

This is the second edition of the School of Education UNE Research Series. This series is designed to share current educational research with professional colleagues. Co-editors Dr Izabel Soliman and Dr Judy Miller welcome feedback on this edition and on suggested content for issues 3 and 4 in 2005. We can be contacted via email - [isoliman@une.edu.au](mailto:isoliman@une.edu.au) and [jmiller7@une.edu.au](mailto:jmiller7@une.edu.au)

In addition to feedback on the relevance of this series, we are keen to hear from colleagues regarding Professional Development Offerings by Academic Staff of the School of Education.

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**Professor Len Unsworth, Dr Corinne Buckland, and Dr David Baxter – ‘The impact of images and image/text relations on students’ interpretations of the values in literary and informational texts’** • This study will delineate the aspects of English grammar and the visual grammar of images that teachers and students need to know in order to describe how language and images portray a variety of value positions in texts. This will enable enhanced explicit teaching of the ‘text analyst’ role, focusing on students’ learning to identify what values are portrayed and how this portrayal is achieved. Students can then use this grammatical knowledge in understanding how values are constructed in the texts they compose. These are the practical intellectual resources required for realistically integrative critical values education across curriculum areas • **For more information contact Professor Unsworth at [len.unsworth@une.edu.au](mailto:len.unsworth@une.edu.au)**

**Associate Professor Karoline Afamasaga-Fuata’i and Professor John Pegg – ‘Concept Mapping And Vee Diagrams: Innovative Learning In Science And Mathematics, Effective Teaching Strategies and Tools’** • Project funded by DEST as an ASISTM Project (Australian Schools Innovations in Science, Technology and Mathematics) • The aims of the project are to 1) introduce hierarchical concept maps and vee diagrams (maps/diagrams) to teachers and students as meta-cognitive tools to foster critical inquiry and develop competence in analysing mathematics and science content, problems and investigative activities; 2) ensure sustainability of innovation, teachers are trained first with appropriate support over a term before students begin constructing their own maps/diagrams. Outcomes include increased competence of teachers/students to use maps/diagrams as meta-cognitive learning tools to scaffold their thinking, reasoning and communication in mathematics and science. Teachers become competent in using maps/diagrams as planning, instructional and assessment tools whilst students become proficient in using them as learning, presentation and communication tools • **For more information contact Associate Professor Afamasaga-Fuata’i at [kafamasa@une.edu.au](mailto:kafamasa@une.edu.au)**

**Associate Professor Karoline Afamasaga-Fuata’i – ‘An Investigation of the Usefulness of Concept Maps and Vee Diagrams as Analytical and Pedagogical Tools in Secondary Mathematics Education.’** • Project funded by the University of New England • The study investigates critical problems in mathematics education such as student teachers’ procedural views, pedagogical competence and dexterity to systematically design learning activities that develop deeper conceptual understandings of mathematics and critical mathematical thinking. Outcomes identify explicit ways use concept maps and vee diagrams critically to unpack conceptual structures underpinning the 7-12 Mathematics Syllabus, communicate and work mathematically, and enhance mathematics learning. Research findings will contribute to the literature in mathematics education and teacher professional development. Future research directions will be informed by recommendations from this study • **For more information contact Associate Professor Afamasaga-Fuata’i at [kafamasa@une.edu.au](mailto:kafamasa@une.edu.au)**

**Dr David Paterson – ‘Help-seeking in inclusive high school classrooms’** • Project funded by the University of New England • Effective learners attend to their own cognition and affect, seeking assistance from the teacher or a classmate when necessary by using adaptive help-seeking strategies to engage extra explanations, prompts, hints, or cues. There has been some research interest in the area of adaptive help-seeking in recent years. One finding of this research has been that for a number of reasons those students who most need assistance are least likely to use effective help-seeking strategies. Students who have disabilities, who are increasingly being included in regular primary and secondary classrooms, are in the greatest need of instructional techniques and personal learning strategies to expedite their classroom learning. The study will, by focussing on this particular group of learners, build on the existing research to explore these perspectives. It is anticipated that the findings will identify instructional approaches by which students with disabilities can more meaningfully be included in regular classrooms • **For more information contact Dr Paterson at [dpaters1@une.edu.au](mailto:dpaters1@une.edu.au)**

**Dr Peter Merrotsy - ‘A Gifted Synergy - Children and Parents.’** • Project funded by the Telstra Foundation • This is a two-year project involving teachers from the Broken Bay Diocese of the Catholic Schools Office. The project focuses on an educational intervention to help students express their talents and explore existing and potential relationships that could foster this expression among the students, their families, and their teachers • **For more information contact Dr Merrotsy at [pmerrots@une.edu.au](mailto:pmerrots@une.edu.au)**

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For further information contact  
Head, School of Education

The University of New England • Armidale • NSW • 2351  
T: (02) 6778 4221 • F: (02) 6778 2445 • E: [education@une.edu.au](mailto:education@une.edu.au)

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## The Importance of Timing for Engagement in Classroom Communication

Stephen Malloch, Catherine Scott, Rudi Crncec



**CATHERINE SCOTT** teaches educational and developmental psychology. She is a trained teacher and has worked in both primary and secondary schools. She is Chair of the university sub committee of the NSW ACE/Minister for Education and Training Quality Teaching Awards. Her research interests include effective teaching, classroom communication, teachers’ occupational identity, satisfaction and well being, policy analysis and the effects of social change on education. She can be contact at the following email address: [lomas2@yahoo.com.au](mailto:lomas2@yahoo.com.au)

**STEPHEN MALLOCH** is Research Fellow and Leader of the Communicative Musicality Lab at MARCS Laboratories, University of Western Sydney. His research concentrates on what he calls the Communicative Musicality (CM) of human non-linguistic interaction. With his recent success in co-ordinating a funding application for a new position - the Greater Western Sydney UWS Post Doctoral Research Fellowship, his research is moving into the clinical application of his model of CM. He and Colwyn Trevarthen are currently editing a book on Communicative Musicality to be published by Oxford University Press in 2005.

**RUDI CRNCEC** holds a post-doctoral fellowship at MARCS Auditory Laboratories, University of Western Sydney, and Karitane, a parent craft centre within the Sydney South West Area Health Service (SSWAHS). Rudi is a clinical child psychologist with both research and clinical experience in infant and child mental health and development. As part of his post-doctoral fellowship, Rudi is presently engaged in research on various aspects of infant socio-emotional development. This includes investigations of the identification of withdrawn infant social behaviour, infant sleep and settling strategies, parenting self-efficacy, and clinical applications of infant-infant interaction research.

### ABSTRACT

Relationships between teachers and pupils and between pupils, form the heart and soul of teaching. Without a positive classroom climate it is difficult for children to feel involved and to engage with activities in ways that allow them to learn. While many things have been found to contribute to classroom climate, research conducted at UNE and the MARCS Auditory Laboratories, University of Western Sydney, highlights the importance of teachers’ communication style in facilitating pupil engagement in communication and the development of a positive classroom atmosphere.

Communication between teachers and pupils forms one of the key underpinnings of successful teaching and learning. This paper reports research into the relationship between teachers’ communication styles and pupil engagement. The research was based on a model of communication developed in work with mothers and infants. Results suggest that simple changes to the way that teachers speak with their pupils can dramatically improve pupils’ ability to pay attention in class and to understand and benefit from instruction.

### INTRODUCTION

A major factor in children’s early development is the nature of their interactions with those who feature significantly in their lives – primary care givers, peers, and mentors. Also, recognition of the inter-connectedness of a child’s cognitive, social and emotional development highlights the interpersonal or inter-subjective nature of communication in education. Communication involves the interplay of emotions among the participants and where communication is not satisfying, a child’s cognitive and emotional development and learning, are adversely affected.

What encourages a person to engage with another? Certainly the content of the exchange will be important, but what of the underlying dynamics of the interchange?

The research reported here follows upon the work of Erickson (1996) who takes up the challenge of viewing teaching as social interaction(s) by investigating the dynamics of this interaction, especially its timing. This work is within the tradition of what has been called ‘conversational analysis’, in which video recordings of spontaneous or staged conversations between people are measured and analysed. This research has produced evidence that humans commonly interact with one another with precision and at great speed, exchanging subtle and unconscious rhythms of expression. This style of conversational or interaction analysis also occurs in the literature on parent-infant interaction.



## COMMUNICATIVE MUSICALITY

Critical features of sensitive parental responses to an infant are harmony of gesture, expression and timing, which in turn enhance the infant's ability to modulate feeling states, and express a range of emotions. An infant seeks not just encouraging communicative signals from her mother; the signals must be contingent on – or related to – the infant's own behaviour, through appropriate timing and inflection. Analysis of the vocalisations and body movements of mother and infant interaction has shown it to be music-like communication, which Malloch (1999/2000) calls communicative musicality (CM). Communication takes place not through the meanings of words, but through the intentions (underlying impulses for action) and feelings, carried by the 'music-like' qualities of their joint vocalisations, in combination with joint 'dance-like' gestures of their bodies and facial movements, within a shared sense of time. Sometimes, this harmony of interaction breaks down, as can happen when the mother suffers from post-natal depression (PND). This can have both short and long-term implications for the infant's cognitive development.

We propose that the model of CM applies not only to parent-infant interactions, but also to the underlying patterns of all human interaction. In the world of teaching, evidence for CM is supplied by the work of Erickson (1992, p. 34) who claims that: "Timing appears to be what holds the whole ecology of interaction together in its performance. The relative timing of the teacher and class is an important aspect of the ordering of the collective activity of conversation in both its reciprocal and its complementary aspects".

Erickson (1996) has shown that a regular metrical pulse occurs as teacher and students take sequential turns in question and answer, and comments. He found that there is a particular moment at which an answer to a question is expected to be given 'on the beat', and that information salient words (e.g., the 'S' in the words, "this letter is an S") fall on the beat, and the children's attention directed to this moment of important information. Using the CM model to analyse teacher' classroom talk follows upon Erickson's pioneering work. In particular, in this study we began to investigate teacher-student interaction in the classroom and the effects of the teacher failing to act contingently with the students.

## THE RESEARCH

To test our ideas, we analysed video recordings collected of three teachers from three schools, instructing grade 3 primary school children (7/8 years old) in a second language (Italian) class. Ninety second extracts from these video recordings were rated for class engagement by

seven expert raters. Measurements were made of timing in the vocal interactions between teacher and students, and ratings and measures were statistically compared. We hypothesised that the more engaged the classroom interaction is rated, the more 'harmonious' the classroom interaction will be. Harmonious, in this context, means fewer interruptions and overlapping turns (of the teacher by a student or of a student by the teacher) and less student-to-student talking while the teacher is talking.

## RESULTS AND DISCUSSION

As we predicted, our results suggested that the more engaged the classroom interaction was rated, the more 'harmonious' were the classroom interactions. Higher ratings of student engagement were significantly associated with longer teacher pauses, fewer and less time spent in student/teacher overlapping turns, fewer student/student interruptions, and fewer occurrences of and less time spent in student background chatter.

All of these aspects can be interpreted as indicating a more harmonious, flowing, and a more 'listening' interactive style of communication. On the teacher's part, she pauses for longer (but not more often) which allows more time for the students to respond. Such pauses contribute to the students and the teacher taking vocal turns in an ordered fashion, giving rise to fewer overlapping turns between teacher and student.

Erickson demonstrates the importance of rhythm in instruction and turn taking between teacher and student, and also reminds us of the disrupted interaction style that can occur in mother-infant communication in cases of PND. The rhythm of interaction indicates when it is appropriate to take a turn, so we suggest that the presence of a greater number of disrupted interactions is a symptom of rhythm being absent or not appreciated. The predictable consequence for the students is that they are not held in the process of the 'narrative' of learning, and therefore, they disengage. It is important to note that the narrative of learning is co-created between teacher and student, although the teacher orchestrates it, just as a mother orchestrates the interaction with her child, or fails to orchestrate it, as might happen during PND. A flowing or harmonious style of interaction can also be considered as one that involves being aware of the other in the interaction – of listening to the conversational partner – and of valuing the other's contribution to the flow of interaction.

This study supports the stance that the nature of teaching is not just about the supplying of information, but an important component of teacher effectiveness is the manner in which information is given. This needs to be sensitive to the co-created learning narrative as it emerges through the lesson. Future studies will attempt to further describe the effective interactive learning environment

and will consider the effects of class size and teacher familiarity with the class on teacher-student interaction, as well as potential changes in a teacher's interaction style over time. Such findings may have implications for teacher training.

## IMPLICATIONS FOR CLASSROOM PRACTICE

People are generally quite unaware of the aspects of communication that we describe here, however, some useful hints for teaching can be derived from our results. These are:

- Form the group visually and verbally – make eye contact with all students and use words like 'our' and 'we'.
- Make sure all children have a chance to have their say, and to finish what they are saying.
- Listen more than you talk, at least during group discussions.
- Control interruptions; make sure children allow each other to finish what they are saying, and practice this yourself.
- Manage the tempo of the discussion and let children see that pauses are important because they allow for reflection.

## REFERENCES AND FURTHER READING

This website has many interesting and useful references on classroom communication:

<http://www.rtweb.info/ch12/>

Edwards, J. (2000). 'The research and realities of teaching and learning in the middle years of schooling'. Background paper to keynote address presented at the Middle Years of Schooling Conference. Melbourne Convention Centre, August 14-16.

Erickson, F. (1996). 'Going for the zone: the social and cognitive ecology of teacher-student interaction in classroom conversations.' In D. Hicks (ed.) *Discourse, learning and schooling*. New York: CUP, pp. 29-62.

Erickson, F. (1992). 'They know all the lines: Rhythmic organisation and contextualisation in a conversational listing routine'. In P.Auer and A. di Luzio (Eds.) *The contextualisation of language*. Amsterdam: J.Benjamins.

Malloch, S (1999/2000). 'Mothers and Infants and Communicative Musicality' Special Issue of *Musicae Scientiae: Rhythm, Musical Narrative and Origins of Human Communication*, pp. 29-57.

Malloch, S. (2002). 'Musicality: The art of human gesture'.

In C. Stevens, D. Burnham, G. McPherson, E. Schubert & J. Renwick (Eds.), *Proceedings of the 7<sup>th</sup> International Conference on Music Perception and Cognition*, Sydney.

Rowe, K. J. and Rowe, K. S.(1999). 'Investigating the Relationship between Students' Attentive-Inattentive Behaviors in the Classroom and Their Literacy Progress'. *International Journal of Educational Research*, 31(1-2), pp.1-137.

Rowe, K, Rowe, K.S. & Pollard, J. (2004) 'Literacy, behaviour and auditory processing: Building 'fences' at the top of the cliff in preference to 'ambulances' services at the bottom.' Background paper to invited address presented at the ACER Research Conference, Adelaide, 24-26 October 2004.

Trevarthen, C. (2001). 'Intrinsic motives for companionship in understanding: their origin, development, and significance for infant mental health'. *Infant Mental Health Journal*, 22 (1-2), pp. 95-131.

Trevarthen, C and Malloch, S (2000) 'The Dance of Wellbeing: Defining the Musical Therapeutic Effect.' *The Nordic Journal of Music Therapy*, 9 (2), pp. 3-17.

Trevarthen, C., and Malloch, S. (2002). 'Musicality and Music Before Three: Human Vitality and Invention Shared with Pride.' *Zero to Three*, 23(1), pp. 10-18.

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