talking about essentially the same form, but they may attribute quite different functions to that form. The other essential element is the need to demonstrate that all participants can shape the particular body of practice signified by kikan-shido. That is, that the pattern of participation is co-constructed.

### *Relating Teacher and Student Perspectives*

The interview protocol placed the remote control for the VCR in the hands of the interviewee (teacher or student), who was asked to “fast forward through those sections of the lesson that were not important to you, but play at normal speed those sections that were important to you and tell me what you were doing, thinking and feeling at that time.” The interviewer would elicit additional information from the interviewee where the account was unclear or appeared to be incomplete. In the interview transcripts that follow, “. . .” is used to signify a pause, and

“//” signifies an interruption and italics signify that a word or phrase was spoken emphatically.

### Interview with Teacher 1 (T1)

Int That bit of the lesson where you come up to an individual student . . . they are looking for it and and and they // smile

T1 // oh really oh *good* [delight in voice]

Int in the interview and they say ‘it’s my turn

T1 //Mmh

Int // Mrs T1’s spending her time // with me’ so I am very interested

T1 // yeah yeah

Int in the thinking

T1 //oh good

Int //behind the ah.

T1 um it’s just a way for me to connect with them.

\* \* \* \* \*

T1 and I get down a lot too

Int yes

T1 like I get down on my knees a lot and try not to be . . . I don’t want my presence to be *overpowering*. I don’t want them to think, “Oh she’s *over* me just telling me what to do.” I don’t want to come down on them

Int Yes

T1 and so a lot of the time I

Int Yes

T1 I do kneel down . . . and I try to get on their level.

\* \* \* \* \*

T1 Oh . . . this was *terrible* [slow] . . . I-I ar as soon as I started going around oh I felt bad about this . . .

It just sort of . . . was made *very obvious* that I hadn’t . . . but that that’s also another thing that I do, I do go to see them straight away so they can tell me . . . what they don’t understand – that that gives me a much better . . . understanding of whether . . . what I have done up the front is of is of any value at all.

### Interview with Students from School 1

S1 It’s really good when Mrs T1 comes around to everyone individually . . . it’s so if you are not sure about anything . . . you just like . . . she’ll come around.

Int Alright . . . it’s pretty good you say can you tell me more . . .

S1 Yeah like . . . say if you um don’t know something when . . . she’s talking . . . when she’s up the front and . . . yeah of the class and she comes round to everyone to see like how . . . how you’ve been doing . . . see . . . so you can see like . . . if you are doing well or not and understanding you can just ask her individually.

\* \* \* \* \*

Int When did you come right . . . did you say // when Mrs T1 came around?

S1 // When – when um . . . um no  
 Int Um no?  
 S1 Um yeah . . . yeah when Mrs T1 was coming around individually  
 Int Right . . . okay and so what happened then?  
 S1 Yeah and then . . . *I got it* [pleased laugh] . . . I just did it  
 Int So did Mrs T1 *see* which bit you didn't have? . . . Was it when she talked about . . . ?  
 S1 Like when . . . when she was explaining it? Yeah it was when everything like . . . when I got what I did wrong [understood what I did wrong].

\* \* \* \* \*

Int Is there a little bit you are looking for in particular?  
 S2 Ah . . . probably the bit where Mrs T1 came over and helped me out with . . .  
 Int Oh  
 S2 Because um . . . before she came I was . . .  
 Int //yes  
 S2 //getting pretty *frustrated* because I didn't know how to do it . . . and then . . . when she came over and explained how to do it yeah

\* \* \* \* \*

S2 But I – I *couldn't get it* . . . but as *soon* as Mrs T1 just . . . in less than *two minutes* . . . she just showed me um . . . how to use pi for them and then . . . I just did it.  
 Int Oh okay! So that's a *very* big help? As you said yes . . . [thoughtful] *okay*.  
 S2 She's a *big* help . . . it's such a *change* from . . . last year um I had . . . a pretty *bad teacher* . . . and I spent most of the lesson with my hand up wanting to get help but she didn't – and she didn't help me . . . and . . . I *failed* . . . *every* maths test – I can't remember if I passed . . . *even one* . . . but Mrs T1 . . . this year she *explains* . . . *everything* to *everyone*.

\* \* \* \* \*

S2 It is good to know you have got a *good teacher* who can . . . *help* you . . . and . . . if you don't know anything . . . she's there.

There are four key aspects to Teacher 1's participation in kikan-shido that emerge from the data cited above:

- The students' perception of the teacher's commitment to be "there" for "everyone"
- The teacher's deliberate use of physical positioning to minimise any intimidation of the students and, implicitly, to reduce the prominence of the inevitable power difference between teacher and student
- The inadequacy of the student's use of the term "explain" to encompass the teacher's instructional action, hinted at in S1's use of "I got it . . . I just did it." Video evidence suggests that the teachers actions were commonly much less directive or transmissive than is suggested by the term "explain" (see Examples 1 and 2 in the Appendix).
- The teacher's utilisation of kikan-shido as the means by which to gauge the success of her whole class presentation.

Teacher 1 also said "so I went around and checked with some key students whom I know struggle" indicating, from the teacher's perspective, that particular students serve as

barometers of class understanding. These students are assigned a particular role by the teacher within the practice of kikan-shido. It may also be that this role entails specific positioning of the students by the teacher as 'needy' or 'deficient' or simply as 'class spokesperson' (see Davies & Harré, 1991). Further analysis will be required to establish the extent to which such positioning occurs and whether or not students challenge any such positions assigned to them. Given Darren's comments, quoted below, it is possible that some students might see advantage in being positioned as needy for the purposes of kikan-shido.

Teacher 3 referred to two other aspects to kikan-shido: Insights into student thinking and providing motivational support to students.

T3 I could see . . . I could actually . . . pick what was going on in her head  
And

T3 She needs that encouragement . . . she . . . she's not . . . particularly independent and she's not well skilled and she relies . . . heavily on a lot of other students . . . on this day she was by herself doing the task . . . and that . . . that was . . . really pleasing.

Both teachers (T1 and T3) attached a high level of significance to the pattern of participation that I have referred to as kikan-shido and their students seemed to share this valuing. Indeed the students' participation in classroom practice in general seemed to be predicated significantly on the belief that kikan-shido would provide them with valued support should they need it.

Evidence that students contribute to the form taken by a pattern of participation such as kikan-shido can be found in a statement from a seventh-grade student in an earlier study.

Int That takes care of all the girls. But you're not saying surely that the boys never muck around.

Davy Oh we do muck around (both laugh). When me and Darren we just talk. When we've got our hands up we just talk during so she comes. Then when she comes we get back to work. Or maybe some hot day we're just talking or mucking around, or pushing people around. Something like that . . . 'Cause sometimes I might have me hand up for five minutes. She's right next to me and she goes over the other side of the room. And that's why I start mucking around . . . so I get her attention.

This provides explicit acknowledgement by the student that the teacher's participation in kikan-shido can be manipulated. Kikan-shido as a pattern of participation is clearly a dance done by teacher and students, where the steps are improvised according to need.

The extent to which kikan-shido, as practised in the Australian classrooms analysed in this study, has distinctive cultural or national features is immediately suggested when classrooms in other countries are investigated for evidence of the same practice. From the comparison of sequences of ten lessons, taught by three competent Australian teachers, with matching data sets from countries such as the USA, Hong Kong, Mainland China, The Philippines, and

Germany, it appears that, in general, the Australian teachers commit more time to Kikan-Shido than do the teachers in the other countries.

This observation has certain implications:

- If the teacher is devoting significant proportion of class time to interacting with students either individually or in pairs or small groups – that is, engaging in the Australian form of Kikan-Shido – then certain assumptions are implied as to the capacity of the other students to work independently of teacher whole-class direction.
- This assumption of a capacity for independent activity could be read as a relocation of the agency with regard to knowledge construction. Certainly in the classrooms described by Barnes (2003) and Williams and Clarke (2003) the students were accorded significant agency for the construction of knowledge.
- If a significant proportion of class time is devoted to kikan-shido, then other activities must be allocated proportionately less time. Most noticeably, the Australian teachers appeared to devote less time to presentations to the whole class than their counterparts overseas.
- It appeared that the teachers prioritised individual assistance over whole class explanation.
- The viability of the Australian version of Kikan-Shido as a classroom pattern of participation is highly dependent on class sizes of less than 30 students per class. In Hong Kong, where classes of over 40 are the norm, and The Philippines, where classes frequently consist of more than 60 students, the Australian version of Kikan-Shido becomes extremely problematic.

For the purpose of the discussion here, I have distinguished Kikan-Shido as a classroom activity with a particular visible form (Walking Between Desks) from kikan-shido as a locally-defined pattern of participation with certain characteristic functional features in the Australian mathematics classrooms examined in this study, but with some variations evident from classroom to classroom.

## CONCLUDING REMARKS

In this paper, I have attempted to frame the argument that any theory of classroom practice must conceive of the activities in the classroom as co-constructed to a significant extent. Acceptance of this point has implications for the research designs by which we study the activities occurring in classroom settings.

A corollary of this point is the problematisation of learning and teaching as distinct processes and of Learning and Teaching as disjoint bodies of practice - at least to the extent that this disjunction is applied to classroom settings. The need has been identified for a single term to encompass the conjoint, co-constructed body of practice signified in Russian by *obuchenie*.

But co-construction *of practice* and joint participation *in practice* do not connote commonality of purpose among the participants in that (classroom) practice. To some extent

both teacher and student share a common interest in advancing the student's learning, but they are not positioned identically within that purpose. Even where all participants recognize and subscribe to a particular pattern of participation (the example used in this paper is *kikan-shido*), they may interpret its function differently.

Nonetheless, the study of patterns of participation, whether individual (Remedios and Clarke, 2003), dyadic (Williams & Clarke, 2003), small group (Barnes, 2003), or whole class (Clarke, 2003), offers one approach to capturing both the fluidity of social interaction and its regularities.

If we conceive of institutionalised patterns of participation as taking on the status of bodies of practice, then their co-constructed nature has further significance. Rather than progressively increasing the competence of their participation in a culturally or socially pre-determined practice (eg Lave & Wenger, 1991), this conception of the origins of practice accords significant agency (however constrained by institutional or cultural norms) to the participants to shape their particular pattern of participation and thereby to influence the nature of that practice. Wenger's more recent writing (Wenger, 1998) assigns significantly greater agency to the participants in a practice. In this paper, some simple examples have been given of how that agency is enacted.

This paper opened by stating the aspiration to find structure in the ephemeral. To some extent this goal is embodied in the conception of Kikan-Shido as an internationally-recognisable whole class practice, having a certain visible form, and kikan-shido as a locally-enacted pattern of participation to which teacher and students subscribe and which teacher and student have agency to exploit and to shape. One approach to the characterisation of a social setting is through the documentation of its practices, but these practices have their origins in the emerging patterns of participation in which the members of the social group engage. Further, the theory that identifies learning with the iterative refinement of participation in practice, can accommodate the fluidity and dynamism of social interactions more successfully if greater emphasis is given to the less permanent regularities that we, in this symposium, have referred to as patterns of participation.

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## Appendix

Three examples of “Walking Between Desks” taken from the Australian data

The following three examples show how each of the three Australian teachers engaged in the activity of “Walking between desks” – the three examples were chosen to illustrate the diversity of practice evident within the Australian data.

Example 1: A1-L8 (0:33:47 to 0:36:26) [Country, School, Lesson Number, Start and End Times]

Example 2: A3-L8 (0:27:59 to 0:31:52)

Example 3: A4-L12 (0:31:18 to 0:33:27)

EXAMPLE 1: A1-L8 (0:33:47 to 0:36:26) – Guided Questioning – Non-Routine Task

0:33:47	T	[to Joe et al.] How're we going? How are we going?
<i>Teacher walking around surveying students' work.</i>		
0:33:50	T	[to Joe] What, why aren't you working...
0:33:54	Joe	[To T] I don't know, I...
<i>Teacher sits with student discusses progress</i>		
0:33:54	T	... as hard as you normally work?
0:33:55	Joe	[to T] I don't like this sh... I don't get it. It's, well, I don't know if they're corners, I don't know if they're...
0:34:00	T	All right. He's [referring to Leon?] on the right track. They're not corners, you're going to get a...
0:34:03	Joe	A circle, a circle...
<i>Teacher gestures to help student visualize the circles arc.</i>		
0:34:05	T	You're going to get a quarter circle, you're going to get a, an arc, that's a quarter circle. All right?
0:34:09	Joe	With a two centimeter diameter.
0:34:11	T	Yes. Radius.
0:34:12	Joe	Oh, O.K.
0:34:13	T	[to ?] He, he won't be able to tell what you've done. All right. Does that help you?
0:34:16	Joe	Can I have my calculator?
0:34:20	T	[to Martin] What have we got?
<i>Teacher moves along same bench group positioning herself between two students. She then assists the group of students at that bench.</i>		
0:34:22	Mart	I got one hundred and twelve point five six [laughs] No I didn't.

0:34:26	T	One hundred and twelve point five six. No, they're not necessarily right. Now, tell me why two hundred first of all.
0:34:32	Mart	Well...
0:34:32	Mart	No, I got one hundred and eight to start off with because I got two centimeters and I put it there and I added on to that which was twenty seven and then I just did it like that.
0:34:45	T	Well we've got this, we've got this square, right, and then we've got this, this circle that's traveling, right, that's traveling around. And when it gets to a corner it's doing that. [Points to board]
<i>Teacher draws on students note paper/book drawing the problem.</i>		
0:34:58	Joe	[to T] one hundred and twenty five point five
0:35:01	T	How'd you get that?
0:35:02	Joe	I worked out the corners and then added everything on.
0:35:06	T	How'd you work out the corners?
0:35:08	Joe	Well I ... two times pi times four .
0:35:10	Leon	It's wrong, It's wrong!
0:35:13	T	four ...which is?
0:35:14	Joe	For four corners, and plus one hundred , well twenty five...
0:35:14	Leon	[to ?] Hey, you don't know which way the coin's going to go?
0:35:16	T	two times pt times four ? This is where you're getting a bit confused. You've got the, you've got all these distances. Do you know what they are?
<i>Teacher explains the next part of the problem in students book.</i>		
0:35:26	Leon	Ow! Ow!
0:35:26	Joe	The length?
0:35:27	T	Yeah, which is? How much?
0:35:29	Joe	twenty five
0:35:30	T	All right, they're each twenty-five, so you're on the right track to start with.
0:35:33	Joe	That's what we had from before.
0:35:35	T	Yeah, that's what you had [points to Martin], you had [points to Carl], no you had first [points at Martin]
0:35:38	Mart	Yeah
0:35:39	T	Right, now the interesting thing is what the coin does when it gets towards the end. Now it doesn't just drop. The coin is rolling so the centre... Or does it drop? I'm confusing myself now.
0:35:52	T	No 'cause the arm... You imagine... The circle's rolling... It would have to be.
<i>Teacher uses arm to demonstrate the action of the coin and the arc of the corner.</i>		

0:36:00	T	So, you've got this happening [moves arm in a curve], and you know that's a quarter circle.
0:36:06	T	So you have to find out what the distance of that line is. How could you do that?
0:36:13	Mart	Um, I dunno.
0:36:15	T	Yeah you do.
0:36:15	Carl	That's two cms, that's twocms
0:36:17	T	What's? Yes good, so how would you find out what I've drawn in dark blue...?
0:36:22	Mart	I'd do what you did there. [Points to board]
0:36:24	T	Yes, can you do that?
0:36:26	Mart	Oh yeah.

EXAMPLE 2: A3-L8 (0:27:59 to 0:31:52) – Guided Questioning – Routine Task

0:27:59	T	Of course you can. Not a problem. Okay, That's fine. How we going here girls?
<i>Teacher goes to end of row and sits down with group of students.</i>		
0:28:07	Robyn	Good.
0:28:08	T	Good? [...]Yeah, good.
<i>Teacher points to example in book.</i>		
0:28:10	Robyn	I don't actually know where I'm up to [...]
0:28:11	T	Because you haven't got your book. Had you done, you hadn't done question four yet have you.
0:28:19	Robyn	Nuh.
0:28:21	T	Okay, let's do that. Because this is what we did the last time we were together, okay, so let's do this together.
0:28:36	T	Good. [...] Mmmhm. [...] What are you going to do with that one?
<i>Teacher focuses on one girl.</i>		
0:28:46	Robyn	Twenty-five over four.
0:28:51	T	One of them is cents and one of them is in dollars. Remember I want them to be the same.
0:28:57	Robyn	Twenty-five...
0:29:03	T	Over...
0:29:03	Robyn	Four.
0:29:05	T	Twenty-five cents over four dollars. But can I mix up cents and dollars?
0:29:14	Robyn	Yep.
0:29:16	T	Well I can if I've got normal money.
0:29:23	Robyn	What am I doing, twenty-five over?
0:29:38	T	Good, now, way to go. Stephen are you writing the setting out down as well, thank you, not just answers. Listen up.

0:29:54	Robyn	Two thousand five hundred.
0:29:57	T	Ooh does that sound anything like it? I've got cents and I've got dollars mixed up.
0:30:01	S	Can you change the...
0:30:03	T	Listen up Robyn, listen here.
<i>Teacher draws girls attention to suggestion raised by a student who has come to the desk.</i>		
0:30:06	?	Can you change the dollars to cents?
0:30:08	T	Yeah course I can. Ooh what was his suggestion?
0:30:13	Robyn	To change the four dollars into cents.
0:30:16	T	Was that a good suggestion?
0:30:17	Robyn	Yes.
0:30:18	T	Will they have the same units then?
0:30:19	Robyn	Yes.
0:30:20	T	Ah, very good. That was handy that he came along, wasn't it?
0:30:23	Roslyn	Miss?
<i>Teacher looks over to other student.</i>		
0:30:25	T	Yes.
0:30:27	Roslyn	Where's Ahmet at?
<i>Teacher gets up and goes to Ahmet's desk. She leans over then sits on desk to check Ahmet's progress.</i>		
0:30:31	T	Now, Ahmet did these last time. Ahmet, can you do your conversions? Can you do your kilometers into metres and...
0:30:40	Ahmet	Yeah.
0:30:44	T	I think you probably can. Yeah, so these ones down here. He was doing a really good job with them last time, weren't you? Yeah, doing really well. Will, come on, let's go love. Yeah. Okay, good.
<i>Teacher goes back to girls' table and continues to help with the problem.</i>		
0:31:05	Viv	Oh.
0:31:08	T	Oh, something missing. Yeah, certainly is, that looks better. Good. Ah does that sound better? It does, does it?
0:31:28	Robyn	Yeah.
0:31:29	T	Certainly looks a whole lot better to me.
0:31:32	Kevin	Miss, now what do we do?
<i>Teacher now moves to assist other students on the same table.</i>		
0:31:36	T	Finished those? Okay. Eighty kilograms to eighty thousand. Do your answers look, sound right, do you think?
0:31:42	Kevin	Yes.
0:31:43	T	Oh, very confident. Okay. I like confidence. All right. I'll put the questions up. I want you to look at some of the worded questions.
0:31:52	Kevin	Alright.

## EXAMPLE 3: A4-L12 (0:31:18 to 0:33:27) – Explicit Teacher Demonstration

0:31:18	Dwayne	I really don't get it.
<i>Teacher goes to students' desk and kneels down.</i>		
0:31:19	Tom	One twenty we got for the six-sided hexagon.
0:31:23	T	Let's have a look. Ah, it all seemed so simple before.
<i>Teacher looks at students' triangles.</i>		
0:31:26	Tom	It did.
0:31:27	T	Alright. So there's our triangle.
0:31:27	Dwayne	Yep.
0:31:28	T	Right. Tear, tear, tear. We get the pointy ends in together, and that gave us a hundred and eighty. Straight line.
<i>Teacher actually makes his own set of triangles to demonstrate the activity.</i>		
0:31:45	Dwayne	Oh.
0:31:46	T	One hundred and eighty.
0:31:46	Dwayne	Yeah, yeah, yeah, yeah, yeah.
0:31:47	T	O.K? Now we take the four-sided shape. Have you wrecked that yet?
0:31:49	Dwayne	No.
0:31:53	T	Alright. Four-sided shape.
<i>Teacher uses the triangle to demonstrate the measurement of angles in a square.</i>		
0:32:07	T	[to Scott] Scott, how we going there?
0:32:09	Scott	I have a shape.
0:32:11	T	Four-sided shape.
0:32:15	T	[to Tom and Dwayne] What do you reckon that is? Angle?
0:32:17	Dwayne	Three hundred and sixty.
0:32:18	T	Excellent. Five-sided shape.
0:32:20	Tom	How much was that? Hundred and sixty?
0:32:21	T	Three sixty.
0:32:22	Tom	Three sixty.
0:32:26	Darr	I'll just go with this one.
0:32:27	T	What is that? Five-sided shape.
0:32:29	Tom	Hey look at this ... I did mine one four five?
0:32:30	Darr	[...]
0:32:32	T	Excellent.
0:32:32	Darr	So you go, rip off the side...
0:32:36	T	O.K.
0:32:39	Tom	You're putting one eighty on all the time.
0:32:41	T	Oh, Tom.
0:32:44	T	[to Dwayne] What's happening?
0:32:49	T	Oh.

0:32:55	T	[to Dwayne] Yeah. Put it in there. Alright. So keep pointing them into there. <i>Teacher helps student to position his triangles in a shape.</i>
0:33:00	Darr	Oh. O.K.
0:33:02	Tom	Next one will be...four fifty or something. Wait a minute, five fifty.
0:33:16	T	[to Tom] So, what are you saying. Put on another one eighty?
0:33:20	Tom	Yep.
0:33:21	T	O.Alright- So what's three sixty plus one eighty?
0:33:22	Tom	Um...five fifty, five forty.
0:33:27	T	Ah ha. It is.