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# Metaphorical Visual Imagery from the Perspective of Children

**Abstract**

This paper will present the results of a study of an educational project on visual metaphors in children's initiated discourse. The purpose of the study was to identify children's metaphorical skills in recognizing similarities and noticing differences between the target domain and the source domain of visual metaphor in Iwona Chmielewska's artistic picture book *Two People*, dedicated to the issue of community. In the designed didactic intervention activities, the research material came from participant observation, focus interviews and analysis of children's creations (graphic visualizations). The research was carried out with a group of third-graders in selected elementary schools, in a metropolitan environment. The results of the research show children's preferences for translating one area of metaphor by another, as well as strategies for constructing children's knowledge about life in the community. In addition, they point to the need to expand the educational environment in Polish educational culture.

**Keywords**: child discourse, children's aptitude for metaphorization, knowledge construction, educational environment, picture book.

## Metaforyczne obrazowanie wizualne z perspektywy dzieci

**Abstrakt**

W artykule przedstawione zostaną wyniki badań projektu edukacyjnego poświęconego metaforom wizualnym w zainicjowanym dyskursie dziecięcym. Celem badania było rozpoznanie dziecięcych umiejętności metaforyzacyjnych w zakresie rozpoznawania podobieństw i dostrzegania różnic pomiędzy domeną docelową a domeną źródłową metafory wizualnej w artystycznej książce obrazkowej Iwony Chmielewskiej Dwoje lu-

dzi, poświęconej problematyce wspólnoty. W zaprojektowanych dydaktycznych działaniach interwencyjnych materiał badawczy pochodził z obserwacji uczestniczącej, wywiadów fokusowych oraz analizy wytworów dziecięcych (wizualizacje graficzne). Badania zostały zrealizowane w grupie trzecioklasistów w wybranych szkołach podstawowych, w środowisku wielkomiejskim. Wyniki badań pokazują dziecięce preferencje w zakresie tłumaczenia jednej dziedziny metafory przez drugą oraz strategie konstruowania wiedzy dzieci o życiu we wspólnocie. Ponadto wskazują na potrzebę rozszerzenia środowiska edukacyjnego w polskiej kulturze edukacji.

**Słowa kluczowe:** dyskurs dziecięcy, predyspozycje metaforyzacyjne dzieci, konstruowanie wiedzy, środowisko edukacyjne, książka obrazkowa.

## Introduction

The theoretical rationale for research in the area of children's metaphorical skills is based on a qualitative approach. It fits into the tendency of interpretative research, of which cognitive science is a part. Cognitivists, in an attempt to answer the question: how is it that children learn through conceptual metaphor, have provided revealing insights. Metaphor has acquired a whole new status. In *Metaphors We Live By*, George Lakoff and Mark Johnson (1980) develop and justify in detail the idea that metaphor is a fundamental conceptual category associated with human thinking and action in the world. They argue that metaphor is not so much a way of talking about phenomena as a way of understanding them, of thinking about them. Our individual attitude to the world permeates through metaphor. They derive the claim: "show me your metaphors and I will tell you who you are" (Krzeszowski 1988: 27) from the conviction that the choice of metaphors characterize us. Lakoff and Johnson define metaphor as a cognitive-linguistic mapping between domains. One is the target domain of metaphorical projection, X (abstract and complex), and the other is the source domain, Y (more concrete and cognizable through the senses) (Lakoff, Johnson 1988: 27-28). By transferring the domain from the physical (Y) to the abstract (X) plane, it becomes possible to grasp, explain and describe something difficult, not obvious, in terms of concrete and long-known things (Kalisz 1994: 70; Korzyk 1992: 64; Tabakowska 1995: 36).

Thus, the essence of metaphor is "understanding and experiencing a certain kind of thing in terms of another thing," translating or experiencing the unknown by means of the known (Lakoff, Johnson 1988: 27). With the help of a new metaphor, or an unusual extension of an already known one, we suddenly see a thing in a completely different way, a concept appears to us in a completely different perspective (Krzeszowski 1991: 83-95). For example: concepts related to argumentation are built on the basis of the metaphor "argumentation is war", scientific theories are considered as buildings, life – as a journey, wandering, and death – as night, darkness, sleep, cold, rest (Lakoff, Johnson 1988: 25-28). Therefore, often one and the same concept is represented by multiple metaphors, with the use of one metaphor activating associations that give rise to other metaphors. Thanks to

these very relationships, the cited collection of metaphors can be considered a certain coherent whole (Jäkel 2003: 310-312).

Metaphor, related to the nature of thinking, is an indelible part of experiencing, understanding and expressing reality, so it is not a unique phenomenon in poetry, but has the quality of universality (Lakoff, Turner 1989: 132). Metaphors are used frequently in everyday language and they are difficult to separate from other uses of language, such as comparison, allusion or ambiguity. Such conventionalized metaphors are most often encountered by students in school discourse (Cameron 2003: 265–266). Of the many metaphors, they use only those that best suit their views and way of life. Moreover, colloquial metaphors are conditioned by identical cognitive mechanisms and processes as poetic metaphors. This mandates further practical conclusions: mastering the principles of creating and interpreting conventional metaphors is a preliminary phase, indispensable in acquiring the ability to use original metaphors.

Thus, if we assume that metaphor is a common and present phenomenon in human life, deeply rooted in experience, and that the ability to create metaphor is innate and is related to the cognitive ability of humans to establish correspondences between elements of meaning of different structures, then a new area of analysis of learning processes opens up. From such a belief, Andrew Ortony derives three theses, stating that metaphor can facilitate learning by: transferring snippets of experience from familiar to less familiar contexts (compactness thesis), facilitating memorization of the knowledge being explored (vividness thesis), and enabling description of those aspects of experience that cannot be expressed by a linguistic code (inexpressibility thesis) (Ortony 1979: 25). Derived from the cognitivist position, the status of metaphor, more broadly of language and the concept of education, is of considerable research and pragmatic importance. The practical consequence of the described research strategy is the conviction that cognitive competencies, which metaphoric skills constitute, can be developed like any other mental competence. This is because the ability to metaphorically grasp selected spheres of life turns out to be a natural property of the human mind, which, however, can be, as a result of its neglect, completely extinguished by school.

The discovery of the metaphorical properties of thinking led cognitive scientists to believe that children have a much greater cognitive capacity than traditional theories assumed. Children are distinguished by their surprisingly complex knowledge of the world, encompassing several different dimensions (such as space, figure, time, and the concept of an object) and several modalities (sight, hearing, touch), and as their knowledge of different domains deepens, their understanding of metaphors increases. Surprisingly young children attempt to explain one domain (usually abstract) through another (concrete). They are able to grasp something non-sensory (spiritual) in a purely physical phenomenon. Observations of children's spontaneous activities unequivocally reveal that for children something is something and at the same time it is not. What's more, they know how to talk about it, they have their own strategy for creating a metaphor and for finding similarities and differences between the target domain of the metaphor and the source domain

(Özçalişkan 2005: 291–318; 2007: 147–168). Cognitivists have no doubt: children can understand metaphors. Difficulties (which can be identified and overcome) in the metaphorical perception of the world are due not to a lack of ability to perform logical operations, but rather to different than adult ways of perceiving, verbalizing thoughts and notions, as well as different experiences and general communication skills. The existence of this difference opens up new possibilities for developing children's natural metaphorical skills in early childhood education.

## Methodological assumptions

I made the main goal of the research[1] the analysis of children's metaphoric aptitude, that is, their ability to understand, recognize, and create metaphors. I was interested in how children conceptualize the concept of community, which common features of the target and source domains they consider important in a metaphor, and whether they perceive distinctive features of both domains. I also attempted to identify children's knowledge of the diverse aspects of living together: It is easier for them because they are together; It is harder for them because they are together; It is easier and harder for them because they are together.

I assumed that the category "community" would provoke the children to look for non-literal ways of conceptualization. I supposed that they would use metaphorical verbalization and symbolic visualization. I assumed that the study of children's metaphorical abilities would also have a pragmatic purpose. I was looking for an answer to the question of whether developing metaphorical aptitude is possible. The research conducted was qualitative and quantitative. In the designed didactic interventions, the research material came from participatory observation, focus interviews, and analysis of children's creations (graphic visualizations). I observed the students' activities, as well as the effects of these activities (primarily plastic concretizations). I juxtaposed the observations with students' statements derived from the electronic record, and characteristic examples of situations revealing children's metaphorical aptitude (Angrosino 2000: 673–702; 2011: 467–478).

To this end, I organized and carried out an educational project with a picture book, on the basis of which a sentence-stimulus around visual metaphor was constructed[2]. Within fifteen weeks, modules derived from Iwona Chmielewska's book *Two People* (Chmielewska 2014) were incorporated into the school curriculum. The topics of the designed teaching activities were essentially determined by four metaphorical models: coexistence ("sewn together like two garments"; "positioned like two windows of a room"; "fused like two bicycle wheels"; "joined like two book cov-

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[1] The text of the article is based on the same research published in the book (Gemel, Wisniewska-Kin 2023) and was prepared with a view to translation into English, so that the issues addressed and the research results discussed will be disseminated in that language.

[2] Students who participated in the process of collecting research material were a part of a master's seminar conducted under my supervision. I was personally responsible for the design, organization and conduct of the research.

ers"), interaction (reciprocity of relationship) ("indispensable like mast and sail"; "joined like flower and stem"; "joined like vessels in an hourglass." "they fit together like a key to a lock"), finding unity in diversity ("they live like two opposite islands"; "they alternate like day and night"; "conjoined like two different trees"; "they form a vault like two opposite walls"; "they experience time like two different clocks"), appreciating what is common ("warm seriousness", "joyful coolness"; "together they can do anything"). We did not expect students to have a full, mature understanding of the commonalities and distinctive features of the two domains.

It would have been difficult for the children to verbalize the reflection derived from the activity, but the activity facilitating the concretization of the depicted world was intended to lead toward such a generalization. The conclusion emerged from the conversation and reflection on the work done, and from the consideration of the otherness of the linguistic and visual shaping of the world in the picture book. Thus planned and methodically organized work (using activity-based methods) opened up the world of metaphorical linguistic phenomena to the children.

The study included 9–10-year-old students. The size of the selected classes (about 30 students in each group) and the participation of boys and girls in the study were comparable. A total of 60 children participated in the study[3]. The choice of such a study group was determined by the noticeable intensive increase in correct finding of similarities between domains at this age (Kubicka 1989: 168)[4]. The children came from a city with a population of 700,000.

## Children's struggles with metaphorical conceptualization of self and world – research results

The applied educational project with a metaphorical picture book, allowed me to diagnose the knowledge of 9–10-year-old children on four models of metaphorical projection: coexistence and cooperation, finding unity in diversity, and appreciating what is shared. In the children's understanding, the strength of community lies in the reciprocity of relationships (not only taking, but also giving) and in feeling the need to accept the diversity and difference of the people who make up the community, as well as to realize one's own difference (each Self is also an Other to the Another). Communality, according to the children, indicates an attitude that can be called a sense of camaraderie and sympathy. It does not result from a command, but from an internalized attitude that must be worked out patiently, persistently.

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[3]  In the research described in the article, I chose to select only those results that pertain to the metaphorical skills of children from a metropolitan environment. In the book (Gemel, Wisniewska-Kin 2023), I additionally described the results collected in a small-town environment.

[4]  Metalinguistic awareness of metaphor and irony appears between the ages of 6 and 7. At this age, children achieve the ability to reflect on the meaning of a sentence as something different from the meaning of what the speaker meant. Intense growth of interpretations indicative of correct relating of subject terms to psychological properties is noted between the ages of 8 and 10. Cf. on this subject: Kubicka (1989).

Being together is a test of character, a conscious and wise building of "I" in relation to "You" and "Others."

Children most often explained domain by domain, understanding the result of shifting the meanings of two completely independent concepts (abstract concept – physical object). In children's metaphorical transformations, the non-sensory realm gained an additional pictorial and mental dimension.

The study found that in the metaphorical projection model around cohabitation, children most often explained the concept of community through the metaphor of "two people are two wheels on a bicycle" (r=1). The metaphorical explanation mechanism also prevailed in non-verbal statements. More than half of all children surveyed visualized cohabitation in the form of bicycle wheels moving in the same direction and at the same pace. The metaphor "two people are two windows in a room" also received a high rank position (r=2), due to its high frequency of occurrence. This was followed by the metaphors: "two people are two book covers" (r=3), "two people are bundled clothes" (r=4). Third graders indicated both the symptomatic and causal models of the metaphor.

For the target domain "cooperation (reciprocity of relationships)," students most often cited the metaphor "two people are a mast and a sail" (r=1), as well as the metaphors "two people are keys and locks" (r=1) and "two people are a flower and a stem" (r=1), as well as the metaphor "two people are vessels in an hourglass" (r=2). The latter metaphor appeared in the statements of few children in the surveyed groups.

In all groups of children surveyed, the metaphor for the target domain "unity in diversity" the most frequent were "two people are two opposite islands" (r=1), as well as the metaphors "two people are opposite walls" (r=2) and "two people are two different clocks" (r=2). A small number of children in the study group created two other metaphors in addition to these three: "two people are two different trees" (r=3) and "two people are day and night" (r=4). The large number of interesting and revealing metaphors shows that "community" (the target domain of the metaphor) triggers children's thinking about a variety of source domains.

The target domain "community (new quality)" was equally often represented. 9–10-year-old children most often created two metaphors "two people are two different colors" (r=1) and "two people are two different persons" (r=1).

From the frequency juxtaposition of metaphors, the child's conceptualization of community is understood as a continuous movement gradually reducing the distance between two people (community is physical contact): from fitting in, fitting together, looking in the same direction, joining, fusing, sustaining, to interacting (setting a vehicle in motion, making a journey, creating a new person).

Affectionate/emotional closeness is also transferred into the dimension of spatial-physical growing, floating (the stem lifts the flower high and provides everything it needs). The essential orientation metaphor "communal is up" provides the basis for further conceptualizations of being together and conscious struggle and support, as a real coming together of objects (fusing, joining). Children understand commu-

nity (closeness) as its physical extent of action. The linguistic markers of closeness in the children's statements are the phrases: "our loved ones", "a close person", "he is close to me", "he was the closest person in the world to me".

Lack of community is lack of physical contact. Communal unattainability is expressed by children through distance: separation/distance, in two dimensions: horizontal distance (islands away from each other, opposite islands), and vertical distance (two trees: taller and shorter growing in its shadow). Thinking about the community triggers our notions of ourselves and other people as points, as objects situated somehow in this space – at different distances from each other. These distances change – some people become closer to us, they get closer to each other, from others we move away (they have moved away from each other over time).

The life of two people (communality) is equipped with a number of the most important properties of solids: difficulty can manifest itself as hardness, for example, living together is a hard rock of islands (colloquially we say hard nut to crack). If, on the other hand, the attempt to break the crust succeeds and one manages to tear it apart, shattering it, halting selfish thinking, it means that the conditions for the formation of communal ties have been created. Such thinking is revealed by phraseological associations: "is ready to change", "wants to communicate", "thinks alike", "feels alike".

The process of community building (forming, merging and consolidating) is also depicted by children with the help of visualized image schemas[5].

The road/movement schema (starting point – way – destination – direction – movement) illustrated by a straight, gentle line, decorated with attributes (traffic signal and pedestrian crossing), was used by the children to describe the safe way to the community; while the curved line, bent into arches, illustrated the variability of feelings accompanying the building of the community: the "uphill" slope gains negative valuation and illustrates negative feelings.

The schema of the container (restriction/cover; open/closed) – content (full/empty), depicted as an air-filled, floating balloon, symbolizes the dimension of spatial-physical rising, floating (upward orientation is valorized positively); the opposite is a damaged, falling balloon (downward orientation is valorized negatively). This understanding is contained in selected phraseological compounds: "the air has gone out of him", "he has given up the ghost", "he is flabby", "he has run out of steam".

The schema of nourishment (lack of nourishment) and the schema of the plant: visualized in the form of two pairs of oppositions (an apple that is red, ripe and healthy vs. rusty, overripe and nibbled by pests, and flowers that are multicolored, blooming, in a sunny aura vs. wilted, with the inflorescence lowered, exposed to heavy rain). Instinctive intake/consumption of food from the environment ensures biological survival, while lack of conditions for life results in a process of decay (rotting due to pests and unfavorable weather conditions). Here we are dealing with very distant similarities; their extraction and combination brings unexpected, bold and original juxtapositions. The range of associations with the world of flora and fauna

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[5]  For details of the visualized concept schemas, see (Gemel, Wisniewska-Kin 2023).

reveals that the children realize the need to create optimal conditions for the development of the community, and also recognize the importance of the dynamic aspect (growth and development) of being communal.

River schema: through the visualization of living water (two rivers running parallel and a boundless sea of blue) and the natural movement of the flow, children reflect the invigorating effect of water. Moving water has the power to refresh the thirsty and sick, cleanse the body and soul, and heal, restoring strength and health (Kopalinski 2006: 482). The constant movement of the flow of water gathering in the sea reflects, according to the children, the fusion of human bonds, by softening or getting rid of what causes the community members the most pain, and getting rid of negative emotions and feelings. In the children's understanding, "a man and a woman are like two rivers running side by side that merge in the sea. Despite their separateness, they flow side by side because they share a common goal."

Vertical orientation schema (upright gait, preferred upward direction against the force of gravity). Metaphorical thinking, as well as the range of associations and meanings expand from the symptomatic model through the sensory to abstract concepts and values. In children's expressions, upward movement is valued positively. A bigger tree not only provides a better view of reality, but becomes a symbol of strength and endurance. In the community, according to the children, it is important to create conditions for growth and development.

Contact schema: touching or meeting of things, physical objects, provides passive (i.e., in the case of planets) or active (fire and match) contact. The match releases fire, but the fire becomes destructive in contact. "Man and woman are like fire and match. A man is like fire because he often explodes and moves quickly. A woman, on the other hand, is as fragile as a match. However, thanks to the match, the fire can ignite. As if there were no ordinary match, fire would not be as dangerous as it is either." The constant movement of the planets does not reduce the distance between them. Despite their proximity, each has its own area of freedom: "People are like the Earth and the Sun, one orbits next to the other, but they will never meet, because that would destroy them." In the children's understanding, people in a relationship need autonomy.

**Flavors of life together, or what research has shown**

The proposed project of education oriented around visual metaphors in the initiated children's discourse is an attempt to create conditions for the interiorization of the values that make up the common, elementary and irreducible code of human existence. This code is personal, not imposed – it becomes an ethical equipment, a compass, not a disciplinary regulation, consisting of orders and prohibitions, linked to a system of punishments and rewards. Out of non-internalized ethics, opportunism is usually born. Triggering figurative thinking by its very nature is a part of a long-term and complex process, involving various educational interactions not calculated for immediate or superficial results. The deferral of expected results is

fraught with uncertainty, like any action in "material" that is diverse and changeable (Gemel, Wisniewska-Kin 2023).

Confronting the models in the picture book with children's perceptions and understandings of the same repertoire of problems reveals a remarkably accurate identification of meanings from children's perspectives. Evoked reflections, discussions, observations, emotions, evaluations refer to children's diverse experiences of communality. The deliberately chosen visuals complemented by a short text in Chmielewska's picture book, which mainly represented the issues of kindness, forbearance and forgiveness, provided excellent opportunities to reflect on the value that a diverse community can have. They showed a variety of ways to defuse tensions and reconcile contradictions, and pointed out the elementary principles that accompany growing to respect distinctiveness.

I made the most important thread leading to the building of such awareness and attitude the issue of becoming aware of one's own difference (each Self is also an Other to the Another) and the need for acceptance and respect despite separateness. The next issue I considered with the students was the openness related to curiosity: They, as the Other, can offer me something I don't know, show me something I don't know. The principle of reciprocity is activated here: What can I present to them, offer, show them, what can I make them curious about, what is interesting about me?

Another issue was to direct attention to what unites us in this diversity more than divides us, to make us aware that there are more similarities between us than differences. More important, then, is what we have in common.

Experiencing first the positive aspects of being in a community turned out to be equally important: for example, similar interests in peers, a sense of security in a family, neighborhood or social community.

With the emergence of conditions for the acceptance of being in a community, there came the reflection that this brings undoubted benefits, but also involves giving up some of one's own, especially selfish, freedom, and above all, seeing the needs of others and getting involved in the community. Inevitable rifts and tensions must not poison mentalities and stiffen behavior. Conflicts must be resolved through dialogue and negotiation.

Thinking around the initial category of "community" we therefore focused on issues of self-identification and self-acceptance through openness towards every single difference in peer communities. Being in them not only provides positive incentives, but is also a source of emotional ambivalence and conflict situations. Their cause can be egocentrism, as well as weakened family and social relations, rivalry combined with a sense of loss of some freedom or alienation. Viewed in this way, respect for otherness in the community seems to be an indispensable ground for the formation of attitudes of cooperation and solidarity – ideas that are as lofty and distant as they are demanding inclusion in the repertoire of pedagogical interventions. This is especially true of phenomena in which the presence of natural dissimilarities is beginning to multiply more and more through cultural differenti-

ation. Otherness, previously accepted at best as an exotic attraction or curiosity, is becoming part of social everyday life.

The presented metaphorical statements confirm the validity of the cultural approach to learning processes. The social dimension of interaction places the functioning of metaphors in "interpersonal space," and also takes into account the sociocultural context of their use (Cameron 2003: 267–268). Obstacles that hinder insights into children's metaphoric predispositions are the researcher's problem, not the children's. Children's abilities as much as their limitations provide the rationale for explaining the discrepancy that exists between knowledge and understanding ability and metaphorical imagery ability.

In my opinion we should assume that children often understand concepts, but they are not yet able to verbalize them, to produce linguistic conceptualizations. The difficulty is the use of appropriate language structures; they act as a barrier that inhibits the process of learning and understanding metaphorical phenomena. Lack of proficiency in the processes of creating coherent descriptions makes children appear incompetent in terms of metaphorical abilities, while in reality they are still struggling to create meaningful messages. It can be said that interpersonal contacts, by creating an emotional climate, train in experiencing all areas of communal life and at the same time prepare to speak about them. The crucial point, therefore, is not that metaphor is the pivotal point of cognitive-linguistic theory, "a matter of paramount importance," but that it is a cognitive structure that is essential for children's orientation in the surrounding world, and that it becomes the key to an adequate description of the process of understanding, which is important for at least several reasons. First, it makes it possible to study the kind of thinking and acting of children that is interpretive in nature: it reveals not only children's personal knowledge, but above all the ways in which they comprehend, categorize and value an ambiguous, often conflicted reality. It also provides an opportunity to reconstruct the cognitive abilities externalized in the verbal and nonverbal responses of children confronted with a structured problem situation. Secondly, it allows to formulate postulates and "maps" of directions, indicating the possibilities of releasing the linguistic images created in the young mind, anchored in culture and personal experience. Thus, it activates the space for thinking about the necessary changes in school, related to a different understanding of children's comprehension of the world than before. Therefore, in my research I decided to choose an interdisciplinary cognitivist position, which opens up entirely new spaces and provides revealing insights for any reflection on education.

The cognitivist view of children's metaphorical thinking as an innate aptitude leads to the conclusion that the processes of comprehension and creation of metaphors can be improved. This authorizes the formulation of further practical conclusions: stimulation of metaphorical thinking should be started as early as possible, since the ability to associate metaphorically is not the result of an immediate cognitive activity, but is formed in a process that integrates various cognitive activities

This understanding of cognitive metaphor challenges traditional conceptions of teaching, points to new areas for stimulating and developing cognitive processes, and

lays the groundwork for a completely different understanding of its role in education. If one assigns a central (not to say: indispensable) role to metaphor in education, a whole new situation in didactics and important consequences for education arise.

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