

DISCOURSE, DEVELOPMENT, AND EDUCATION

Educators, especially those focusing on the socio-moral development of students, have long emphasized the role of classroom discourse. Fritz Oser, for example, has emphasized the notion of discourse in moral problem solving since the 1970s (e.g., Oser, 1981, 1984). He emphasized that moral discourse is “the common denominator that should encompass different elements of moral learning” (Oser, 1986, 919).

Oser further expanded the application of discourse to teachers’ professional discourse (e.g., Oser & Althof, 1993). Discourse also was central in the work of Lawrence Kohlberg, who inspired much of Oser’s work. Kohlberg’s theory of moral reasoning development led to two major educational models. The moral dilemma discussion approach focused on teacher facilitated classroom discussions of open-ended moral problems (Berkowitz, 1985). In the “Just Community” approach to democratic schooling, the “moral dilemma discussion” becomes a school wide institution (Power, Higgins, & Kohlberg, 1989). Small group discussions, school-wide democratic “town meetings”, and student/faculty judiciary committees all take the hypothetical moral discourse of moral dilemma discussions to a school-wide and real world level. It emphasizes the procedural and discourse related aspects of democratic decision-making and moral learning more strongly (Oser & Althof, 2001).

In the late 1970s and early 1980s, Kohlberg’s work was informed by Jürgen Habermas’ theory of communicative action (Althof, 2003; Habermas, 1981) and his discourse ethics. In this process, claims and propositions have to be justified in a way that can be “accepted by free and equal persons seeking fair terms of cooperation” (Gutmann & Thompson, 2004, 3). Actors are expected to give reasons, and reasons of other parties must be explicitly considered. This, again, requires that reasons in the process must be accessible and understandable to everyone involved. “It would not be acceptable, for example, to appeal only to the authority of revelation, whether divine or secular in nature” (ibid., p. 4). Cohen (1996) discusses which considerations count as reasons in this context and he strongly points to the argumentative nature of the exchange:

“In an idealized deliberative setting, it will not do simply to advance reasons that one takes to be true or compelling: such considerations may be rejected by others who are themselves reasonable. One must instead find reasons that are compelling to others, (...) aware that they have alternative reasonable commitments, and knowing something about the kinds of commitments that

they are likely to have – for example, that they may have moral or religious commitments that impose what they take to be overriding obligations. If a consideration does not meet these tests, that will suffice for rejecting it as a reason. If it does, then it counts as an acceptable political reason” (p. 100).

In other words, the quality of reasoning is critical. Deliberative reasoning “operates on the reasoning of another” (Berkowitz & Gibbs, 1983) – it is, in our terms, transactive. We will spend the rest of this chapter examining this particular line of theory and research about developmental discourse.

TRANSACTIVE DISCUSSION

Origin and Overview

Although it aligns with the more philosophically justified discourse work of Oser, the model of transactive discussion actually comes out of basic psychological theory and research. Based heavily on the work of Piaget and Kohlberg, it has become clear to both social scientists and educators that students encounter the world through the lens that is their current system for making meaning of the world, in this case the socio-moral world. This lens is their stage of socio-moral cognition, for Kohlberg their stage of moral reasoning. The stages themselves, whether Piagetian stages of logico-mathematical understanding, Oser’s stages of religious thinking, Selman’s stages of interpersonal reasoning, or Kohlberg’s stages of moral reasoning, develop in an invariant and universal sequence from less differentiation and integration of cognitive elements to greater differentiation and integration. Much is now known about this developmental process. The structures (stages) evolve into more adequate ways of knowing as a product of the interaction between one’s direct grappling with the world (either alone or with others) and the world that one is trying to comprehend. One key feature of the process of development is the “stretching” and challenging of one’s current meaning-making structure through social discourse, most typically peer discourse in the classroom setting. It is this feature that leads to an interest in the discursive structures of classroom practice and student interaction. In education, this discursive developmental process can be manifested as formal moral dilemma discussions (Berkowitz, 1985) or more generally through pedagogical strategies such as cooperative learning or the inquiry method in science education (Berkowitz & Simmons, 2003).

As Berkowitz and Simmons (2003) pointed out in their discussion of the role of peer moral discourse in science education, “The core of this process for structural development (i.e., the development of more effective ways of thinking about the world) is social interaction about cognitive problems, whether logical, physical, or social. ... The basic tenets of such an educational approach are the same: implementing developmentally stimulating programs of peer discussion in the classroom that serve both the goals of science education and the goals of character and citizenship education” (p. 129).

This focus on peer discussion arose in the 1970s in a set of parallel but independent ways. A group of colleagues of Piaget in Switzerland, from the perspective of social psychology, used peer discussion, less as a phenomenon of interest in itself but rather more as a method to promote the development of Piagetian logico-mathematical stages of reasoning (e.g., Doise, Mugny & Perret-Clermont, 1975; Mugny, Perret-Clermont & Doise, 1981). Nonetheless, despite their focus on the discursive nature of their pedagogical and laboratory interventions, this group was pioneering the use of peer discourse in a cognitive-developmental framework. At the same time in the US, Scott Miller and Celia Brownell (1975) were engaged in a very similar project, still without the focal interest in the interactive methods used to promote structural development.

At about the same time, working not within the logico-mathematical development domain but rather within the moral development field, Berkowitz, Gibbs, and Broughton (1980) studied the same social processes from the perspective of uncovering Piagetian disequilibrium processes. They had noted that all of the effective intervention strategies were centrally focused on peer moral dilemma discussion methods. The assumption was that such interactions (whether in pairs in the laboratory or in whole classroom discussions in schools) produced cognitive conflict in the discussants from the interpenetration of their different meaning structures and that this experience led to the stimulation of structural development within the individual. The goal was to observe and measure the overt social aspects of this developmental process, but this initial work merely inferred it from the individual effects of participation in the discussions. This initial project failed, as individuals did not seem to overtly express measurable signs of internal disequilibrium. So the project shifted to identifying the discursive conditions that were theoretically anticipated to promote internal experiences of disequilibrium, and hence individual cognitive-structural development.

This work was in synchrony, at times intentionally and at times coincidentally, with other researchers who had begun to turn their attention to the direct study of this interactive process by examining the social interactions and creating models for coding and analyzing them. In the US, Damon and Killen (1982), Bearison (1982), and Berkowitz and Gibbs (1983) and, in Germany, Max Miller (1980a,b; 1984) all began to codify the features of peer discussion that could be related to the structural development that had been observed to result from peer discussions.

The most detailed and developed model of peer discursive processes undergirding structural development was the work on transactive discussion by Berkowitz and Gibbs (1983). The term “transactive” was inspired by the work of Dewey and Bentley (1949) in which they philosophically contrast “interaction” with “transaction.” The former is defined, using a physical model, as “presentation of particles or other objects organized as operating upon one another” and transaction as “functional observation of full system” (p. 75). The emphasis was on understanding the world through interdependent and interpenetrative systems, rather than as mechanical directional interactions. Transactive discussion was defined as peer discussion

where one discussant manifests discursive reasoning about another discussant's reasoning. They identified 18 different discursive behaviors that represented a range of transaction (see Table 1). The highest forms were called Operational as they represented a transformation of the other's reasoning (e.g., by logically critiquing it, by integrating it with one's own reasoning, by extending it). The lower form was called Representational as it was more a re-presentation of the other's reasoning (e.g., a paraphrase or a juxtaposition with one's own reasoning).

Table 1. Table of Transacts

A. Representational Transacts

1. *Feedback Request (R)*: Do you understand or agree with my position?
2. *Paraphrase (R)*
 - (a) I can understand and paraphrase your position or reasoning.
 - (b) Is my paraphrase of your reasoning accurate?
3. *Justification Request (R)* Why do you say that?
4. *Juxtaposition (R)*: Your position is X and my position is Y.
5. *Dyad Paraphrase (R)*: Here is a paraphrase of a shared position.
6. *Competitive Juxtaposition (R)*: I will make a concession to your position, but also reaffirm part of my position.

B. Hybrid Transacts

7. *Completion (R/O)*: I can complete or continue your unfinished reasoning.
8. *Competitive Paraphrase (R/O)*: Here is a paraphrase of your reasoning that highlights its weakness.

C. Operational Transacts

9. *Clarification (O)*
 - (a) No, what I am trying to say is the following.
 - (b) Here is the clarification of my position to aid in your understanding.
10. *Competitive Clarification (O)*: My position is not necessarily what you take it to be.
11. *Refinement (O)*
 - (a) I must refine my position or point as a concession to your position or point (subordinative mode).
 - (b) I can elaborate or qualify my position to defend against your critique (superordinative mode).
12. *Extension (O)*
 - (a) Here is a further thought or an elaboration offered in the spirit of your position.
 - (b) Are you implying the following by your reasoning?
13. *Contradiction (O)*: There is a logical inconsistency in your reasoning.
14. *Reasoning Critique (O)*
 - (a) Your reasoning misses an important distinction, or involves a superfluous distinction.
 - (b) Your position implicitly involves an assumption that is questionable (premise attack).
 - (c) Your reasoning does not necessarily lead to your conclusion/opinion, or your opinion has not been sufficiently justified.
 - (d) Your reasoning applies equally well to the opposite opinion.
15. *Competitive Extension (O)*

- (a) Would you go to this implausible extreme with your reasoning?
- (b) Your reasoning can be extended to the following extreme, with which neither of us would agree.
16. *Counter Consideration (O)*: Here is a thought or element that cannot be incorporated into your position.
17. *Common Ground/Integration (O)*
 - (a) We can combine our positions into a common view.
 - (b) Here is a general premise common to both of our positions.
18. *Comparative Critique (O)*
 - (a) Your reasoning is less adequate than mine because it is incompatible with the important consideration here.
 - (b) Your position makes a distinction that is seen as superfluous in light of my position, or misses an important distinction that my position makes.
 - (c) I can analyze your example to show that it does not pose a challenge to my position.

Berkowitz and Gibbs (1983) first introduced this concept and the model in a study of undergraduate dyads who engaged in a series of moral dilemma discussions (Berkowitz, Gibbs, & Broughton, 1980). The dialogues were transcribed and analyzed and from a sub-set the transactive coding scheme was generated. When applied to the rest of the dialogues, it was found that dyads manifesting more transactive discussion, especially operational transaction, showed more pre-test to post-test development of Kohlbergian moral reasoning.

Two subsequent studies examined the development of transactive discourse competencies themselves. Berkowitz and Gibbs (1985) report a study (Gibbs, Schnell, Berkowitz, & Goldstein, 1983) of the relation of formal operational reasoning (Inhelder & Piaget, 1958) to higher order transaction in 40 undergraduate dyads. It was found that higher order transaction was rarely evident in dyads where members were not fully formal operational, and were present in most dyads where both members were fully formal operational.

In a later cross-sectional study of the presence and types of transactive discussion, Berkowitz, Oser, and Althof (1987) first examined the developmental data from the current research on transaction finding some evidence of a developmental pattern in the frequency of transaction across subjects from seven to 24 years of age. The reviewed studies were quite varied, but the suggestive summative findings prompted a cross-sectional study of dyads from six to twenty years of age. Furthermore, the sample was cross-sectional with half of each age group in Switzerland and half in the US. There was a clearly significant increase in total transaction with increasing age, and the pattern held similarly across both cultures. Finally, this pattern was also found separately for operational and representational transaction. These studies suggest that transaction not only fosters development, but is developmental itself.

Over the quarter century since Berkowitz and Gibbs (1983) introduced the concept of transitive discussion, research has accumulated demonstrating (1) the conditions that promote the use of transactive discussion and (2) that the presence of

transactive discussion in peer interactions is related to the development of cognitive structures, especially moral reasoning structures. This body of research will be briefly reviewed here.

Research on the Effects of Transactive Discussion

Research on the relation of transactive discussion to development and learning began with Berkowitz and Gibbs' (1983) report that more transactive discussion in adolescent peer moral discussions resulted in greater moral reasoning development. This finding of the relation of transactive discussion to moral reasoning development was replicated by Kruger (1992) in girls' discussions with either peers or mothers, by Pratt et al. (1999) in adolescent discussions with parents, and by Walker and Taylor (1991) in children's and adolescents' discussions with their parents. Kruger reported that the effect held for both peer and mother-daughter discussions, but the change was greater for peer dyads as they engaged in more active transactive discussions. Pratt et al., only found the effect for discussions with fathers and not for discussions with mothers. Overall, these four studies suggest that peer and/or parent-child discussions of moral issues can promote moral reasoning development in both children and adolescents when the discussions are rich in transactive discourse behaviors. In a complex and creative study of the role of classroom group discussion on the development of the capacity to coordinate perspectives, Mischo (2005) reports results that support these findings about moral reasoning. Although Mischo combines transaction with other variables, he reports that "the interaction process promoting perspective coordination may be characterized by the combination of an explanation-oriented discussion style and trait-like subject-related consensus-motive" (p. 58). When peer discussion was focused on the interpenetration of reasons and justifications (competitive operational transaction) and discussants were motivated to reach consensus (consensus instructions often foster more discussion and transaction), subjects showed more development in social perspective coordination competency.

The findings in the socio-moral domain have led other researchers to study the effects of transactive discussion on other aspects of development and on learning. Four studies examined the impact of transaction on the development of scientific reasoning and one on the development of mathematical reasoning. In the first study applying transaction in the science education sphere, Azmitia and Montgomery (1993) reported that children who used more transaction in peer science discussions showed better scientific problem-solving skills. In two studies of children's peer collaborative discussion of science topics, Teasley (1997) reported that dyads who engaged in more transactive discussion showed more improvement in peer collaborative scientific problem solving than dyads that did not use much transaction. More recently, Russell (2006), working with high school students reported that peer transactive discussion correlated with the development of reasoning about genetics. Similarly, in working with college students' and their abilities to understand

mathematical proofs, Blanton, Stylianou, & David (2003) reported that whole-class discussions rich in transaction resulted in greater gains in students' ability to construct mathematical proofs than discussion with less transaction.

A study by Miell and MacDonald (2000) expanded the content sphere further. Same gender pairs of 11 and 12 year old boys and girls were observed working on a collaborative musical composition. Teachers rated the ultimate composition and their ratings were significantly related to the amount of transaction in the dyads, with higher ratings related to more transaction.

Taken together, these studies suggest that transactive discussion is a robust developmental stimulant for a range of cognitive outcomes (moral reasoning, scientific reasoning, mathematical reasoning, musical composition), in a range of contexts (peer dialogues, parent-child discussions, whole-class discussions), and for a range of age groups (children through college students).

Conditions for Transactive Discussion

As no models exist for the training of transactive discussion, all relevant research capitalizes on its spontaneous usage. It is therefore helpful to understand the conditions under which transactive discussion is more or less likely to occur. Relationship between discussants appears to be an important variable in the likelihood of transactive discussion. Kruger and Tomasello (1986) report that young girls use more transaction, especially operational higher order transaction (which Berkowitz and Gibbs, 1983, revealed as the more developmentally powerful form of transaction) with peers than with mothers, but that they used more reactive (responsive) transacts with mothers because mothers asked for clarification more than peers did. Parents seem to adjust their levels and kind of transaction when talking to children. Walker and Taylor (1991) noted that parents used less operational transaction and more representational transaction when discussing the child's real life dilemma than when discussing hypothetical dilemmas. Santolupo and Pratt (1994) found that mothers used higher level transaction with sons than with daughters in discussion of political issues.

Relationships in peer discussions also were relevant to levels and types of transaction. Azmitia and Montgomery (1993) found that children used more transaction in moral discussions with friends than with acquaintances. Miell and MacDonald (2000) similarly found that children used more transaction with friends than with non-friends, in this case when working on a collaborative musical composition. Bloch (2002) found more transaction in social dilemma discussions with different age child dyads than in same age dyads. Leadbeater (1988), in adolescent and adult peer dialogues, found different types of transacts used in same gender female, same gender male, and mixed gender dialogues. Female dyads tended to focus on the partner and be non-competitive, male dyads tended to focus on self and partner and be competitive, and mixed gender dyads tended to focus on the partner both competitively and non-competitively. Faulkner et al. (2000) reported that similarity in ability impacted transaction. Working with 9 and 10 year olds on scientific

reasoning tasks, they reported that mixed ability pairs used more transaction than did same ability pairs.

Developmental level and age are also related, not surprisingly, to the amount and type of transaction one produces. Berkowitz and Gibbs (1985) reported that high levels of Piagetian logical development were related to higher levels of transaction. Santolupo and Pratt (1994) found older adolescent girls using more transaction than younger adolescent girls, but did not find this difference for boys.

Other conditions for transactive discussion were studied as well. Teasley (1997) examined the amount of transaction generated when working with a partner or working alone (self talk). Faulkner et al. (2000) compared child dyads working with a computer simulation or with physical apparatus on scientific problems, and found more transaction in the groups working with computers. Similarly, Anderson et al. (2000) reported more transaction in undergraduate psychology major group project work when the groups worked with a computer program designed to assist group process. Finally, Blanton, Stylianou, and David (2003) found that teachers could effectively scaffold undergraduate whole-class discussion of mathematical issues to facilitate more transactive discussion.

While more research is needed, these studies suggest that conditions can be manipulated to increase the amount of transactive discussion in children and adolescents, and in dyads and larger groups. These findings are encouraging for educators who wish to reap the developmental benefits of discussion based pedagogies such as cooperative learning, class meetings, and moral dilemma discussions.

Transaction and Family Dynamics

It has already been noted above that research on the role and nature of transaction in parent-child discourse is different than in peer discourse. The first such investigation was done by Sally Powers (1982; Powers et al., 1983) with a non-psychiatric and a psychiatric sample of high school-aged adolescents and their parent(s). Using an adapted version of the transact model and combining it with measures of affective interactive behaviors (e.g., rejection, support), Powers created the Developmental Environments Coding Scheme (DECS). Parent child discussions of moral issues were related to child ego development. A key finding is that the competitive style of peer transactive discussion does not seem to be as developmentally rich when manifested between adolescent and parent. It is only when there is a high level of emotional support from the parents that competitive cognitive transaction is related to higher levels of ego development. Using the DECS, Walker and his colleagues engaged in two similar longitudinal studies of the relation of parent-child moral discussions to child moral reasoning development. Walker and Taylor (1991), in a two year longitudinal study of mother-father-child triads with children aged 6-16 (Time 1), reported that moral development was greatest for interactions where the topic was a real child-focused dilemma (not a hypothetical one) and where family interactions were characterized by high moral stage disparity and more supportive parents

and representational transaction. Unfortunately the sample size was small in this cluster of families ($n=4$). Nonetheless the pattern partially replicates Powers' and Krugers' findings. In a later four year longitudinal study of children (ages 9-17), a parent and a friend, Walker, Hennig and Krettenauer (2000), again using the DECS, found that development over the four year period was related to aspects of the parent-child discussions of the child real moral dilemma (but neither the hypothetical nor the real parent moral dilemmas) and aspects of the peer hypothetical and child-focused real dilemmas. The pattern most strongly related to child moral reasoning development was for high representational transaction, high moral stage disparity between parent and child, and low informative discourse. This was somewhat different from the peer discussions where development. For hypothetical dilemma discussion, development was predicted by high representational transaction, low informative discourse, and high interfering behavior. For the peer child-focused real dilemma discussions, development was predicted by high representational transaction and low informational discourse. In essence, it is clear that the power of peer discourse comes from a more conflictual style than does the power of parent-child discourse. Children seem to be able to benefit from cognitive tussling with peers, but need a supportive parental context to reap similar developmental benefits.

Positioning and Justifying Developmental Discussion in Education

There are clearly numerous justifications for the study and implementation of developmentally rich forms of peer discussion, such as transactive discussion, in educational settings. Oser has highlighted ethical concerns of procedural justice in classrooms and schools, as well as pedagogical pragmatics. In doing so, he has partly positioned school discourse in a philosophical perspective of communicative ethics. Berkowitz and Gibbs, and their followers, have focused largely on the developmental power of such forms of school discourse and have positioned transactive discussion in a cognitive-structural theoretical framework.

Such forms of discourse can be positioned and justified in other ways as well. Prior to the genesis of the terminology and the conceptualization of transactive discussion, Russian psychological theorists such as Lev Vygotsky were exploring conceptual frames that also can accommodate some or all of the research on transactive discussion (cf. Turner & Berkowitz, 2005). Using Vygotsky's work, Wood, Bruner, and Ross (1976) developed the metaphor of "scaffolding" to better understand the learning process occurring in tutorial settings. Bruner would go on to expand upon the concept of scaffolding by associating it with cognitive development and advancement within the "zone of proximal development" (ZPD). With the Vygotskian emphasis on language as the primary mediational tool involved in cognitive development, it is not surprising that the growing socio-cultural paradigm would resonate with the construct of transactive discussion.

Following Bruner's example of observing tutorial settings, King (1989, 1994) developed Guided Peer Questioning, where learners are taught to ask and answer

each other's questions. This work, with its obvious linkage to scaffolding and the ZPD, would evolve and expand into what King (1997), in a strange and seemingly unrelated coincidence, called Transactive Peer Tutoring. King (1998) speaks of language based "transactive cognitive partnerships" (p. 59) that support and encourage scaffolding as well as the learner's ability to begin controlling and regulating their own learning process. King positioned this outcome in Vygotsky's view of initially other-directed learning that can be appropriated and internalized by the learner. While King is coincidentally using the transaction term, it is being used in a way that is highly consistent with that of Berkowitz and Gibbs (1983).

Others, some already mentioned above, have used the Berkowitz and Gibbs concept of transaction from a socio-cultural perspective. Santolupo and Pratt (1994) found levels of transactive discussion correlated to the adolescent's age, gender, and family parenting style, within a Vygotskian framework. Faulkner, Joiner, Littleton, Meill, and Thompson (2000) investigated the effect of different learning task formats on children's collaborative activity. Faulkner et al. found that specific task formats substantially increased levels of transactive discussion between the students as well as their improvement in scientific reasoning. The discussion of these findings was supportive of the socio-cultural importance attached to tools for mediating collaborative learning.

Goos (1999) has worked to apply socio-cultural theory to the specific task of mathematics education. In Goos, Galbraith, and Renshaw (2002), the conceptualization of the ZPD is expanded through the introduction of "collaborative ZPD" (p. 196) terminology. According to this way of thinking, zones of proximal development are always two-way in character, with all participants appropriating ideas and actions of others. Goos et al. found that level of transactive discussion was key to creating a collaborative ZPD and inversely, metacognitive failure was primarily due to the inability of students to engage with each other's ideas. For the Goos et al. study of higher level secondary mathematics students, it was the "challenge" created by transactive discussion which created a collaborative ZPD that permitted students to rise to the level of thinking like mathematicians.

Operating from a socio-cultural perspective, Blanton and Stylianou (2002) looked to determine how students appropriate strategies for advanced mathematical reasoning. They determined that transactive discussions were a critical factor but also suggested that the ability to enter into such discourse could substantially be increased by teacher scaffolding through the use of transactive prompts encouraging dialogue. Such an assessment is interesting in raising the idea that transactive discussion is effective in raising reasoning levels, but to be effective in the classroom, teaching, practicing, and modeling this type of discourse may be required. Again, transactive discussion was seen as a key facilitator to cognitive development within the ZPD.

It may well be accurate to state that the constructivist paradigm emphasizes the processes involved in the construction of knowledge and that the socio-cultural paradigm stresses the transmission of knowledge. It is also true that Piaget saw the issues of conflict and disequilibrium as central to cognitive growth where Vygotsky centered upon the cooperative outcome of discourse. To claim that these factors,

however, are the defining differences between these paradigms is probably a gross oversimplification. Both paradigms are broad enough to integrate all of these factors even though there may be differences in emphasis. The truly remarkable factor is that both the constructivist paradigm and the socio-cultural paradigm found within transactive discussion an educational practice capable of enlightening and expanding our understanding of cognitive processes both theoretical and practical. And, as Oser reminds us, such discourse is also the basis of ethical and effective schools and classrooms.

REFERENCES

- Althof, W. (2003). Implementing "just and caring communities" in elementary schools: A Deweyan perspective. In W. Veugelers & F.K. Oser (Eds.), *Teaching in moral and democratic education* (pp. 153-172). Bern: Peter Lang.
- Anderson, A., Cheyne, W., Foot, H., Howe, C., Low, J. & Tolmie, A. (2000). Computer support for peer-based methodology tutorials. *Journal of Computer Assisted Learning*, 16, 41-53.
- Azmitia, M. & Montgomery, R. (1993). Friendship, transactive dialogues, and the development of scientific reasoning. *Social Development*, 2, 202-221.
- Bearison, D.J. (1982). New directions in studies of social interactions and cognitive growth. In F.C. Serafica (Ed.), *Social-cognitive development in context* (pp. 199-221). New York: Guilford.
- Berkowitz, M. (1985). The role of discussion in moral education. In M.W. Berkowitz and F. Oser (Eds.), *Moral education: Theory and application* (pp. 197-218). Hillsdale, N.J.: Lawrence Erlbaum.
- Berkowitz, M.W. & Gibbs, J.C. (1983). Measuring the developmental features of moral discussion. *Merrill-Palmer Quarterly*, 29 (4), 399-410.
- Berkowitz, M. & Gibbs, J. (1985). The process of moral conflict resolution and moral development. In M. Berkowitz (Ed.), *Peer conflict and psychological growth. New directions for child development*, no. 29 (pp. 71-84). San Francisco: Jossey-Bass.
- Berkowitz, M.W., Gibbs, J.C. & Broughton, J.M. (1980). The relation of moral judgment stage disparity to developmental effects of peer dialogues. *Merrill-Palmer Quarterly*, 26, 341-357.
- Berkowitz, M.W., Oser, F. & Althof, W. (1987). The development of sociomoral discourse. In W.M. Kurtines & J.L. Gewirtz (Eds.), *Moral development through social interaction* (pp. 322-352). New York: John Wiley.
- Berkowitz, M.W. & Simmons, P. (2003). Integrating science education and character education. The role of peer discussion. In D. L. Zeidler (Ed.), *The role of moral reasoning on socioscientific issues and discourse in science education* (pp. 117-138). Dordrecht, The Netherlands: Kluwer.
- Blanton, M. L. & Stylianou, D. A. (2002). Exploring sociocultural aspects of undergraduate students' transition to mathematical proof. In *Proceedings of the 24th Meeting for PME-NA* (Vol. 4, pp. 1673-1680). Athens, GA.
- Blanton, M.L., Stylianou, D.A. & David, M. (2003). The nature of scaffolding in undergraduate students' transition to mathematical proof. In N. Pateman, B. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA*, (vol.2, pp. 113-120). Honolulu, Hawaii: Center for Research and Development Group, University of Hawaii.
- Bloch, D. (2002). *Transaktive Diskussion zwischen altersheterogenen Peers. Empirische Untersuchung zum Einfluss von Altersunterschieden auf die Transaktivität in dyadischen Diskussionen zwischen Grundschulkindern*. Unveröffentlichte Lizentiatsarbeit. Philosophische Fakultät der Universität Freiburg, Schweiz.
- Cohen, J. (1996). Procedure and substance in deliberative democracy. In S. Benhabib (Ed.), *Democracy and difference. Contesting the boundaries of the political* (pp. 93-119). Princeton, N.J.: Princeton University Press.

- Damon, W. & Killen, M. (1982). Peer interaction and the process of change in children's moral reasoning. *Merrill-Palmer Quarterly*, 28, 347-367.
- Dewey, J. & Bentley, A. F. (1949). *Knowing and the known*. Boston: Beacon Press.
- Doise, W., Mugny, G. & Perret-Clermont, A.N. (1975). Social interaction and the development of cognitive operations. *European Journal of Social Psychology*, 5, 367-383.
- Faulkner, D., Joiner, R., Littleton, K., Miell, D., & Thompson, L. (2000). The mediating effect of task presentation on collaboration and children's acquisition of scientific reasoning. *European Journal of Psychology of Education*, 15 (4), 417-430.
- Gibbs, J. C., Schnell, S., Goldstein, D. & Berkowitz, M. W. (1983). *Formal reasoning as a necessary condition for transactive socio-moral discourse*. Paper presented at the Biennial Conference of the Society for Research in Child Development, Detroit.
- Goos, M. (1999). Scaffolds for learning: A sociocultural approach to reforming mathematics teaching and teacher education. *Mathematics Teacher Education and Development*, 1, 4-21.
- Goos, M., Galbraith, P., & Renshaw, P. (2002). Socially mediated metacognition: Creating collaborative zones of proximal development in small group problem solving. *Educational Studies in Mathematics*, 49(2), 193-223.
- Gutmann, A. & Thompson, D. (2004). *Why deliberative democracy?* Princeton and Oxford: Princeton University Press.
- Habermas, J. (1981). *Theorie des kommunikativen Handelns*. 2 Bände. Frankfurt/M.: Suhrkamp.
- Inhelder, B. & Piaget, J. (1958). *The growth of logical thinking from childhood to adolescence*. New York: Basic Books.
- King, A. (1989). Effects of self-questioning training on college students' comprehension lectures. *Contemporary Educational Psychology*, 14, 1-16.
- King, A. (1994). Guiding knowledge construction in the classroom: Effects of teaching children how to question and how to explain. *American Educational Research Journal*, 30, 338-368.
- King, A. (1997). ASK to THINK - TEL WHY: A model of transactive peer tutoring for scaffolding higher-level complex learning. *Educational Psychology*, 32, 221-235.
- King, A. (1998). Transactive peer tutoring: Distributing cognition and metacognition. *Educational Psychology Review*, 10 (1), 57-74.
- Kruger, A.C. (1992). The effect of peer and adult-child transactive discussions on moral reasoning. *Merrill-Palmer Quarterly*, 38 (2), 191-211.
- Kruger, A.C. & Tomasello, M. (1986). Transactive discussions with peers and adults. *Developmental Psychology*, 22 (5), 681-685.
- Leadbeater, B.J. (1988). Relational processes in adolescent and adult dialogues: Assessing the intersubjective context of conversation. *Human Development*, 31, 313-326.
- Miell, D. & MacDonald, R. (2000). Children's creative collaborations: The importance of friendship when working together on a musical composition. *Social Development*, 9, 348-369.
- Miller, M. (1980a). *Learning how to contradict and still pursue a common end - The ontogenesis of moral argumentation*. Unpublished manuscript, Max Planck Institute, Starnberg, Germany.
- Miller, M. (1980b) Zur Ontogenese moralischer Argumentationen. *Zeitschrift für Literaturwissenschaft und Linguistik*, 38/39, 58-97.
- Miller, M. (1984). Kollektive Lernprozesse. Studien zur Grundlegung einer soziologischen Lerntheorie. Frankfurt/M.: Suhrkamp.
- Miller, S.A. & Brownell, C.A. (1975). Peers, persuasion, and Piaget: Dyadic interaction between conservers and non-conservers. *Child Development*, 46, 992-997.
- Mischo, C. (2005). Promoting perspective coordination by dilemma discussion. The effectiveness of classroom group discussion on interpersonal negotiation strategies of 12-year-old students. *Social Psychology of Education*, 8, 41-63.
- Mugny, G., Perret-Clermont, A.N. & Doise, W. (1981). Interpersonal coordinations and sociological differences in the construction of the intellect. In G.M. Stephenson & J.M. Davis (Eds.), *Progress in applied social psychology* (Volume 1, pp. 315-343). New York: John Wiley & Sons.
- Oser, F. (1981). *Moralisches Urteil in Gruppen - Soziales Handeln - Verteilungsgerechtigkeit. Stufen der interaktiven Entwicklung und ihre erzieherische Stimulation*. Frankfurt/M.: Suhrkamp.
- Oser, F. (1984). Cognitive stages of interaction in moral discourse. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Morality, moral behaviour and moral development* (pp. 159-174). New York: John Wiley and Sons.
- Oser, F. (1986). Moral education and values education: The discourse perspective. In M.C. Wittrock (Ed.), *Handbook of research on teaching, 3rd edition* (pp. 917-941). Chicago: Rand McNally.
- Oser, F. & Althof, W. (1993). Trust in advance: on the professional morality of teachers. *Journal of Moral Education*, 22, 253-275.
- Oser, F. & Althof, W. (2001). Die Gerechte Schulgemeinschaft: Lernen durch Gestaltung des Schullebens. In W. Edelstein, F. Oser & P. Schuster (Eds.), *Moralische Erziehung in der Schule. Entwicklungspsychologie und pädagogische Praxis* (pp. 233-268). Weinheim and Basel: Beltz.
- Power, C., Higgins, A. & Kohlberg, L. (1989). *Lawrence Kohlberg's approach to moral education: A study of justice and community in the high school*. New York: Columbia University Press.
- Powers, S.I. (1982). *Family interaction and parental moral development as a context for adolescent moral development*. Unpublished doctoral dissertation, Harvard University.
- Powers, S.I., Hauser, S.T., Schwartz, J.M., Noam, G.G., & Jacobson, A.M. (1983). Adolescent ego development and family interaction: A structural-developmental perspective. In H.D. Grotevant, & C.R. Cooper (Eds.), *New directions for child development: Adolescent development in the family* (No.22, pp. 5-25). San Francisco: Jossey-Bass.
- Pratt, M.W., Arnold, M.L., Pratt, A.T. & Diessner, R. (1999). Predicting adolescent moral reasoning from family climate: A longitudinal study. *Journal of Early Adolescence*, 19 (2), 148-175.
- Russell, H.A. (2006). Transactive discourse during assessment conversations on science learning. *Dissertation Abstracts International*, 66 (9-A), p. 3214.
- Santolupo, S. & Pratt, M.W. (1994). Age, gender, and parenting style variations in mother-adolescent dialogues and adolescent reasoning about political issues. *Journal of Adolescent Research*, 9 (2), 241-261.
- Teasley, S.D. (1997). Talking about reasoning: How important is the peer in peer collaboration? In L.B. Resnick, R. Saljo, C. Pontecorvo, & R. Burge (Eds.), *Discourse, tools, and reasoning: Essays on situated cognition* (NATO ASI Series F, Vol. 160, pp. 361-384). Berlin: Springer.
- Turner, V.D. & Berkowitz, M.W. (2005). Scaffolding morality: Positioning a socio-cultural construct. *New Ideas in Psychology*, 23, 174-184.
- Walker, L.J., Henning, K.H. & Krettenauer, T. (2000). Parent and Peer Contexts for Children's Moral Reasoning Development. *Child Development*, 74 (4), 1033-1048.
- Walker, L.J. & Taylor, J.H. (1991). Family interactions and the development of moral reasoning. *Child Development*, 62, 264-283.
- Wood, D.J., Bruner, J. & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17, 89-100.

Marvin W. Berkowitz, Wolfgang Althof, Val D. Turner & Daniel Bloch
 University of Missouri-St. Louis, USA
 Daniel Bloch
 University of Fribourg, Switzerland

Getting involved

Global Citizenship Development
and Sources of Moral Values

Fritz K. Oser and Wiel Veugelers (Eds.)



Sense

A C.I.P. record for this book is available from the Library of Congress.

ISBN 978-90-8790-634-4(paperback)
ISBN 978-90-8790-6351 (hardback)
ISBN 978-90-8790-636-8 (e-book)

Published by: Sense Publishers,
P.O. Box 21858, 3001 AW
Rotterdam, The Netherlands

Printed on acid-free paper

All Rights Reserved © 2008 Sense Publishers

No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the Publisher, with the exception of any material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work.