

Language Education Activities for Young Preschoolers Involving Embodied Cognition Versus Traditional Language Education Activities for Young Preschoolers

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Abstract

Keywords:

language education activities; early childhood; embodied cognition.

Currently, in contemporary cognitive science, embodied cognition is a controversial research topic. This article draws a parallel between how early childhood teachers conduct early language education activities involving embodied cognition and how they conduct traditional language education activities. Language education activities involving embodied cognition are empirically supported, engage the motor system, the perceptual system and make use of elements of the proximal environment. Traditional language teaching activities are purely theoretical and do not lead preschoolers to deepen and extend connections so that they can make connections between sound perception and word meaning. Our interest in the current approach was to collect descriptive data from preschool teachers in Romania in order to identify strengths and weaknesses of language education activities involving embodied cognition and traditional language education activities. It also aimed to identify, for the teachers involved in the research, the difficulties that young preschoolers encounter in the process of comprehension of new words and pronunciation. We believe that understanding word meaning and pronunciation are processes that underpin effective language teaching. The method used was the survey and the research instrument applied, the questionnaire. The study involved 224 pre-school teachers from eight counties in the country, namely Alba, Arad, Bihor, Caraş-Severin, Cluj, Gorj, Hunedoara and Timiş.

Zusammenfassung

Schlüsselworte:

Sprachbildungsaktivitäten; frühe Kindheit; verkörperte Kognition.

Derzeit ist die verkörperte Kognition in der zeitgenössischen Kognitionswissenschaft ein kontroverses Forschungsthema. Dieser Artikel zieht eine Parallele zwischen der Art und Weise, wie frühpädagogische Lehrkräfte frühe Spracherziehungsaktivitäten durchführen, die verkörperte Kognition beinhalten, und der Art und Weise, wie sie traditionelle Spracherziehungsaktivitäten durchführen. Spracherziehungsaktivitäten, die verkörperte Kognition beinhalten, werden empirisch unterstützt, binden das motorische System und das Wahrnehmungssystem ein und nutzen Elemente der proximalen Umgebung. Traditionelle Sprachunterrichtsaktivitäten sind rein theoretisch und führen Vorschulkinder nicht dazu, Verbindungen zu vertiefen und zu erweitern, damit sie Beziehungen zwischen Klangwahrnehmung und Wortbedeutung herstellen können. Unser Interesse an dem aktuellen Ansatz bestand darin, deskriptive Daten von Vorschullehrern in Rumänien zu sammeln, um Stärken und Schwächen von Sprachunterrichtsaktivitäten zu identifizieren, die verkörperte Kognition und traditionelle Sprachunterrichtsaktivitäten beinhalten. Ziel war es auch, für die an der Forschung beteiligten Lehrer die Schwierigkeiten, mit denen junge Vorschulkinder beim Verständnis neuer Wörter und der Aussprache konfrontiert sind, zu ermitteln. Wir glauben, dass das Verstehen der Wortbedeutung und der Aussprache Prozesse sind, die einem effektiven Sprachunterricht zugrunde liegen. Als Methode diente die Befragung und als Forschungsinstrument kam der Fragebogen zum Einsatz. An der Studie nahmen 224 Vorschullehrer aus acht Landkreisen des Landes teil, nämlich Alba, Arad, Bihor, Caraş-Severin, Cluj, Gorj, Hunedoara und Timiş.

1. Introduction

Language is the material shell of thought. It is closely intertwined with the development of thought and arose in the human community out of the need for communication.

Language implies a "system of inter-human communication, centred on elements of language, on the articulation of signs and symbols, leading to the

exchange of ideas and information that are the basis of human knowledge; the forms of language allow understanding and accessing various information from all scientific fields, leading to the decoding of complex elements of reality". (C. Stan, 2010, p. 422). "Language is not only vocabulary, but also a certain meaning attributed to words." (Bocos et al., 2019). Language involves a communication system made up



of articulated sounds, specific to people, through which they express their thoughts, feelings and desires. The basic form of language is speech. Speech is one of the most important aspects of language; it is the concrete form through which language is manifested.

The instructional procedures used in language education activities should be followed by extensive synthesis activities, which will focus on relating the fragments to the dynamic system of which they are a part. Knowledge will always be introduced in the form of meaningful structures, such as images or contexts.

Language education is a long-term process, starting with the first sounds produced by cooing as an expression of joy, through to symbolic play, which is based on language mastery, and is an interactive process in which the child learns the system of sounds (phonology), words (morphology) and grammatical structures (syntax), word meanings (semantics), their appropriate use, in the presence of and continuously assisted/supported/stimulated by caregivers/family, formal (early education institutions) or informal play groups, or the community". (Ionescu et al, 2010, p. 53).

The formation of correct communication skills is a permanent and continuous action in the kindergarten environment, so there are activities in which the cultivation and development of language is the main goal of the teacher. Such activities are: storytelling, conversation, reading from pictures, didactic play, memorization, etc. (Boca-Miron & Chichișan, 2002).

In Romania, the Curriculum for Early Childhood Education 2019 is the official document on the basis of which preschool teachers organise language education activities. In order to carry out effective language education activities, preschool teachers must consider the interdependence between language and thinking. Through language education activities in pre-school, communication skills are developed which facilitate learning to read and write at school.

Early language education activities for young preschoolers can be carried out by preschool teachers, either traditionally or involving embodied cognition.

Traditional language teaching activities can be organised face-to-face, using: storytelling, talking, picture reading, didactic play and memorisation, but also in groups or individually. Frontally organised language learning activities provide the cognitive and linguistic content for those organised in groups or individually, which provide opportunities for pre-

schoolers to come into contact with multiple ways of approaching tasks, which may be diametrically opposed to their own.

Language education activities involving embodied cognition, such as content simulation, allow the sensory system to inform the cognitive and motor system to carry out the commands of the cognitive system. The effectiveness of content simulation activities lies in the fact that preschoolers are given active roles in the process of imitating real actions, with the main aim being language training.

The theory of embodied cognition tells us that the mind, in addition to knowing that it has a body, has knowledge about the world and about the conceptual language we use to describe the world.

The concept of embodied cognition was introduced between the 1970s and 1980s to emphasize how psychological phenomena are grounded in the body, primarily through the body's sensory-motor experiences (Glenberg, 2010; Price et al., 2012; Winkielman et al., 2015), and through social interactions (Fuchs, 2009). According to the "embodied cognition" approach, there is no longer a dividing line between perceiving, thinking and acting. Abstract symbols are multimodal and depend fundamentally on our sensory modalities and actions. Thus, intelligent conduct depends primarily on how certain conceptual cognitive operations are implemented, how they are positioned between a given body and environment.

Vocabulary development is a linguistic and cognitive indicator of a child. Vocabulary can be likened to a bridge that makes it possible to link the process of learning words at the phonetic level with the cognitive processes of comprehension. Often mental processes such as sensations, perceptions, emotions and movement are involved in the learning process. These psychological processes lead us to approach learning from the perspective of embodied cognition.

2. Problem Statement

Our aim is to draw a parallel between the way preschool teachers conduct language education activities involving embodied cognition and the way traditional language education activities are conducted, for young preschoolers.

When seeking to understand how language development occurs when embodied cognition is involved, it is necessary to consider learning as a psychophysiological process that causes a change in

both behaviour and cognition. It is up to the teacher to get young children to move, talk, touch and play when presented with new content. In this way, both the body and, by default, the brain will store new information in multiple ways.

Unlike language education activities that involve embodied cognition, traditional language education activities are purely theoretical and do not allow preschoolers to make connections between the sound perception of a word and its meaning. These activities do not lead preschoolers to deepen and extend connections for language development.

3. Research Questions

What is the manner in which preschool teachers conduct early childhood language education activities involving embodied cognition and what is the manner in which traditional language education activities are conducted?

What difficulties do young preschoolers encounter in comprehension of new words and pronunciation?

4. Purpose of the Study

Our study aims to collect descriptive data from preschool teachers in Romania in order to identify the strengths and weaknesses of language education activities, as well as to track the difficulties young preschoolers encounter in comprehension and pronunciation of words.

4. Research Methods

The method used was a survey and the research instrument applied to pre-schoolers was a questionnaire. The study involved 224 pre-school teachers from eight counties in the country, namely Alba, Arad, Bihor, Caras-Severin, Cluj, Gorj, Hunedoara and Timis. The responses are recorded in data logs in tabular form to allow analysis and interpretation.

5. Findings

We present below 6 of the 19 items of the administered questionnaire, which are related to the investigation of the theory of embodied cognition on the approaches to language education of young preschoolers, through the training in activities of the motor system, perceptual system and bodily interactions with the environment. The 6 items presented were judged to be more relevant to our study. In drawing conclusions, all items of the administered questionnaire are considered. Analyses were performed using IBM SPSS 20.0 statistical

software at 95% confidence level and include analyses on percentage distributions, absolute frequencies and cross-sectional analyses (Chi-Square). The study involved 224 pre-school teachers.

Table 1. Sample structure

Socio-demographic variables	Percent	SD	
County	Cluj	16.1	2.255
	Arad	8.9	
	Timis	25.9	
	Bihor	19.2	
	Alba	1.8	
	Hunedoara	10.3	
	Gorj	4.0	
	Caras Severin	13.8	
Environment	rural	16.2	0.369
	Urban	83.0	
Age	19-25 years old	10.9	0.613
	26-30 years old	6.8	
	31-35 years old	13.6	
	36-40 years old	14.9	
	41-45 years old	18.6	
	46-50 years old	12.7	
	>50 years old	22.6	
Teaching status	headline	77.7	0.547
	qualified deputy	17.3	
	unqualified substitute	5.0	
Last teaching degree	beginner	11.2	1.087
	finalized	17.8	
	second grade	12.6	
	grade I	58.4	
Length of service	0-5 years old	21.7	1.880
	5-10 years old	10.4	
	10-15 years old	10.4	
	15-20 years old	18.6	
	20-25 years old	13.6	
	> 25 years old	25.3	
Studies	high school	6.8	0.613
	bachelor level studies	47.5	
	master's degree	45.7	

From the data contained in Table 1, we consider that most of the respondents come from urban areas (83%), Timiş (25.9%), Bihor (19.2%), Cluj (16.1%) counties. Most of the teachers (82.3%) are over 31 years old and most of them (22.6%) are over 50 years old, are tenured (77.7%), have at least grade II teaching (71%), have at least 15 years of teaching experience (57.5%) and have at least completed a bachelor's degree (93.2%).

Analyzing the data in Table 2, following the application of the Chi-Square test between socio-demographic variables, only statistically significant

analyses at a significance threshold of 0.05 are presented, as follows:

Table 2. Interinfluential of socio-demographic variables

Socio-demographic variables	Last teaching degree	Studies	Teaching status	Length of service
County	33.771 (0.039)	28.059 (0.014)		
Environment	12.067 (0.007)	7.635 (0.022)		
Age	131.515 (0.000)	31.819 (0.001)	81.394 (0.000)	312.503 (0.000)

There is a statistically significant relationship between county and last teaching degree ($p=0.039$) respectively level of education ($p=0.014$). Teachers from the western part (Timis, Hunedoara, Caras Severin) and from the north-western part (Cluj, Bihor) have a higher number of first teaching degree and completed master's degree compared to teachers from other regions.

There is a statistically significant relationship between the environment and the last teaching degree ($p=0.007$) and the level of education ($p=0.022$). Teachers in urban areas have at least a second teaching degree and a completed Master's degree compared to teachers in rural areas.

A statistically significant relationship was found between age and last teaching degree ($p=0.000$), level of education ($p=0.001$), teaching status ($p=0.000$) and length of teaching experience ($p=0.000$). Teachers under 25 years of age are employed as substitute teachers, have at most a final certificate, a maximum

of 5 years' teaching experience and have completed studies, at most at bachelor level. In other words, the younger the age of the teachers, the lower the teaching grades, studies, teaching seniority and teaching status, and the lower the teaching status, and with the passage of time all these aspects improve.

From the answers presented in Table 3, it can be seen that a large part of the respondents (30.7%) mentioned as strengths the interaction between children and freedom of movement (18.42%) and the development of creativity/thinking (12.28%). Also of interest are the development of emotional attention or memory capacity.

As weaknesses in the development of traditional language education activities are most often mentioned: lack of training of teachers (11.9%), lack of functional structure such as space, materials needed for activities (8.5%, and noise during activities (8.5%). Also mentioned are the lack of dynamics of activities, time or even lack of attention from children.

Table 3. Top 10 strengths and weaknesses of traditional language education activities

Top	Strengths	Percent	Weaknesses	Percent
1	Interaction/movement	18.42	Lack of teacher training	11.9
2	Developing creativity/thinking	12.28	Lack of functional structure	8.5
3	Activities in nature	7.46	Noise	8.5
4	Stimulating curiosity	7.02	Static activities	6.8
5	Understanding unknown words	7.02	Reluctance on the part of children	6.8
6	Diversity/ novelty	5.26	Lack of time	6.8
7	Attention development	4.82	Attention deficit	5.1
8	Emotional development	4.82	Speech difficulties	5.1
9	Developing memory capacity	3.95	Boring activities	3.4
10	Role-playing games	3.51	Focusing more on movement	3.4

Table 4. Top 10 strengths and weaknesses of language education activities involving embodied cognition by engaging the motor, perceptual system and environmental interactions in activities

Top	Strengths	Percent	Weaknesses	Percent
1	Language development	22.02	Lack of material structure	13.30
2	Development of thinking	10.11	Static activities	12.73
3	Story	7.94	Monotonous/boring activities	12.73
4	Conversation	6.50	Rigidity in planning/development	9.09
5	Developing creativity	5.78	Loss of attention	7.88
6	Practising pronunciation	5.05	Pronunciation difficulties	5.45
7	Developing memory capacity	4.69	Decreasing interest	4.24
8	Improving oral expression	4.33	Non-learner-oriented activities	4.24
9	Game (didactic/role-playing)	4.33	Lack of memory development	3.64
10	Improving attention	2.89	Not involving children in activities	3.64

Table 5. Difficulties encountered by young preschoolers in understanding and pronouncing new words

Top	Difficulty understanding the meaning of new words	Percent	Difficulty in pronouncing new words	Percent
1	Difficulty understanding new words	36.50	Speech difficulties	56.37
2	Pronunciation difficulties	15.70	Shyness/shame	14.71
3	Lack of image association	13.00	Lack of interest from children	5.39
4	Reduced linguistic baggage	12.20	Dislalii	5.39
5	Communication difficulties	3.90	Medical problems	3.92
6	Non-involvement of parents in education	3.50	Not understanding words	2.45
7	How teachers explain themselves	3.50	Refusal to participate in activities	1.96
8	Phonetic differentiation	3.00	Bilingual family	1.96
9	Lack of interest of children	2.20	Mispositioning of the tongue	1.47
10	Lack of imagination	1.70	Different phono-articular system	1.47

In Table 4 the top 10 strengths of language education activities involving cognition are mentioned, the most mentioned are: language development (22.02%), thinking/imagination development (10.11%), and group activities including storytelling and conversation (14.44%).

In terms of weaknesses of language education activities, the most common were lack of material structure (13.30%), lack of dynamism in activities (12.73%) and the presence of monotony (12.73%) and rigidity (9.09%).

The data presented in Table 5 show that the most common difficulties encountered by young preschoolers in understanding the meaning of new words are: inability to understand new words (36.5%), pronunciation difficulties (15.70%), lack of or

inability to associate a suggestive image with the word (13%), and having a poor linguistic background (12.2%).

Table 6. Influence of difficulties encountered on strengths and weaknesses in the educational process

	Language development	Pronunciation difficulties	Consistency	Reading	Lack of imagination
Poor social interaction	8.026 (0.020)	7.217 (0.031)			42.183 (0.002)
Lack of exercise			23.334 (0.040)		
Memorization				73.330 (0.014)	
Creativity					11.154 (0.027)
Involving		4.236 (0.041)			

As regards the pronunciation of new words, young pre-schoolers have difficulties in expressing new words (56.37%), shyness or embarrassment about making mistakes (14.71%), lack of interest in learning new words (5.39%) and, last but not least, dyslexia (5.39%).

In Table 6, applying the Chi-Square statistical test gives the following results:

- Presence of a statistically significant relationship between language development ($p=0.020$), pronunciation difficulties ($p=0.031$), lack of imagination ($p=0.002$) and poor social interaction. The poorer the language development, the worse the pronunciation of words, and the more limited the imagination, the poorer the social interaction.

- There was a statistically significant link between inconsistency and lack of exegesis ($p=0.040$). The lower the level of consistency, the poorer the activity practice.

- There is a statistically significant association between memorability and reading frequency ($p=0.014$). The lower the reading frequency in preschoolers, the lower the memorability.

- A statistically significant association is identified between creative ability and lack of imagination ($p=0.027$). Thus, the lower the child's creative ability, the more limited the imagination, and the reciprocal is also valid.

- There was a statistically significant association between the level of imagination and children's involvement in group activities ($p=0.027$). A low level of imagination has the impact of lowering children's involvement. In other words, in role-playing games, the richer the imagination, the more children can engage in various games, exchanging ideas and lines with their interlocutors.

6. Conclusions

This research explored how preschool teachers carry out language education activities involving embodied cognition and how they carry out traditional language education activities. It also sought to identify the difficulties that young preschoolers experience in comprehension and pronunciation of words.

When we want to understand how language education takes place, it is necessary to consider learning as a psychophysiological process that causes a change in both behaviour and knowledge.

Through language education activities involving embodied cognition, pre-school teachers provide young children with a wide range of educational and interesting games through which they can develop their language. These types of activities should be carried out daily in kindergartens because they develop children's thinking and imagination, stimulate their involvement in various games, develop their social relationships, active listening and mirroring others. The development of language comes easily, if we refer to the link made between the perception of sound and the meaning of words. Young children will move, talk, touch and play when presented with new content. In this way, both the body and the brain will store new information in multiple ways

In terms of the difficulties preschoolers face in the language education process, we have identified a number of issues. The most common difficulties encountered by young preschoolers in understanding the meaning of words are: inability to understand the meaning of new words, pronunciation difficulties, lipa or inability to associate a suggestive picture with a word and poor linguistic background. In terms of pronunciation of new words, preschoolers have difficulty expressing new words, fear making mistakes and lack interest in learning new words.

Gradually eliminating these difficulties will play a decisive role in the preschool teachers' effective language education activities for young preschoolers.

Authors note:

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of curriculum, general didactics, and educational research.

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