Moral Text Comprehension: implications for education and research

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ABSTRACT *Several studies are reviewed that examine differences in moral schema development using techniques intermediate between measuring implicit knowledge (such as with the Defining Issues Test) and explicit knowledge (such as with the Moral Judgement Interview). Findings include significant differences in the comprehension of moral narratives based on age/education and on level of expertise. Also, intended moral themes in stories are not understood by younger children.*

It is safe to say that most research in moral development has focused on moral judgement (i.e. the reasoning used to advocate a certain action choice in a moral dilemma). In this tradition, researchers recognise that people conceptualise moral problems differently, based on developmental age and education (e.g. Kohlberg, 1984; Rest, 1986). As individuals develop in moral judgement, transformations occur in how they construe their obligations to others. According to a moral constructivist theory, these transformations can be viewed as changing moral schemas (conceptual understandings) about how it is possible to organise co-operation (Rest *et al.*, 1999, 2000). Conceptual understandings are transformed as individuals extract meaning from experience and construct models of the world. As meaning-making matures and moral judgement complexity increases, an individual's considerations expand, and he or she is able to consider the welfare of more and more "others" when conceptualising ideal forms of co-operation (e.g. at the lowest schema, one is primarily concerned for self whereas in the most developed type of schema, one includes concern for strangers.) Constructivist theory suggests that understandings change as individuals, through experience, construct new views of and responses to the world. Constructivist theory generally, and moral constructivist theory specifically, assumes that an individual processes or interprets experience based on previous experience or knowledge. Cognitive Schema Theory (CST) suggests that when an individual is presented with information, a schema or knowledge structure is activated to interpret the information. This idea is predominant in reading research. After a general discussion about the effects of schema

activation and expertise on reading, studies of moral text comprehension are discussed. First, how are schemas related to reading?

The Power of Schemas

In general, as a reader reads and remembers text, he or she attempts to create a coherent mental model by integrating information from the text with previous knowledge about the world (van den Broek, 1994). For example, if a person reads: "Max looked both ways before crossing the street", in order to understand the words, the reader would infer several things from what he or she knows about the world. These include: cars are driven on streets, Max is crossing a street that has car traffic from both directions, Max is probably walking, cars can be dangerous to pedestrians, Max is crossing the street to get to the other side. If the reader did not have such world knowledge, he or she would have a difficult time understanding the sentence and would not be able to imagine what is happening (i.e. build a mental model of the situation).

Previous knowledge often comes in the form of general knowledge structures such as schemas (e.g. Bartlett, 1932; Bobrow & Norman, 1975; Rumelhart, 1980) or a type of schema called scripts (e.g. Schank & Abelson, 1977), and has been shown to affect how readers comprehend a particular text. For example, due to extensive familiarity with grocery stores, a reader probably has a general knowledge "script" of the order and type of events that occur in grocery stores (a grocery store script) which affects the reader's recall of a text about a grocery store visit. When a reader familiar with grocery stores reads a text such as the following, a grocery store script may be activated: "Carol had a long list of food to get so she went to the store. After she got inside, it took over an hour before she was finished." The reader might add details at recall that were not in the text such as: "After she entered the store, Carol took a grocery cart that she pushed through the store to collect the items on her list. After everything on her list was placed in her cart, she went to the checkout lines", and so on. Such additions suggest the existence of a grocery store script that influenced recall. Scripts, schemas or knowledge structures provide a means by which to understand the text.

A schema or script may be activated in a reader's mind by a single word or event in the text. For example, if a reader reads "Carol had a long list of food to get so she went to the grocery store", the following sentence is easily interpreted: "After she got inside, it took over an hour before she was finished." This latter sentence would be ambiguous except for the previous sentence, which activated the grocery store script. Once this scripted schema is activated, the following text is easily interpreted according to this activated structure. In this way, schemas provide a top-down tool for interpreting events.

Schemas can vary by culture. For example, when Harris and colleagues (Harris *et al.*, 1988) asked subjects to recall a text about events in a different culture, they found distorted recall from those with a different background. The text said:

Ted was eager to go downtown to do some shopping for Carnival. He

needed to buy some gifts for his parents and some new costumes for himself and his friends … He got on the bus at the rear door and found a seat in the back. After getting settled, he pulled out his wallet … He then carried a stack of fifties up to the cashier in the center of the bus … Ted passed through the turnstile and found a seat just behind the driver … When he arrived, he scrambled out the front door of the bus.

Subjects from the United States tended to recall incorrectly that Ted entered the front of the bus, paid, and sat down in the back (the "bus ride" schema familiar to them). Subjects from Brazil did not make these errors because the particular bus experience matched their "bus ride" schema. When texts are inconsistent with the reader's activated schemas, readers will understand poorly (Bransford & Johnson, 1972), misrecall (Steffensen *et al.*, 1979) and even distort memory to fit with their schematic structures (Bartlett, 1932; Reynolds *et al.*, 1981). Thus, knowledge in the form of schemas influences the comprehension and interpretation of events.

The Influence of Expertise

Comprehension varies according to amount as well as type of prior knowledge (or schemas). For example, Moravcsik and Kintsch (1993) found that high-knowledge readers (those with more schemas in the domain) achieved a deeper level of understanding, enabling them to construct an appropriate mental model that allowed them to interpret texts correctly. Low-domain knowledge prevented readers from forming an adequate mental model which led to erroneous assumptions and mistaken inferences during recall.

Sophistication in domain-specific schemas (more and better organised knowledge) often distinguishes experts from novices in that experts have more tools to use for interpretation. Domain knowledge generally refers to a specific, "studied" domain (Alexander, 1992) for which expertise may take 10,000 hours of study (Simon & Chase, 1973). Differences between experts and novices have been examined in many domains: for example, chess (Chiesi *et al.*, 1979), dinosaurs (Chi & Koeske, 1983), baseball (Spilich *et al.*, 1979) and medical diagnosis (Johnson *et al.*, 1982).

Although it is still unclear what kind of knowledge and skill advantages the expert has, some have suggested that experts are distinguished by such things as having a better set of schema choices as well as more schemas available (Ericsson & Kintsch, 1995), and the ability to perceive larger, more complex, meaningful patterns in given information (Chase & Simon, 1973; Chi *et al.*, 1988).

When researchers have looked at domain knowledge expertise in the context of reading, they have found that greater comprehension of a text is related to reader familiarity with the text topic (e.g. Spilich *et al.*, 1979). Differences in comprehension between domain experts and non-experts when reading domain-relevant text can reflect differences in schema activation. The schemas that are activated in the reader's mind affect the assumptions that are made and the mental representation of

what the text contains. Expert–novice differences in schema activation are relevant to research in moral judgement.

Moral Schema Development and Text Comprehension

Several studies demonstrate that differences in moral schema activation affect the comprehension of moral texts. Narvaez (1998) studied the effects of moral judgement development on the recall of narratives. Real-life, complex narratives were used with embedded moral reasoning at different stages of moral judgement. Moral arguments were presented in a stream of contextual detail. As in real life, the narratives intertwined events with people's rationalisations and interpretations of those events. Participants were asked not only to recall what actions generally occurred in the narrative but also what the protagonist was thinking about in the narrative. As in real life, the participant had to think over a decision situation while trying to sort out the reasoning and reconstruct what happened.

After reading four narratives, middle school (13–15-year-olds) and college students were asked to recall the narratives. Differences in recall corresponded to differences in moral judgement development as measured by the Defining Issues Test (DIT; Rest, 1993). People with higher scores in moral judgement on the DIT not only recalled the texts and the high-stage moral arguments within them better, they also distorted their recall differently. Although all readers tended to distort the text in their recall, high-stage moral reasoners were significantly more likely to generate new *high-stage* reasons to their recall of the narratives in comparison to lower-stage reasoners. As explained by CST, those with higher levels of moral judgement had a larger and better-organised set of schemas activated (both higher and lower moral judgement schemas), whereas those with lower levels of moral judgements had a more limited set. Thus, it was found that distortions were common, yet the type of distortion varied according to cognitive developmental structures.

In order to examine whether or not there is an expertise aspect to moral judgement development, Narvaez (1995, 2000) examined moral text comprehension between more expert and less expert groups in moral judgement. Three tasks were used: (1) recall of moral narratives as in Narvaez (1998); (2) giving advice after listening to a personal moral dilemma on tape; and (3) thinking aloud while reading a narrative with embedded moral reasoning. Think-aloud protocols, in which a continuous record of thoughts is produced while reading aloud, have been used to study individual differences among readers (e.g. Whitney *et al.*, 1991), including domain novices and experts (e.g. Lundeberg, 1987). In some studies, more skilled comprehenders generated more explanations of the text while thinking aloud during reading (e.g. van den Broek & Lorch, 1993; Trabasso & Magliano, 1996; Zwaan & Brown, 1996). Similarly, readers with expert background knowledge perform more analysis (e.g. Lundeberg, 1987) and evaluation (Wyatt *et al.*, 1993) of the text.

The results indicated that those with more moral judgement expertise behaved similarly to experts in other domains. They exhibited consistently superior performance. In Task 1, they were better at recalling higher-stage moral arguments from

narratives. In Task 2, they exhibited a more complex mental model after listening to a moral dilemma situation, recalling and advocating more high-stage reasons in their advice giving. During Task 3, they were more active in reading aloud domain-relevant texts, especially in terms of predictions, explanations, evaluations, text-based coherence breaks, and responses to higher-stage items. Those with less expertise, on the other hand, did not recall as much from the moral texts, especially the high stage reasoning; they exhibited less-complex representations during advice giving, providing fewer high-stage reasons in their advice; and they were less active in reading aloud and reacted less to high-stage items.

Those with more expertise had more sophisticated knowledge. They consistently responded to the tasks with more complex (Stage 5) reasoning, demonstrating their distinctive competence with higher levels of moral reasoning. It is not the case that those with less expertise had more to say about the lower stages—there were no differences in performance between the groups in regards to the lower stages. The distinction between the groups had to do with the higher stages—those with more expertise performed better and interacted more with only the highest stages.

Examining the Nature of Moral Judgement with Moral Texts

What is moral judgement? Is it purely a developmental variable that is transformed with everyday experiences? Is it a domain variable that requires sustained and focused study? The results support the notion that moral judgement retains characteristics of being both a developmental variable (which everyone develops to some degree) and a domain variable (which requires extensive, deliberate study). As such it has some similarity to other domains. For example virtually everyone is familiar with some aspect of music or even skilled in some fashion—as with singing—and yet musical *expertise* requires specific and prolonged practice beyond everyday familiarity. Sloboda (1991) contrasts the tacit musical expertise of novices, a type of receptive, *recognition-based expertise*, with the explicit or *productive expertise* of expert musicians. Similarly, everyone uses moral judgement skills daily and exhibits a base of tacit knowledge (see Rest *et al.*, 1999). On the other hand, productive moral judgement expertise (for example, in the form of original contributions to philosophy or federal court opinion) appears to require prolonged and focused study. This may explain why Stages 5 and 6 are so hard to find among the general population using Kohlbergian interview methods (e.g., the Moral Judgement Interview or MJI; Colby & Kohlberg, 1987) which require the production of moral rationale (Modgil & Modgil, 1986). The Defining Issues Test (DIT), in contrast, tests implicit moral judgement. It measures both the tacit knowledge of those with little expertise and the more advanced understanding of those with greater expertise. That is, the DIT may be tapping into the receptive, recognition-based expertise of a novice (which develops naturally) as well pointing to the explicit, productive expertise of a greater expert (which requires focused study for its development).

Whereas studies of moral judgement have primarily addressed implicit knowledge (e.g., DIT) or explicit knowledge (e.g., MJI), the recall tasks used in the moral text comprehension studies described above address a middle ground. They

examine development that is *intermediate* between production (at one end of the zone of proximal development) and recognition (at the other end of the zone of proximal development). Readers are presented with information (input) and asked to replicate the information (output). Then input and output are compared. The differences can point to variability in development and expertise. Moral text comprehension tasks are able potentially to distinguish greater and lesser expertise beyond standard DIT scores, and offer a method easier to use than the MJI. Reading tasks are useful in measuring other aspects of moral development as well.

The Comprehension of Moral Themes

Adults often assume that if they provide good reasoning or a good story, the child will understand what the adult wants them to understand. Given what we know about schema development (described above), this is a faulty assumption. In a set of studies (Narvaez *et al.*, 1998; Narvaez, Gleason *et al.*, 1999), the results challenge the claims of character education proponents such as Bennett (1993) who contend that hearing moral stories will develop moral literacy (which then leads to moral character), and Kilpatrick (1992) who stated that "good books do their own work in their own way" and "it is not necessary or wise for adults to explain the 'moral' in each story" (p. 268). These claims are based on a disconfirmed, passive reading theory which contends that what is read enters the mind, is understood as intended, and remains intact as it was presented. On the contrary, it is known that readers comprehend what fits with their cognitive structures or schemas and will likely distort the information that does not fit. What readers remember is not the text as it was but, as meaning makers, what made sense and was meaningful to them.

In Narvaez, Gleason *et al.* (1999), well-constructed (i.e., with a beginning, middle and end), non-religious, literary, moral stories were created. A "moral story" was defined as one with a theme about a specific aspect of getting along with others, such as being honest with strangers. The stories reflected the complex notion of moral behavior as theorised by Rest's Four Component model (Rest, 1983). In it, moral action requires moral sensitivity (e.g. awareness of cause–consequence chains of actions and reactions), moral judgement (e.g. selecting the most moral action), moral motivation (applying one's values and prioritising a moral action) and moral action (implementing and following through on the moral choice). All four components were included in each story.

We examined whether children understood the themes of moral stories as intended. We selected themes that were understandable to younger children (e.g. persevere for the good of others, be honest with strangers, do not lie for friends, be responsible and trustworthy by completing your duties to others), rather than more adult themes such as principles for sustaining constitutional democracies. We focused on correct versus incorrect choice of the moral theme from among distractors. Participants from third-and fifth-grades and university were tested on whether or not they understood the author-based lessons (i.e. the moral themes) from several moral stories. They were asked to identify the theme from a list of message choices and identify which of four alternative vignettes had the same theme. Participants

also rated the set of message and vignette choices for closeness of match to the original story theme. Reading comprehension was used as a co-variate. Developmental differences in moral theme understanding were highly significant ($F = (2,129) = 74.65$, $P < 0.001$, effect size = 1.00) even after accounting for reading comprehension differences. Younger participants were more attracted to lower moral judgement stage distortions of themes, suggesting that moral judgement development is a factor in moral theme comprehension. The reader seems to impose a level of cognitive moral sophistication (a set of moral schemas) on the initial interpretation of the moral story.

General Implications for Educational Practice and Research

The Comprehension of Moral Discourse

Persuasive discourse that incorporates moral argumentation pervades our lives: from moral stories, news shows, talk shows, documentaries, political speeches, policy discussions, lawyer arguments in a jury trial, to teacher talk in a classroom. Often containing implicit moral reasoning, persuasive discourse of any kind may be understood distinctively by different comprehenders in correspondence to their levels of moral judgement development. As has been found in schema research (e.g. Bransford & Johnson, 1972), discourse that presents hidden or fragmented moral reasoning may activate moral schemas more strongly (as a means to fill in coherence breaks). When the textual information conflicts with reader knowledge, the reader's pre-existing knowledge is likely to prevail. For example, in Narvaez (1998), some readers misrecalled reasoning about duty as reasoning about punishment. Readers' pre-existing knowledge will prevail like this unless the reader is dissatisfied with the level of explanation his or her knowledge provides (Anderson, 1983). This "dissatisfaction" with moral reasoning schemas can be generated through class discussion with peers (see Power *et al.*, 1989).

Those who teach character/values, civics, prevention or recovery should pay attention to these findings. Explicit educational curricula and instruction concerning moral topics such as social behaviour change (e.g. drug use prevention or abuse recovery) may not be properly understood if the moral judgement capacities of the student are not accommodated. Students may understand texts in ways different from the author's intention or the perspective of the instructor. For example, gang member "Doug" understood movies such as "Boys in the 'Hood" and "South Central" as a confirmation of his lifestyle, contrary to the author's intended and widely-understood theme of avoiding gang life (Hull, 1993). "Doug" did not understand the intended message when he constructed meaning based on his developmental schemas.

Just as teachers attempt to match the reading level of a text with the student's level of reading skill, moral and social education programmes should attempt to match the moral reasoning level of a text with the student's level of moral reasoning capacity. Of course, in order to create the context for cognitive growth, texts should be selected that contain familiar and slightly more advanced moral reasoning (to promote "dissatisfaction" with existing schemas). Curricula advocating behaviour

change, such as character education curricula, should be thoroughly piloted in order to gauge what is understood by the target audience. A curriculum that works with one age may not work for another.

Research in moral discourse comprehension has a wide terrain to cover. For example, it is still unclear what are the key features of moral discourse comprehension. How common is it? When does it come into play? How does moral theme comprehension relate to persuasive discourse generally? What factors other than moral reasoning and world knowledge influence the interpretation of persuasive discourse? When persuasive discourse is used in order to prevent risky behaviours, how do moral themes affect the power and influence of the discourse? Narvaez *et al.* (2000) examine the comprehension and effects of anti-drug-use messages that use moral reasoning and/or evoke moral identity.

Comprehension of Moral Themes

In order to promote the development of general theme comprehension, instructors should facilitate student practice of gist recall and generalising from texts (see Williams *et al.*, 1994 for direct teaching approach). For *moral* theme comprehension, instructors also can focus on specific moral aspects of texts. Here is a list of suggestions based on the Process Model of Moral Behavior (Narvaez, Mitchell *et al.*, 1999) on how to help students develop moral theme comprehension skills. The teacher should help the students:

1. Become aware that some demands in the story are in conflict with others (e.g. personal/inner, outer/social). This may be studied by discussing questions such as: What was the problem? What was the worst thing(s) the character faced? Were there differences in what people thought, felt and wanted? What were the differences?
2. Become sensitive to the configuration of the situation (moral sensitivity) which may be studied with these questions: What was going on? Who was thinking about what was going on? Who could be affected? Who was affected?
3. Reason about possible actions (moral sensitivity and reasoning), studied with the following questions: What could be done? What could have happened if—? What outcomes might occur? How might people react?
4. Reason about completed decisions and actions (moral reasoning), studied with the following questions: Was a good decision made? Which rules were followed and which ones were broken, and why?
5. Focus on personal identity (moral motivation), with a question such as: What did the character think about when deciding/doing the deed? What ideals were driving the character in the story?
6. Become aware of sacrifice or sublimation of personal gratification for a greater good (moral motivation). Consider questions such as these: How did the action affect each character in the story? How did the action affect the community (e.g. classroom, neighbourhood)?
7. Notice follow-through: for example, how did the character carry out the

action? When there were obstacles, what did the character do? How did the character display courage and perseverance?

8. Interpret the social outcome and implicit or explicit positive judgement of action taken, with this type of question: How did the story end—good or bad? Why? For whom was it a good ending? For whom was it a bad ending?

9. Reflect on alternative endings with questions such as: How could the outcome have turned out better for everyone? If there was a conflict, how could it have been resolved differently?

To explore the nature of moral themes and texts themselves, my colleagues and I (Narvaez *et al.*, 2000) are developing methods to measure the moral content in stories. This will allow the study of particular content effects on particular readers/ viewers.

Moral Judgement Expertise

If moral judgement is indeed a combination of development and of deliberative study as suggested earlier, then research must delineate the pathways that lead to expertise. Ericsson and Smith (1991) have suggested that there are three basic elements to expertise research. Applied to the domain of moral judgement, these offer a framework for designing further research in the domain of moral reasoning. First, researchers must capture the nature of superior performance more fully. That is, the nature of daily performance needs to be mapped. Practising experts such as judges and policy makers may provide further insight into the characteristics of moral reasoning expertise. Also, subsequent studies should use more naturalistic texts, expository texts, and film clips in order to see how widely moral reasoning expertise affects general social decision processing.

Secondly, detailed analyses about what expert performance entails need to be performed. What kind of processes are involved—does moral reasoning necessarily, and perhaps uniquely, combine "propositional thought" (logical thinking independent of context) and narrative thought (contextualised thinking) (Bruner, 1986)? What are the processes that mediate moral reasoning expertise? For example, what kinds of perceptual differences exist between novices and experts? What kinds of strategic (conscious) and automatic (subconscious) information processing differences exist between novices and experts when they are presented with domain-relevant knowledge? Further, what emotional–motivational dispositions lead one to practise and develop moral reasoning expertise? What motivates the novice to work hard to become an expert?

Thirdly, we need to learn about the processes that mediate expertise, how to account for the acquisition of expertise. For example, what kind of practice improves performance? What kind of instruction supports the forms of practice that lead to expertise? We know that discussions of moral dilemmas can improve scores in moral judgement, and this approach is being used in numerous professional education curricula (for example, see Rest & Narvaez, 1994). There are many fields in which the public is served by expert moral opinion, such as medicine, education, law. How

do we help the novices in these fields develop moral judgement expertise? Delineating the nature of moral expertise can help us design effective interventions for a novice in any profession. This research is in its early stages, hence there is much work to be done.

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