The social mediation of learning in multiethnic schools: Introduction

Guida de Abreu
Oxford Brookes University, United Kingdom

Ed Elbers
Utrecht University, The Netherlands

The ethnic diversity within schools is a major challenge for education in most European countries. The diversity of cultural backgrounds of students and parents leads to new transitions, enables new forms of participation, and demands the creation of new concepts, values and practices. Processes of mediation have a vital place in the required developments. The contributions to this issue study the relationship between learning and social mediation on three levels: (1) the mediating role of cultural tools, in particular language and the curriculum, (2) the role of peers and teachers in the appropriation of cultural tools by minority students, and (3) the mediating role of social representations in the shaping of students' identities at school.

The unprecedented levels of migration in most European countries have substantially changed the ethnic composition of the school population. This ethnic diversity within schools poses major challenges to systems of education in many European countries. Multiethnic schools have to respond to the social, cultural and linguistic heterogeneity of their students. Parents, teachers and educators who often have been educated in a relatively monolingual and homogeneous culture have to engage with the development of their youngsters in a society that is multilingual and culturally heterogeneous. The experience of being participant in a multicultural classroom leads to new transitions, and demands the creation of new concepts, values and practices. The current historical conditions with increasing opportunities in travel, media and communication technologies bring possibilities of new, enriched and more encompassing, conceptions and practices of education. Multicultural societies enable new trajectories of development, appropriation and identification, which call for new ways of understanding human development (see for instance, Suarez-Orozco, 2001; Hermans &

Kempen, 1998). Research into the learning and development of students in multiethnic schools is, however, an area that has received less attention than it deserves.

The authors, in this collection of articles, approach the issue of learning in multiethnic schools from the perspective of mediation. We draw on Vygotsky's notion that learning as a higher mental process is socio-culturally mediated (Vygotsky, 1978). The notion of mediation implies that humans have access to their worlds in indirect ways, through tools provided by their culture. These cultural tools, such as a particular language, a mathematical system or a physical object such as a textbook "provide the link or bridge between the concrete actions carried out by individuals and groups, on the one hand, and cultural, institutional, and historical settings, on the other." (Wertsch, del Rio, & Alvarez, 1995, p. 21). Until quite recently, instruction and learning in schools, in most European countries, could borrow from a relatively uniform set of cultural tools, such as a common language and cultural traditions and backgrounds shared by all participants. This situation has drastically changed. Schools have been transformed into places with a multiplicity of languages, cultural values and habits. For making their communication successful, teachers, children and their parents have to create new forms of mediation, in which all participants can share. The existence of culturally heterogeneous schools demands the construction of new psychological tools, practices and valorisations which guide the construction of a 'new present' (Vygotsky's term, cf. Van der Veer & Valsiner, 1991, p. 310).

Up till recently research has explored two particular aspects of mediation (Abreu, 1999; Abreu, 2000). One aspect focused on the mediating role of the cultural tool: how properties of specific tools impact on cognition, e.g., how the logical organisation of a counting system influences the way we count (Saxe, 1991) or how the properties embedded in a material tool, such as a ruler or a calendar contribute to our problem solving skills (Nunes, Light, & Mason, 1993). The second aspect focused on the role of social interactions in the way children, novices and newcomers gain access to cultural tools – e.g., strategies used by mothers to help their children to acquire particular cognitive or social skills (Elbers, Maier, Hoekstra, & Hoogsteder, 1992).

In this special issue we have added a third aspect to the analysis of mediation, which focuses on the impact of broader social and institutional structures on people's psychological understanding of cultural tools. We argue that in order to understand social mediation it is necessary to take into account ways in which the practices of a community, such as school and the family, are structured by their institutional context. Cultural tools and the practices they are associated with, have their existence in communities, which in turn occupy positions in the broader social structure. These wider social structures impact on the interactions between the participants and the cultural tools. An obvious impact may be seen in terms of the availability of cultural tools in a practice, e.g., maps, books, computers, languages, etc. (Schoultz, Säljö, & Wyndhamn, 2001; Wyndhamn & Säljö, 1999). They may also constrain interactions among the participants in a practice (e.g., seating arrangements may favour some forms of interactions among people; and it is not uncommon that these seating arrangements are embedded in physical structures of buildings, such as size of classrooms and type of furniture available). A less visible impact, but not less important, is the implicit messages of which cultural tools and forms of practices are legitimised by the broader social and institutional structures (Abreu & Cline, 2003).

Cole (1996), drawing on Wartofsky (1979), proposed a categorisation of cultural tools (artefacts), which incorporates the three aspects mentioned above. He suggested that cultural tools can be examined: (1) as primary artefacts, such as words, writing instruments, computers and calculators, which are directly used in the actions which form the production of material goods and social life; (2) as secondary artefacts, which consist of representations of the primary artefacts and of modes of action for using the primary artefacts, such as norms, prescriptions and recipes; (3) as tertiary artefacts which are relatively autonomous representations of the world which colour the way one sees the "actual world". Analysis at this third level has been limited. Nunes (2003) argued that one of the obstacles in investigating these representations is their 'implicit', 'taken for granted' or 'common sense' character.

These representations are often so obvious for the members of a particular culture, or social group, that they do not pay much attention to the sociocultural processes involved in their re-construction by new members. In the same vein, there is very limited understanding of the way these representations mediate learning processes.

Cole's classification of cultural artefacts is particularly useful, because it shows the fundamental mutual dependence of the three levels of mediation. Schools and curricula form an institutional domain, a 'world on its own', designed especially to prepare children for adult life in a modern and complex society. Without the overarching frame that constitutes and legitimises formal education, there would be no testing, instruction or homework. Classroom interactions are the flesh and blood of education, but they borrow their meaning from the social function given to institutional education.

The specific contributions to this issue address complementary and interrelated aspects of social mediation in relation to the schooling of children in multicultural classrooms. They are not intended to cover all dimensions and possible ways of exploring social mediation. Instead, they reflect aspects, which were deemed important by colleagues using sociocultural approaches to address issues of teaching and learning in European countries. This included colleagues researching in countries with some tradition of dealing with multiethnic schools (e.g., England, Netherlands) and countries that are experiencing it as a recent social phenomenon (e.g., Portugal, Greece, Spain, Norway). These two distinctive types of context influenced the current thinking and priorities for research in minority schooling found in these countries. As a whole, the set of articles included in this issue explored three complementary aspects of social mediation of learning in multiethnic schools.

The mediating role of cultural tools

The first aspect examined in the studies presented is how cultural tools mediate forms of participation in schooling which may be more or less inclusive of the linguistic and cultural heritages of both the school and the students. Lutine De Wal Pastoor's article explores the mediational role of classroom discourses in the acquisition of Norwegian in a multiethnic classroom. During the last few decades, the Norwegian primary school population has become increasingly ethnolinguistically diverse. A considerable number of linguistic minority pupils have to acquire Norwegian as a language for school through classroom discourse. Pastoor's research carried out in a multicultural third grade class of a Norwegian primary school reveals that linguistic minority children face a considerable challenge by being simultaneously involved in processes of "learning language" and "learning through language". Her findings show that successful participation in classroom discourse not only requires linguistic and cognitive competence, but also demands cultural knowledge, which often is 'taken for granted'. She shows that the discrepancy between teachers' implicit assumptions of what is 'common knowledge' and minority pupils' lacking background knowledge may impede joint meaning construction.

Margarida César and Isolina Oliveira examine the curriculum as a means of reorganizing school practice, so that it is designed to foster inclusion where there is evidence of alienation of students with minority backgrounds. They describe an action-research project where an alternative curriculum was developed in a class (5th and 6th grades) in a school in Lisbon. The curriculum was developed by teachers in close collaboration with parents and students themselves. The authors' analysis documents processes of change and their impact on the learners' participation in their school practices. A large part of César and Oliveira's contribution reports on a follow up study, carried out after most students had left school. It consisted of interviews which showed how much the inclusive curriculum and the interactions between teachers and students it involved had re-established relations of trust between teachers and students and provided these young people, considered 'at risk' during their school time, with a positive view on the school and academic learning. As a cultural tool the

curriculum bridged between the students' home cultures and the micro-social classroom context where the teachers and pupils engage in school learning. It connected students' values and knowledge from their home communities with the demands of schooling as an institution in Portuguese society.

What these two contributions have in common is evidence of the powerful impact of institutions on the creation of cultural tools which can then mediate forms of participation in practices. Both the curriculum and particular types of classroom discourse are examples of institutional tools, which provide means for practices to be orchestrated in specific ways. Thus, particular forms of classroom discourse can facilitate the learners' access to cultural tools of new communities. As Pastoor demonstrates, this access can be jointly constructed in interactions which recognise the cultural dimensions of language. An inclusive curriculum incorporates activities specially designed to facilitate the learners' access and sharing of cultura tools from their own communities. This in turn seems to promote a reflection back to the broader social context in the sense that school is legitimating cultural tools and associated identities of the community of learners it serves.

The mediating role of the other

The second aspect addressed relates to how learners from minority cultures develop access to the cultural tools of the majority culture in the context of classroom interaction. In the studies reported in this section mediation is explored in terms of the mediating role of other classroom peers and of teachers in circumstances where the learner has non-native mastery of the principal language and the culture of the school.

Ed Elbers and Mariëtte de Haan examine the construction of word meaning by students during collaborative activities in a multicultural mathematics classroom at a Dutch primary school. The study was conducted in a school, where collaborative work between students was a central pedagogic feature, and students were accustomed to working in collaborative groups. Another specific feature of the school practices was their "realistic" approach to mathematics education. This created a particular context for students' talk about common Dutch words unfamiliar to minority students, which very often reflected a lack of familiarity with Dutch culture. Thus, in agreement with Pastoor's observation in the Norwegian class, Elbers and Haan's study also illustrates how institutionalised uses of language at school "take for granted" students' access to the wider cultural dimension of school language. One would expect that clarifying these cultural meanings was crucial for the students to overcome their language problems, but the analysis of how they tried to solve these problems revealed something different. In the groups with both Dutch and minority children, the Dutch children helped the minority children to overcome language problems. However, the Dutch children did not elucidate the meaning of the unfamiliar words in broad cultural terms but gave minimal information, which was sufficient for minority students to solve the task. The clarification of meaning was made part of the mathematical discourse, even in groups with Dutch children who potentially did have access to the wider cultural discourse. Students seemed to have given priority to their identity as mathematical learners. In doing so they evoked the mathematical discourse to mediate their interactions, thus enabling the minority students' access to identities as mathematical learners in a Dutch school.

In the second article in this section, Anna Chronaki further shows the close interrelationship between appropriation of mathematical tools and development of school identities within the dominant culture. She examines the processes involved in two gipsy children gaining access to mathematics through interaction with a Greek teacher. These children have to make a transition from home to school arithmetic. This process involves learning to value the use of school tools and learning to participate in school practices. Chronaki's study illustrates how mastering 'new' cultural tools and entering 'new' discourses, such as mathematical tools and discourses of the Greek school, for the minority children are

two processes that are found to be closely interrelated. The teacher, by encouraging the children to use mental and symbolic tools instead of, for instance, relying on counting with their fingers, at the same time introduced them to identities valued in the Greek mathematics classroom. The analysis of the two contrasting case studies reveals that the student who learned more about relevant ways of behaving in the school mathematics lesson was also the student who engaged more with the specific mathematical tasks. This finding suggests that the students' engagement with the mathematical discourse of the school was mediated by a construction of a learning identity. The Greek teacher had a crucial role in supporting her minority students' development of these new identities. However, the fact that the two students followed distinct trajectories implied that forms of participation in classroom mathematics are also influenced by other mediators.

Though the two papers in this section focus on one aspect of social mediation that has been widely researched, that is negotiation of cultural knowledge in face-to-face interactions, they provide new insights into the learning of minority children. The article by Ed Elbers and Mariëtte de Haan illustrates how the composition of groups may impact on the negotiation of meaning of words in mathematical classrooms. In some groups, minority students could address their Dutch peers to help them clarify the meaning of unfamiliar words. There were also groups with only minority children, who had to solve their language problems without help from their Dutch classmates. However, this difference did not lead to the Dutch children facilitating their minority peers' access to the wider cultural meanings. This is an interesting finding considering that the Realistic Mathematics Education curriculum is underpinned by a philosophy in which it is believed that students' learning will benefit from drawing on their everyday knowledge. The Dutch students did not use this as a principle guiding their explanation of meaning of words to their minority colleagues. Instead, they seem to have focused on their identity as mathematical learners and accordingly chose the mathematical discourse to communicate with their peers. Chronaki also insists on the importance of gaining access to identities as school mathematical learners. However, her analysis places more importance on the cultural conflicts this involves and the problems of access to the cultural other. In fact, she argues that in her study the children's motivation to engage in mathematical practices was sustained by their interest in the Greek culture and the teacher's wish to explore the children's culture. Chronaki further shows that in spite of this level of engagement one of the girls she studied found it difficult to assume the identity required from her as a mathematical learner at school. She suggests that these difficulties might reflect the limits that exist within the system of the school culture in shaping relevant contexts for interaction and learning as far as the ethnic minority children are concerned.

The mediating role of social representations

The articles in the next section offer a contribution to exploring mediation at the interface of systems. They do so by examining ways in which representations of home culture mediate learning of the school culture. We use the expression 'social representations' to incorporate the meanings, values, norms, beliefs, which colour the way a person or group makes sense of cultural practices and cultural tools.

Rather than focussing on face-to-face interactions, Sarah O'Toole and Guida de Abreu examine the mediating role of representations. In their article, these authors seek to understand the ways in which parents draw on their own past experiences as a mediational tool for understanding and influencing their child's current school learning. This article is based on interviews with parents of children in three multiethnic primary schools situated in a small industrial town in the South East of England. Many of these parents had their education in a different country or under circumstances which differ considerably from the school of their children. Focussing on the parents' past experiences combined with their expectations for the child's future, the authors examined how these representations mediated the parents' reactions

to their child's school career and to the school. Some of these reactions are based on the desirability to reproduce their own experiences in their children's education (which the authors call internalisation), other reactions are rooted in parents' wishes to create experiences for their children which differ from their own (externalisation). When the representation is used as a means of internalisation, its main function is the reproduction of culture. On the other hand, when the representation is used as a means of externalisation, it is based on a vision of an imagined world one is trying to make possible. The authors propose that two concepts may be useful for this level of analysis. The first is the concept of heterochronicity, which looks at the partially overlapping histories of the individual and society (Beach, 1995, 1999). The second is the concept of prolepsis whereby the imagined future mediates and constrains the world of the present (Cole, 1995). O'Toole and Abreu suggest that viewing representations through these lenses seem particularly relevant to exploring situations where minority parents' cultural histories may not overlap or overlap only partially with the mainstream culture.

Núria Gorgorió and Núria Planas also examine the mediating role of social representations. Drawing on empirical research carried out in three classrooms in urban high-schools in Barcelona, Spain, with students aged 15-16 years, they argue that the breakdown in communication of minority students in multiethnic classrooms is mediated by representations and identities students bring with them to school. These representations influence the way students make sense (or fail to make sense) of the mathematical practices and the norms for working in the classroom. The authors examine how norms for participation regulating interactions in a mathematics classroom influence the transition process of immigrant students to the point of non-participation. These norms, intended to promote student participation, sometimes lead to conflicts between minority students' identities in different social contexts. When these conflicts are not positively solved, they may inhibit students' participation and lead to exclusion. The authors' original contribution resides in analysing how the wider sociocultural background of the participants also mediates learning at the level of classroom interactions. They illustrate complementary layers of social mediation, showing that not only is the students' construction of mathematical knowledge mediated by social processes in the classroom, but also that the students' perception of the immediate context is affected by the identities they want to develop.

The two articles in this section together illustrate how social representations which are simultaneously linked to past histories, experiences in the present and the imagined future mediate minority children's school learning. Both articles address issues related to the impact of the learners' history and practices outside school on their school learning. In particular, they illustrate that the way people draw on these representations to mediate participation in schooling practices is not a one-way or a purely reproductive process. For instance, breakdowns in communication, as illustrated by Gorgorió and Planas, are not an automatic product of the representations the minority ethnic children brought from their home culture, but they are also a response to asymmetrical social interactions, which they experienced as devaluing their ways of knowing and being. In addition, O'Toole and Abreu's study illustrates that the way the representations of the past are articulated to respond to new situations involves imagined futures. The social representations originated in the home context amount to a repertoire of resources, which participants can borrow from for creating their reactions to the dominant culture and shaping their relationships with its institutions and representatives. There is a close connection between the use of cultural tools and processes of identity and identity development.

Some conclusions

Overall we see the major contribution of this issue to be the analysis of social mediation in multiethnic schools in terms of: (1) the innovation and the creation of new cultural tools; (2) the close association between processes of appropriation and development of cultural tools and processes of identification.

Several examples of the need for innovation and development of new cultural tools were presented in this issue. The diversity of languages and cultural backgrounds in a multiethnic classroom requires that the dialogic function of discourse is reinforced, as Pastoor argues. Participating in dialogues will allow minority students a voice in the process of knowledge construction. One example is the research in the Netherlands (see Elbers & Haan, this issue): the linguistic diversity in the classroom demands that native Dutch students help their classmates who do not speak Dutch as their first language to solve word problems. This is a completely new challenge and task for the Dutch students, which challenges them to create forms of interaction which were hitherto unfamiliar to them. Another example is the study by Gorgorió and Planas. We can see in their study that the teachers participated voluntarily and were sensitive towards inclusion and equity issues. This, however, was not sufficient to help them orchestrate practices which prevented minority students experiencing breakdowns in communication. The challenge would be to develop forms of interaction which are based on mutual assistance without bringing the minority children into a subordinate position (Elbers & Haan, 2004). Teachers, of course, should intervene and assist children to develop these new forms of interaction. Researchers can also be key players in this process by working collaboratively with educators in the design of new teaching environments and examining the impact of this on the learning and development of students.

The second major contribution of this special issue is the examination of the close relationships between processes of appropriation and development of cultural tools and processes of identification. To some extent all the articles explore facets of these relationships. They show minority students' and parents' strategies to cope with the problem of accessing the cultural meanings involved in the school practices. These transition processes lead to tensions and conflicts because of the diverse cultural contexts of the participants and their related identities. The connection between learning and identity development is especially explored in the articles by Chronaki, César and Oliveira, O'Toole and Abreu, and Gorgorió and Planas. These authors explicitly address how participation in schooling practices of the host culture is a developmental process in which the way learners engage with the construction of new cultural tools is associated with negotiation and construction of identities. Moreover, these papers illustrate that forms of engagement are socially mediated by cultural tools (such as the curriculum) and by significant others, such as parents and teachers. The longitudinal and interventional focus followed by Chronaki and by Cesar and Oliveira clearly illustrated that sustaining engagement with the school practices over time is a complex issue.

To conclude, globalisation and migration processes lead to completely new social circumstances and challenges in multiethnic classrooms. Existing social and cultural tools are insufficient and have to be adapted. The emergence of a multicultural society asks for creativity and the development of new concepts, values and practices. Of course, these build on those that already exist which, however, have to be adapted to allow people to cope with the new circumstances. Processes of social mediation play a key role in the required developmens, but as illustrated in the six articles, the current scientific understanding of how these processes operate is still limited. Some directions both theoretical and methodological are offered in the six studies examined. No doubt, there is urgency for further research and greater collaboration in this area.

References

Abreu, G. de (1999). Learning mathematics in and outside school: Two views on situated learning. In J. Bliss, R. Säljö, & P. Light (Eds.), *Learning sites: Social and technological resources for learning* (pp. 17-31). Oxford: Elsevier Science.

Abreu, G. de (2000). Relationships between macro and micro socio-cultural contexts: Implications for the study of interactions in the mathematics classroom. *Educational Studies in Mathematics, 41*(1), 1-29.

Abreu, G. de, & Cline, T. (2003). Schooled mathematics and cultural knowledge. *Pedagogy, Culture and Society, 11*(1), 11-30.

Beach, K. (1995). Sociocultural change, activity and individual development: Some methodological aspects. *Mind, Culture and Activity, 2*(4), 277-284.

Beach, K. (1999). Consequential transitions: A sociocultural expedition beyond transfer in education. *Review of Research in Education, 24*, 101-139.

Cole, M. (1995). Culture and cognitive development: From cross-cultural research to creating systems of cultural mediation. *Culture & Psychology, 1,* 25-54.

Cole, M. (1996). *Cultural psychology.* Cambridge, MA: The Belknap Press of Harvard University Press.

Elbers, E., & Haan, M. de (2004). Dialogic learning in the multi-ethnic classroom. Cultural resources and modes of collaboration. In J. Van der Linden & P. Renshaw (Eds.), *Dialogical perspectives on learning, teaching and instruction* (pp. 17-43). Dordrecht: Kluwer.

Elbers, E., Maier, R., Hoekstra, T., & Hoogsteder, M. (1992). Internalization and adult-child interaction. *Learning and Instruction, 2,* 101-118.

Hermans, H.J.M., & Kempen, H.J.G. (1998). Moving cultures: The perilous problems of cultural dichotomies in a globalised society. *American Psychologist, 53*(10), 1111-1120.

Nunes, T. (2003). The sociocultural construction of implicit knowledge. *Cognitive Development, 18,* 451-454.

Nunes, T., Light, P., & Mason, J. (1993). Tools for thought: The measurement of length and area. *Learning and Instruction, 3,* 39-54.

Saxe, G. (1991). *Culture and cognitive development: Studies in mathematical understanding.* Hillsdale, NJ: Lawrence Erlbaum.

Schoultz, J., Säljö, R., & Wyndhamn, J. (2001). Heavenly talk: Discourse, artifacts, and children's understanding of elementary astronomy. *Human Development, 44,* 103-118.

Suarez-Orozco, M. (2001). Globalization, immigration, and education: The research agenda. *Harvard Educational Review, 71*(3), 345-365.

Van der Veer, R., & Valsiner, J. (1991). *Understanding Vygotsky. A quest for synthesis.* Oxford: Blackwell.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Wartofsky, M. (1979). *Models. Representation and the scientific understanding.* Dordrecht: Reidel.

Wertsch, J.V. (1991). *Voices of the mind.* Cambridge: Cambridge University Press.

Wertsch, J.V., del Rio, P., & Alvarez, A. (Eds.). (1995). *Sociocultural studies of the mind.* Cambridge: Cambridge University Press.

Wyndhamn, J., & Säljö, R. (1999). Quantifying time as a discursive practice: Arithmetics, calendards, fingers and group discussions as structuring resources. In J. Bliss, P. Light, & R. Säljö, (Eds.), *Learning sites: Social and technological resources for learning* (pp. 80-96). Oxford: Elsevier Science.

La diversité ethnique dans les écoles est un défi majeur pour l'éducation dans la plupart des pays européens. La diversité des cadres culturels des élèves et des parents amène de nouvelles transitions, permet de nouvelles formes de participation, et demande la création de nouveaux concepts, valeurs et pratiques. Les processus de médiation ont une place vitale dans les développements requis. Les contributions à ce numéro spécial examinent la relation entre l'apprentissage et la médiation sociale sur trois niveaux: (1) le rôle médiateur des outils culturels, en particulier le langage et le curriculum, (2) le rôle des camarades et des instituteurs dans l'appropriation des outils culturels par les élèves minoritaires, et (3) le rôle médiateur des représentations sociales dans la formation des identités des élèves à l'école.

Guida de Abreu. School of Social Sciences & Law, Department of Psychology, Oxford Brookes University, Gipsy Lane Campus, Headington, Oxford, OX3 0BP, United Kingdom; E-mail: gabreu@brookes.ac.uk

Current theme of research:

Children's experience of the relationship between their home and school mathematics. Parents' representations of their children's learning and development. Schooling and cultural identity development of ethnic minority and immigrant children.

Most relevant publications in the field of Psychology of Education:

Abreu, G. de (1999). Learning mathematics in and outside school: Two views on situated learning. In J. Bliss, P. Light, & R. Saljo (Eds.), *Learning sites: Social and technological resources for learning* (pp. 17-31). Oxford: Elsevier Science.

Abreu, G. de (2002). Mathematics learning in out-of-school contexts: A cultural psychology perspective. In L.D. English (Ed.), *Handbook of international research in mathematics education: Directions for the 21st century* (pp. 323-353). USA: Lawrence Erlbaum.

Abreu, G. de, & Cline, T. (2003). Schooled mathematics and cultural knowledge. *Pedagogy, Culture and Society, 1*(1), 11-30.

Abreu, G. de, Bishop, A., & Presmeg, N. (Eds.). (2002*). Transitions between contexts of mathematical practices.* Dordrecht: Kluwer.

Abreu, G. de, Cline, T., & Shamsi, T. (2002). Exploring ways parents participate in their children's school mathematical learning: Case studies in a multi-ethnic primary school. In G. de Abreu, A. Bishop, & N. Presmeg (Eds.), *Transitions between contexts of mathematical practices* (pp. 123-147). Dordrecht: Kluwer.

Ed Elbers. Utrecht University, Faculty of Social Sciences, P.O. Box 80140, 3508 TC Utrecht, The Netherlands; Tel. +31 30 2531408; Fax. +31 30 2534733; E-mail: E.Elbers@fss.uu.nl

Current theme of research:

Learning and interaction in multicultural classrooms. Communication in educational settings. Collaborative learning.

Most relevant publications in the field of Psychology of Education:

Elbers, E. (2003). Classroom interaction as reflection. Learning and teaching in a community of inquiry. *Educational Studies in Mathematics, 54*, 77-99.

Elbers, E. (2004). Conversational asymmetry and the child's perspective in developmental and educational studies. *International Journal of Disability, Development and Education, 51*(2), 201-215.

Elbers, E., & De Haan, M. (2004). Dialogic learning in the multi-ethnic classroom. Cultural resources and modes of collaboration. In J. van der Linden & P. Renshaw (Eds.), *Dialogical perspectives on learning, teaching and instruction* (pp. 17-43). Dordrecht: Kluwer.

Elbers, E., Hajer, M., Jonkers, M., & Prenger, J. (2005), Instructive dialogues: Participation in dyadic interactions in multicultural classrooms. In R. Maier & W. Herrlitz (Eds.), *Dialogues in and around multicultural schools* (pp. 249-264). Tübingen: Max Niemeyer Verlag.

Elbers, E., Maier, R., Hoekstra, T., & Hoogsteder, M. (1992). Internalization and adult-child interaction. *Learning and Instruction, 2*, 101-118.