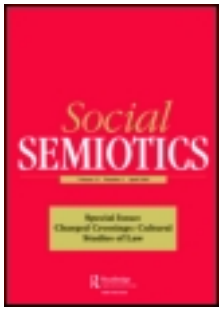

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A comparative study of representations about disability in primary school children's drawings: a sociosemiotic approach

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A comparative study of representations about disability in primary school children's drawings: a sociosemiotic approach

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Over the past few years, perceptions about disability – at least at the theoretical level – have been shifted toward a more progressive approach, which stresses the social aspects of the construction of disability (social model) rather than personal limitations, as supported by the traditional disability approach (medical–individual model). Drawing upon the sociosemiotic approach as developed by Kress and van Leeuwen, the present study examines from a comparative perspective the representations about disability and people with disabilities, as emerging from the drawings produced by 4th grade Greek primary school children. The sample consists of two groups of children. *Group A* does not share the same school environment with schoolchildren with special education needs, while *group B* shares the same school surroundings with students attending a special education needs School. The comparative analysis of their drawings indicates that children of both groups reproduce the dominant meanings they receive from their direct social environment.

Keywords: disability; drawings; deficit discourse; guardianship discourse; social-problem discourse; children

Introduction

Since the 1980s, disability has been mainly treated as a social problem (social model/ social-problem discourse) rather than as a limitation residing in individuals (individual/ medical model/ deficit discourse). However, the presence of the medical model is still evident in educational practices, due to students' classification on a kind-of-disability basis rather than on a-disabled-needs basis. Moreover, the medical model constitutes the dominant representation of disability found in the media (Gold and Auslander 1999). Thus, both adults (Berryman 1989) and children (Harper 1997) tend to be unfavorably disposed toward disability and people with disabilities. Despite the human rights movement and the influence of the social model, children with disabilities continue to experience discrimination, which is deeply rooted in negative attitudes and stereotypes (Alevriadou, Lang, and Akbuyur 2010).

In the present study, we investigate primary school children's representations of disability as emerging from their drawings. The exploration of views about disability

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is a research area of central importance, since attitudes toward disability play a crucial role, not only in the social integration of people with disabilities but also in inclusive education programs, which are still in their infancy in Greece (Magiati, Dockrell, and Logotheti 2002), where the present study is situated. Since primary school children's perceptions about the world are still rather malleable, teaching intervention practices might help to amend their views. Consequently, our study could contribute to the planning of interventions aiming at the formation of more favorable attitudes toward diversity.

A number of studies have examined attitudes and perceptions about disability. This research is quite vast and useful, by attempting to disclose the factors affecting people's views about disability, such as gender (e.g. Eichinger, Rizzo, and Sirotnik 1991), amount of contact with disabled people (e.g. Folsom-Meek et al. 1999), prior knowledge of disability (e.g. Krajewski and Flaherty 2000), and type of disability involved (e.g. Pearson et al. 2003). Yet, it has largely studied views on disability as derived from closed-form questionnaires and structured interviews using various attitude-scales (Antonak and Livneh 2000). In contrast, there are only few studies examining the way people with disabilities are represented in adults' (Ferri et al. 2005; Rogers 2002; Stamou and Padeliadu 2009) or children's texts (Magiati, Dockrell, and Logotheti 2002). Although these studies do not necessarily conclude to quantitative results, they are significant since they are in tune with contemporary social constructionist approaches which see attitudes, perceptions, and identities not as frozen but as dynamic entities (re)structured through discourse (Antaki and Widdicombe 1998; Cheshire 2000). Such an alternative perspective may enrich and complement quantititave research, considering the fluidity and multi-dimensionality of social reality and behavior.

Drawings have been recognized as one of the major ways through which children are able to express themselves, reflecting their inner world. Hence, they have been employed for various aims in the fields of psychiatry and psychology: as diagnostic tools for mental illness and intelligence level; as projections of personality and emotional aspects; as vehicles of therapy and treatment (Malchiodi 1998). More recently, drawings have also been used for the exploration of children's views on major topics, such as the environment (Barraza 1999), literacy (Kendrick and McKay 2004), and science (Dove, Everett, and Preece 1999), as they are viewed as a relatively easy way to gather social information from children through an enjoyable and familiar activity for them.

In what follows, the theoretical framework in which the present study resides is provided. Next, the methodology of the study (sampling, analytical framework, and hypotheses) is described. Finally, the results of the study from a comparative perspective are presented and discussed.

Theoretical framework: discourses of disability

A number of theoretical models conceptualizing disability from a different perspective have developed. These diverse discourses of disability have arisen due to the sociocultural context and the general ideology of those involved in issues of disability.

Until the 1980s, the individual/medical model, which defines disability as a personal deficit, namely as a problem residing in individuals, had prevailed

(Gold and Auslander 1999). According to this model, disability is associated with deficiency (deficit discourse), and emphasis is given to body limitations (Oliver 1990), whereas disability, in medical terms, is commonly portrayed as "impairment" (Ferri et al. 2005). A traditional conceptualization of disability also includes the so-called "guardianship discourse" (Scior 2003), which involves the representation of people with disabilities in relation to their dependence on able-bodied ones. In sum, the medical/individual model sees disability to the exclusion of any social context, and it suggests that only medical practices can contribute to its recovery.

Since the 1980s, while the Disability Rights Movement has risen at a societal level and the social constructionist (Kozulin 1990) paradigm has emerged at an academic level, a conceptual shift has occurred toward a social model of disability (social-problem discourse). The social model defines disability as a barrier caused by society, which is not attentive to the needs of people with disabilities, and thus excluding them from any social activities (Hughes and Paterson 1997). Hence, according to the social model, disability is dislocated from deficiency and is placed to society and its barriers, putting a stress on the social racism people with disabilities face.

Although the social model seems to prevail within disability activists and the social sciences, the medical model remains in the field of education. Moreover, recent studies have indicated that the medical model of disability is reproduced by the media (Gold and Auslander 1999; Valentine 2001). Furthermore, special education professionals continue to be trained according to a deficit discourse of disability, which treats disabled people merely as "diagnostic subdivisions" (Vehkakoski 2004). Consequently, pervaded by the medical model, both adults (Berryman 1989) and children (Harper 1997; Nabors and Keyes 1995) appear to be generally unfavorably predisposed toward disability and people with disabilities,

Methodology

Sample collection

A number of psychological theories interpret the dynamics and the relationships within a social group and elaborate on the complexity of these relations, concluding that a regular contact of different people brings a better understanding of their similarities and discrepancies and eradicates stereotypical views (negative attitudes) amongst them. In light of this, some studies have also been conducted regarding the social group of people with disabilities, suggesting that attitudes toward disabled people depend on the frequency of contact. Specifically, this research suggests that extended contact could be used to encourage a more positive attitude on the part of non-disabled children toward people with disabilities (Cameron and Rutland 2006; Folsom-Meek et al. 1999; Turner, Hewstone, and Voci 2007).

Taking into account the above theoretical pursuits, we examined from a comparative perspective representations of disability as they emerge through children's life experiences from their school and family environment. Specifically, we collected 4th grade Greek primary school children's (10 years old) drawings about people with disability. The sample consisted of 59 drawings. Thirty-one drawings (16 boys and 15 girls) came from a primary school of the prefecture of Chalkidiki, Northern Greece, in which there is no special education needs school, and these children's drawings formed *group A* (*g. A*). *Group B* (*g. B*) consisted of 28 drawings (13 boys and 15 girls)

from a primary school of the prefecture of Imathia, Northern Greece, which is housed in the same surroundings with a special education needs school.

Data collection for both groups of children took place in the curricular context of "flexible zone". Flexible zone is part of the Greek curriculum for primary school and comprises two to four teaching hours per week. It does not concern the teaching of traditional school subjects, but rather the working on "open" topics drawn from everyday experience and interests of students, such as issues of gender, new technologies, mass media, local history, multiculturalism, arts, and so on, with the aim to cultivate their critical thinking ability. Consequently, the activity given to children (to make a drawing about people with disability) was not incompatible with the lesson. Nevertheless, no discussion about people with disability was made with children prior to the research. Since children's representations can be influenced by teaching practices, we chose to investigate their views where no explicit interventions were in place to minimize the effect of explicit information. Specifically, they were told that we wanted to discover their own ideas about people with disability. They were asked to work individually and not to perceive the tasks as tests with right or wrong answers. They were also told that they could add anything in writing if they wished.

To check the intercoder reliability of our analysis, a 20% random sample of the data was coded by all authors. Then, the analyses of all possible pairs of coders were compared and a co-efficient of reliability was calculated for each pair, which was the ratio of coding agreements to the total number of coding decisions (Holsti 1969). The mean of reliability co-efficient was 87%. The rest of the analysis was carried out by the first author. For the exploration of significant differences in children's drawings between *g. A* and *g. B*, the data were statistically treated through the Pearson's chi-squared test (χ^2) of independence.

Analytical framework

The analytical framework of the present study is informed by the approach of "Social Semiotics" (Hodge and Kress 1988; Kress and van Leeuwen 1996, 2001). Social Semiotics treats signs as "motivated" connections of the signifier and the signified, since text producers select forms (signifiers) that they consider appropriate to express their meanings (signifieds). From this perspective, text producers draw upon a network of options, a "semiotic potential", referring to the semiotic resources available in a specific context, from which they make selections which are not random but ideologically significant.

Furthermore, texts are viewed as being multi-functional, namely as performing simultaneously an "ideational", an "interpersonal", and a "textual" function. In case of pictorial texts, ideational function alludes to the role of pictures to depict objects of our lived experience, offering a representation of the world. Interpersonal function concerns the way a picture producer and depicted objects interact with the viewer, as well as the picture producer's stance toward depicted objects, shaping specific social identities and relationships. Textual function refers to the way depicted elements are connected together forming an entity, namely the pictorial text, and how the pictorial text may be linked to another type of text (e.g. verbal) for the shaping of a multimodal message.

Due to the diverse nature of each semiotic system, different models have developed for the analysis of verbal and pictorial messages. Halliday (1994) has elaborated the "Systemic Functional Grammar" for linguistic texts, whereas Kress and van Leeuwen (1996) have developed the "Grammar of Visual Design" for pictorial texts and the consideration of multimodality. Drawing upon the model of the latter, we focus on the analysis of the pictorial messages of children's drawings and on the ways they are sometimes connected with verbal messages for the construction of multimodal texts.[1] Specifically, for the purposes of the analysis, we draw upon tools linked to the textual and interpersonal function of pictures.

Textual function comprises numerous analytical categories, such as "framing", "salience", and "type of composition". Our analysis focuses on the "information value" of pictures, which alludes to the positioning of pictorial (and other semiotic) objects in the three different "zones" of the text: "left–right", "top–bottom", and "center–margin". The zone *left–right* defines a relationship of given and new information, respectively. Whatever is placed on the left of a picture is considered taken-for-granted and familiar to the viewer, as this is the way by means of which we tend to "read" pictures in societies with left-to-right writing systems. In contrast, whatever is placed on the right of a picture is regarded new and important information, since we notice it later. The zone *top–bottom* denotes a relationship of ideal vs. real situation, respectively. Elements put on the top of a picture represent the world of our desires and expectations, whereas objects placed on the bottom of the text represent what happens in the real world. Finally, regarding the zone *center–margin*, whatever is positioned at the center of the picture is considered to be core information, while everything put in the margin is seen as peripheral and less important.

In interpersonal function, we can distinguish between analytical categories linked to the interactional role of pictures ("gaze", "social distance", and "power") and categories referred to picture producer's stance toward depicted objects ("modality"). Specifically, *gaze* is widely used by media theorists for referring to the ways in which spectators view images and to the gaze adopted by those depicted in pictorial texts. Hence, we could distinguish among:(a) *the spectator's gaze*: the gaze of the viewer who looks at the image of a person (or animal) in the pattern, (b) the *intra-diegetic gaze*: the gaze of a depicted person heading toward another person within the text, and (c) the *direct* (or *extra-diegetic*) *gaze*: the gaze of a human (or humanoid) depicted looking "out of the picture" toward the viewer.

The *social distance* between the depicted objects and the viewer is visually constructed by means of selections on the size of picture frame, depending on the distance of the image shot. "Close shot", which focuses on depicted objects, signifies a close and personal relationship. "Medium shot", which departs from depicted objects, implies less intimacy. "Long shot", which is completely out of focus, denotes an impersonal relationship.

The relation of *power* between depicted objects and the spectator is visually accomplished through selections occurring at the vertical angle axis of image shot. In case we see a depicted object from a "high angle", it seems insignificant and diminutive. On the contrary, if we see it from a "low angle", it appears greater and significant. In the former case, an asymmetrical relation of power is illustrated, since the viewer exerts power over depicted object. In the latter case, the relation of power is reversed, as depicted object exerts power over the viewer. Finally, if angle shot reaches "eye level", then a symmetrical relation of equality between the two parts is established.

Modality denotes picture producer's stance toward depicted objects and refers to the degree of credibility of the pictorial message that is transmitted. What picture is regarded as mirroring reality (namely, as having high modality) is culturally and situationally determined. In Western cultures, when a picture is linked to a techno-scientific context, the degree of modality increases as it approaches black and white ("technological coding orientation"). When, in contrast, a picture is associated within settings in which pleasure dominates (e.g. advertising, cooking), the degree of modality increases as it reaches full color saturation ("sensory coding orientation"). Finally, when a picture is situated within a "realistic" setting (e.g. photojournalism), the degree of modality increases as it reaches somewhat less than full color saturation ("naturalist coding orientation").

Hypotheses of the study

Children from *g. A* were hypothesized to reproduce dominant meanings of disability in their drawings (i.e. the deficit discourse), whereas children from *g. B* were hypothesized to portray disability in more favorable terms (i.e. the social problem discourse) as well as to depict familiar to them scenes, such as the assistance offered by able-bodied people to disabled ones (i.e. the guardianship discourse). Moreover, it was hypothesized that drawings by *g. B* would contain semiotic resources indicating children's greater familiarity and awareness about people with disability (i.e. depiction of invisible types of disability, such as deafness, people with disability put on the top, close shot, eye level angle, extra-diegetic gaze), compared with *g. A* (i.e. depiction of visible types of disability, such as physical disability, people with disability put on the bottom, long shot, high angle, spectator's gaze). Finally, we hypothesized that *g. B* would show a greater concern for people with disability (i.e. people with disability put at the center) than *g. A* (i.e. people with disability put on the left or right).

Results

As derived from children's drawings, their knowledge on disability was confined to the deficit discourse, since their depictions primarily comprised physical disability. This possibly results from the fact that young children tend to identify "visible" (Magiati, Dockrell, and Logotheti 2002) disabilities, which require suitable equipment (wheelchair, crutches, etc.).

Specifically, in 80.6% of the drawings from *g. A*, physical disabilities, mainly of the nether limbs, were depicted, and in most of them, children chose to use orthopedic assistance tools, which makes it possible for people with disabilities to participate in the world of able-bodied (see Appendix, drawing 1). In 12.9% of the total amount of drawings, deafness was represented, while merely 6.5% of the drawings depicted visual problems. The drawings of *g. B* did not significantly differ from those of *g. A*. In 82.1% of the drawings, people with kinetic disorders were depicted (see Appendix, drawing 4); in 14.3% of the drawings, a visual disorder was portrayed (through the depiction of sunglasses, guide dogs, blind cane); while only in 3.6% of the drawings, deafness was represented.

In both groups (*g. A* 77.4%; *g. B* 92.9%), we observed that children approached disability as an individual deficit, as a problem located in individuals. Their choices at both the textual and interpersonal level of analysis appeared to be in line with this

discourse. It is noteworthy that in most of their drawings, people with disabilities were represented as the only depicted objects. Conversely, in very few drawings, from both groups of children, able-bodied people were also depicted (see Appendix, drawing 2, *g. A* and drawing 5, *g. B*).

Regarding the position of objects in the pictorial texts, *g. A* significantly differed from *g. B* ($\chi^2 = 20.030$, df = 3, $p < 0.001$). Specifically, in *g. A* people with disabilities were mainly located at the center (61.3%), whereas in *g. B* they mostly (75.0%) covered the whole surface of the drawing (left–center–right). In contrast, in few drawings from both groups, people with disabilities were placed on the right or in the margin. This means that both groups, especially *g. B*, viewed people with disabilities as a major concern.

As for the top–bottom zone, *g. A* also significantly differed from *g. B* ($\chi^2 = 24.306$, df = 2, $p < 0.001$). More analytically, group A exclusively (100.0%) located the verbal message and the world of able-bodiedness at the top of the picture, which denotes the sphere of expectations (see Appendix, drawing 2), while at the bottom, namely in the field of real life, they depicted the disability world (see Appendix, drawing 3). In *g. B,* people with disabilities were either located at the bottom (42.9%) or covered the whole surface (42.9%), whereas in 14.3% of the drawings, they were placed at the top. A verbal message was only given in 14.3% of the drawings (e.g. *Καλό καλοκαίρι* meaning "Have a nice summer"; see Appendix, drawing 6), which was located at the top of the drawings. Hence, this indicates that for both groups, disability was largely viewed as a difficult state faced by many people. However, children from *g. B* also showed that disability was a big concern for them, covering both the top–bottom zone.

Only in 12.9% of the drawings from *g. A* and in 7.1% of the drawings from *g. B*, children drew upon guardianship discourse. The assistance of able-bodied to people with disabilities was mainly represented through the verbal message, which frequently appeared inside a cloud-bubble by giving voice to a person with disability, and thus enriching the pictorial message of the drawing (see Appendix, drawing 1). Through the verbal message, people with disabilities tended to be put in a position of soliciting the care of able-bodied ones (e.g. "help people with special needs"; "take my hand").[2] In that case, verbal and pictorial semiosis were encountered in one drawing and produced a multimodal text.

In *g. A*, the social problem discourse was also employed in 9.7% of the drawings. These drawings differed from the rest, since pictures did not denote shapes, but pages from books and brochures, in which disability was defined as a restraint caused by society. Through these verbal messages, both able-bodied and disabled people requested the provision of proper infrastructures from the State. Some characteristic phrases included the following: "the State should listen to us", "schools should be made for people with problems of sight" and "we want a better future" (see Appendix, drawing 7).[3] In *g. B*, disability was not in any case represented as a social problem.

In most drawings from both groups (80.6% from *g. A* and 71.4% from *g. B*), depicted objects gazed out of the picture frame (extradiegetic gaze), namely they gazed toward the viewer. Regarding the distance of picture shot, the two groups differed significantly ($\chi^2 = 15.478$, df = 2, $p < 0.001$). Specifically, children from *g. A* tended to depict people with disability from a medium (45.2%, see Apppendix, drawing 1) or long shot (38.7%, see Appendix, drawing 2). In contrast, *g. B* portrayed disabled people from a close (46.4%, see Appendix, drawing 4) or medium shot

(53.6%, see Appendix, drawing 6 and 8). Close shot evidently indicates a personal relationship among depicted objects, as it arises with students having an everyday contact with children with disability. However, children of both groups avoided depicting people with disabilities from a very close shot.

Moreover, in both groups of children, the vertical angle shot of depicted object reached eye level, denoting the equality between depicted object and the viewer (see Appendix, drawing 3, *g. A* and drawing 6, *g. B*). Finally, with respect to modality, intense multi-colored pictures were composed in most of the drawings, meaning that children attempted to produce pleasant and impressive pictorial texts through a sensory coding orientation.

Conclusions

The sociosemiotic analysis presented above reveals that children produced a pictorial text according to the ideas they held about people with disabilities. Their representations of disability indicate that they tended to reproduce the dominant meanings of disability.

In case of children from *g. B*, we hypothesized that they would construct more favorable representations of disability indicating their concern and familiarity with this issue, due to their everyday contact with disabled students. Yet, deficit discourse prevailed (physical disorder), and in no case, pictorially or verbally, the social-problem discourse was drawn upon. Moreover, it is noteworthy that although those children encounter in their everyday life scenes from guardianship discourse (e.g. a teacher assisting a person with disability), they did not employ it to a greater extent compared with children from *g. A*. However, their choice to use medium and close shot in their drawings indicates the closer and more personal relationship of that group with disabled students in comparison with children from *g. A*, who opted to design people with disabilities from a longer shot, namely probably from a distance of safety. In a similar vein, the option of *g. B* to make drawings with people with disability covering the whole surface (left–center–right zone, top–bottom zone) shows their greater interest and concern for these people in comparison with *g. A*, who made drawings in which disabled people only covered the center and the bottom of these drawings.

In terms of social inclusion policy and practical implications derived from our study, we suggest that children (even those encountering people with disabilities) are not adequately informed about disability and the essential problems people with disabilities possibly face. The results of our analysis conclude that a "typical" inclusion of the disabled students at school seems insufficient, if the goals of curricula are not reassessed and a greater emphasis is given on the social relationships among students. This may create a more harmonious school environment and yield benefits for children's social and cognitive development, and therefore cause greater changes in non-disabled children's out-group attitudes (Cameron and Rutland 2006; Fuchs and Fuchs 1994; Stainback and Stainback 1990).

The educational value of visual texts resides in the fact that through systematic observation they can offer a critical perspective on the representational mechanisms (Vamvakidou, Kyridis, and Bessas 2006). Texts like drawings could be closely examined and discussed in the classroom with the help of tools provided by Social Semiotics, to subvert stereotypical and prejudicial ideas associated with the

construction of issues about disability. In this way, theoretical approaches about the acceptance of "the other", part of whom people with disabilities are, could be practically transformed into concrete actions and behaviors.

Drawings constitute an alternative research tool to questionnaires and interviews to collect information on children's views about social issues and the world, by providing insights into the ways by means of which attitudes and perceptions are shaped through visual discourse, especially for those children who have difficulty expressing their thoughts verbally. Yet, they pose certain limitations. Specifically, although 4th graders (aged 10 years), as children of our sample were, are positioned at the developmental stage of "visual realism", meaning that they begin to draw from a particular perspective, and their drawings become more detailed, better proportioned, and more realistic (Malchiodi 1998), some semiotic resources (e.g. high angle shot) may not be still available to them. On the other hand, what children draw depends considerably on their drawing ability. This means that they may well have left out more abstract ideas, such as the social model of disability, simply because they could not draw it. In conclusion, taking into account the fluid and multi-dimensional nature of social reality and behavior, we suggest drawings as a complementary tool for the exploration of children's views about aspects of the world, such as people with disability are.

Notes

1. For a detailed analysis of the verbal messages in children's drawings based on the model of Halliday, see Stamou et al. (2008).
2. See note 1.
3. See note 1.

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Appendix