

## PRE-SCHOOLER QUESTIONS ENCOURAGING COGNITION

**Inga Stangaine**

University of Latvia, Latvia

**Dace Augstkalne**

University of Latvia, Latvia

**Abstract.** *when pre-schooler learns language, development of his cognitive processes changes, ability to classify and generalise rises. Child's needs and interests encourage him to ask, answer, think, act. Word meanings are used and sought in various speech situations, especially when expressing all known, unknown, understood, not understood verbally. Asking and answering questions requires certain vocabulary, ability to formulate thoughts and find contact with communication partner in dialogue.*

**Aim:** *study of the pre-schooler question content, influence thereof on formation of cognitive interests.*

**Methods and materials:** *analysis of theoretical literature, observations, conversations with children, writing down and analysing their spontaneous questions and creating question situations. Pre-schooler questions and their variety was analysed grouping by various criteria, reflecting diversity of children interests and ability to understand meaning of different words.*

**Conclusions:** *progress of pre-schooler cognitive interests is expressed in their questions. When asking questions, child's vocabulary becomes more expanded, which is related to the fact that perception of the world around us is enlarged and deepened. Adult responsiveness, ability to listen, patience in seeking answers, explaining unclear, encouraging to think and ask the next questions all are significant factors encouraging child's cognitive interests.*

**Keywords:** *dialogue, cognition, cognitive interests, question, speech activity.*

### Introduction

Cognition is explained as reflection of the phenomena observed, their essence and regularities (comprehension and learning) in the consciousness of a human being. This process is related to the ability to immerse oneself into something, understand notions and ideas. Gradual progress of the learning process has three important levels of cognition: acquisition of simple data, understanding of notions and causations, and abstraction and generalization (Pedagoģijas terminu skaidrojošā vārdnīca, 2000). Within the learning process, cognitive interest is developed; it becomes the leading motive of personality and determines progress of it. Active cognitive interest changes child's attitude towards learning, since it becomes more motivated and learning outcomes improve. Interest about

how motive may become a powerful driving force. Development of deep and stable interests is a long-term process (Arvanova, 2004).

Cognitive interest has several components – cognitive, emotional, and social. They complement each other. In case of situational interest, it is driven towards cognition of a certain situation; sustained interest is related to regular activity, is directed towards certain cognitive objects, moreover is gradually supplemented by experience and skills, abilities (Purēns, 2015). Cognition of pre-schoolers mainly is related to the need for self-expression, self-assurance, satisfaction of the self-esteem need. Child's curiosity develops as a need to exchange information. Supporting curiosity means forming cognitive interest, which is expressed as a willingness to ask, try, prove, conclude (Špona, 2006).

Question is a statement through which child addresses someone to get information. Information exchange allows to give and get knowledge about objects, facts, processes, to make statements, to make sure that your thoughts are correct. Question helps to establish contact with the other speaker. However, speech activity is not limited to communication. It has major role in development of a human being, since speech activity, even separate speech operations, is included in other types of activity, firstly in the cognitive activity. Speech is inseparable part of a personality; it is strongly connected with person's consciousness. Thus, speech activity is one of the most important means of intellectual activity implementation (Глухов, 2005).

Children at pre-school age are particularly sensitive to linguistic expressions; their interest is directed towards the awareness of own speech experience, solving of communicative tasks. The multi-shaped effects of speech on the child's development are emphasized by the researcher of children language V. Stern (Стерн, 2003), pointing out that language reveals child the supreme world of all spiritual. Ability to speak gives another dimension in relationship with surrounding people. Language becomes a facilitator of the development of ideas, feelings and will of life, it makes person's independent thinking possible – generalisations and comparisons, conclusions and deductions, combinations and understanding.

Adult responsiveness, ability to listen to child's questions are of a major importance in the promotion of child's cognition. Listening does not mean passive perception of the text by hearing, it means processing of the things heard, ability to react, express own opinion, thoughts. Child learns listening skills, which basically is information perception process (receipt, decoding and interpretation of information) gradually and with a support from an adult (Joyce, 2007). Hence, active listening of parents is very significant for children to listen and hear, understand and get along. External signs of active listening cover showing interest, participation, readiness to support and willingness to understand communication partner completely (Beaty, 2008).

The research aims at studying pre-schooler question content, influence thereof on formation of cognitive interests.

**Materials and methods.** The research was based on analysis of theoretical literature, partly-structured observation, which may be characterised as longitudinal observation (Wiersma & Jurs, 2005), processing of the data acquired with SPSS, analysis and interpretation of the research results on the progress of children cognitive interests, which are revealed via the content and diversity of questions. The research was conducted in Riga pre-school education institution No X and covered 43 pre-schoolers of middle and older age (aged 4–6). To characterise (group) questions and find out relation of the questions with formation of child's cognition interests, the research was conducted in two stages:

- Writing down and analysing spontaneous questions of children. This method was widely used by J. Piaget (Пиаже, 1997: 169) when studying children questions. The researcher emphasised that the best way to study children questions is to do that in everyday life, natural environment, thus acquiring materials about content of spontaneous questions and interests of children. It is of a major importance to take care that child does not notice that his questions are written down;
- Creating situations in which child is asking and answering questions (provoked situations).

The materials obtained within the first phase are mainly related to the frequency of questions, their form, content, structure, whereas those acquired within the second phase – cognitive competence of children, factors encouraging or hindering its development. This article deals with the results acquired within the first stage of the research.

## **Discussion**

Questions and answers is a specific type of speech, activity, process of speaking and understanding, which in the meantime fulfils several functions and has definite structure (motive, aim, speech production, understanding and result – language material). As a speech activity, questions and answers are characteristic with active, purposeful process characterising speech, which is related to a certain communication and cooperation situation between or among people (Ковшиков & Глухов, 2006). Based on the content, it may be equalled to language functions – interaction, communication, expression directed towards individuals involved in a dialogue (Сапригина, 2003).

Dialogue is characterised as a conversation of two or several persons – a form of speech each statement whereof is directly addressed to the conversation partner (Valodniecības pamatterminu skaidrojošā vārdnīca, 2007). Dialogue creates didactic communicative environment, ensuring subjectively conceptual

interaction, personality reflection, self-realization and formation of child's cognitive interests. Dialogue helps transferring information not only about object of the conversation, but also about conversation partners, their feelings and behaviour. Perception of the conversation partner is at the same time also perception and understanding of his language and speech, as dialogue participants are partners of a real-life event.

To conduct a research, it is very important to study content of children questions, relations thereof with formation of cognitive interests. Based on pedagogical and psychological literature about development of children speech (Hoff, 2009; Казаковская, 2006), several criteria characterising child's interests and skill to ask questions were developed. Child has mastered the skill to ask questions, if he:

- addresses adult freely;
- addresses peer freely;
- asks diverse questions;
- answers questions adequately by maintaining the topic of the conversation.

Evaluation of the criteria was based on qualitative and quantitative characterizations, which meet numerical indicators (points), namely:

- 4 points – highly expressed indicator, the criterion is always observed in the child's speech and behaviour;
- 3 points – sufficiently expressed indicator, often observed in child's speech and behaviour;
- 2 points – moderately expressed indicator, rarely observed in child's speech and behaviour;
- 1 point – poorly expressed indicator, have not been observed in child's speech and behaviour at all.

As questions the most often are asked in mutual communication, participatory observation in the study thereof is irreplaceable. Such kind of observation is based on the adult's integration in the respective situation as far as he is not perceived as disturbing subject and does not affect child's speech behaviour. This is a way how notes of conversations and interviews can be taken, since it excludes the so-called observer's paradox. Child speaks freely only when does not feel that he is a research object (Ernstone & Tidriķe, 2006: 18).

Results of the observations are summarised in the Table (Table 1).

Table 1 Statistical indicators of skills acquired by the group studied

Criteria	Arithmetic mean
Addresses adult freely	2.37
Addresses peer freely	2.37
Asks diverse questions	2.33
Answers questions adequately by maintaining the topic of the conversation	2.56

The arithmetic mean of the first two indicators are equal, however children aged 4–5 are adult-oriented. They rely that teacher will hear them out, find their questions important and answer them. Within the research, readiness and ability to take part in conversation with adult (assessing it with 3 points) was registered for 51 % of children. Children addresses to teacher mainly covered questions related to everyday situations:

- *When are we going out?*
- *What are we going to do?*
- *What will we eat?*
- *When my parents will pick me up?*
- *Do you have mom?*
- *Is my drawing beautiful?*

As it may be seen, the questions are related to the existing situation, plan of the day, evaluation of children accomplishments. There are no meaningful questions about different processes and regularities. It was observed that, as child is growing up, the number of questions asked to teacher reduces. By becoming older, more knowledgeable and independent, child is striving to solve many problems by himself. According to researches, the number of dialogues with themselves and peers increases. Sometimes it points to the teacher failures to choose teaching methods that can suppress child's initiative, curiosity and self-confidence. Research covered also children avoiding from speech contacts with adults and being inactive in communication with peers. Among them, the timid, insecure children who are not keen of engaging in dialogue and children who have significant difficulty in speaking, poor Latvian knowledge or explicit speech impairment were those who stood out. Children aged 5–6 speak to peers more commonly.

Assessment of the third and fourth criterion (Fig. 1) shows that children find it easier to answer questions, rather react to information than to ask questions by themselves.

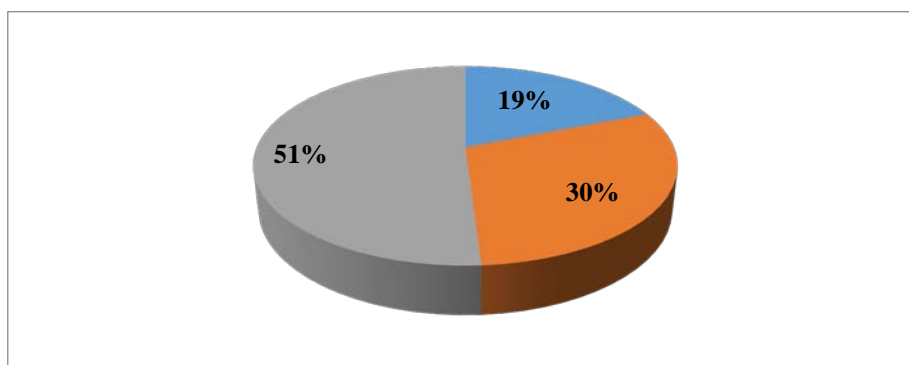


Fig. 1 Asking diverse questions

Thus, ability to ask diverse questions was assessed with 3 points for 51 % of respondents, however rather high share (19 %) of respondents did not ask questions. Analysis of the 3<sup>rd</sup> indicator of the first criterion shows that children more often are asking constructive questions which are related to day plan or progress of some task. Question is asked not only to find out something, but it has also other nuances, i.e., question helps to draw attention (for example, U is asking teacher: “Which of the children do you love the most?”, Teacher: “All children!”, U: “I know that all, but which one the most?”, T: “It is hard to tell.”, U: “Perhaps it is me?”). Question also helps to ascertain something, remind what has been forgotten indirectly, start conversation – dialogue. Hence, by satisfying child’s needs, answering his questions or listening to his answers, child's cognitive interests are encouraged.

Within the research, it was observed that indoors children more often ask “domestic” questions like “Where is my car?”, „Will we play this game?”. Situation changes when children are outdoors, in nature. Children express surprise about various visible or audible phenomena and indirectly devote attention to the events in plant and animal world:

Girl (aged 5): *Why is that frog sleeping here?*

Girl (aged 4): *Why this little ant is so small, will it grow up?*

Boy (aged 5): *Why is woodpecker making that noise?*

The data acquired show that there is certain interconnection between time, place and child’s cognitive interest, speech activity. Observations in nature tend to cause higher activity. It is especially explicit in the questions asked by older pre-schoolers:

Boy (aged 4): *Do you see that bird?*

Girl (aged 5): *Why is snow falling in winter?*

Girl (aged 5): *How will snail find it’s mother in spring?*

Boy (aged 5.2): *Why do birds fly away in skeins?*

As it may be seen, the questions mainly are related to the specific observation, time of the year or season. Ability or skill to ask questions shows that

child can see one or another phenomenon. Questions include need to understand relationships between known, familiar and new. Very often children ask questions about something that is known to them, thus willing to find out something more. Question may also be encouraged by the desire to prolong contact, find out opinion or judgement of another person (Dzintere, Stangaine, & Augstkalne, 2014).

Children interests, question subjects and content differ. Each family, which has child, has its own lifestyle, traditions of spending spare time together, common conversations, child's participation in family joy and sorrow, as well as the ability to listen to and answer questions asked by child in each situation. Thus, within the further progress of the research, children questions were analysed by grouping them by content.

Pre-schoolers, especially those aged 3–6, are fascinated by the life onset issue. They are asking endless questions about birth as well as death:

*How can mummy be born?*

*If you were one year old, you weren't my mom?*

*Why was I born as girl?*

The questions related to child's "I" or "Myself" are equally significant:

*Am I beautiful?*

*How can my little mouth speak?*

Nevertheless children become aware of themselves in the second/third year of life, they identify themselves with animals, plants, stones, wind, clouds, stars even at the age of 5–6, which is considered a childish manifestation of "Animism". For example, a conversation between a girl (G) and her mother (M):

G: *Why people are not flowers?*

M: *What do you think why?*

G: *Is that because people have arms, legs, heads and bums, and houses?*

So, girl's questions seek for relationships between living beings – flowers and people. Children willingness to understand nature and its regularities is shown by the questions of inquiry ("Why ..?", "Whether ..?"). Such questions account for the largest share of all:

*Why do we need trees?*

*How can snow fall by itself?*

*Does pike hurt that she has fishbones?*

*How does river have water?*

*Will ant grow big?*

In adult conversations, children often hear statements related to time and space. Speaking of time and space, our, adult, consciousness creates certain associations, the knowledge gained once become topical. Space has three dimensions – it is infinite, continuous and eternal. Time goes into one direction – it has no beginning and no end. The time is irreversible, eternal (Kūle & Kūlis,

1999: 463). Good time (moreover, in Latvian time and wether are the same word – *laiks*), no time – the notions are commonly heard and used by children, but not always they understand the essence of the word (“*Where did the time go that you don’t have it?*”).

Each child develops his own model of space and time, gaining a social characterisation by intermingling objective and subjective characteristics. This is clearly reflected in the attitude towards seasons: “*Why is there winter?*”; “*When it will be summer again?*”. Time is related to years, age, and this is what is understood by children: “*Why I had no years when I was born?*”

Child questions and answers regarding space are related mainly with the so-called locational questions that start with the word “where” (*where is this or that, in which storey, where are we going, etc.*). Children find it difficult to use adverbs properly, especially time-related ones – yesterday, tomorrow, longer, later. For example, a girl (aged 4) asks: “*Why was Ingus born longer than me?*” (meaning – later). When speaking about things that have happened, sometimes the sequence of time and events is mixed: “*When the dog will grow smaller, will I be able to pick him in my lap?*”

Children also lack to understand time, more specifically – time period, past, future, they misunderstand time succession in a person's life. For example, this is quite evident in this conversation between a girl and (G) and her grandfather (GF):

G: *Come on grandpa, jump!*

GF: *I cannot jump, my back hurts!*

G: *Ok, when you will be younger, then you will be able to jump?*

GF: *Yes, I will!*

G: *Today?*

So, children questions show that time notion is used (understood) in relation to own “I”, cycle of the human life (birth, death), different seasons, night and day, moon and sun, etc. It is child’s ability to use adverbs correctly, differentiate present, past and future.

Sometimes child does not understand meaning of separate words, which shows that child perceives everything directly. Younger pre-schoolers (aged 3–4) find it difficult to use the same word in various situations. For example, in this conversation between a girl (G) and her mother (M):

A: *Gunta, I love you so much!*

M: *I love you too! You’re the most precious!*

A: *Did you buy me?*

Obviously, girl perceived word *precious* as a value of goods, like in a daily communication in a shop (Dzintere, Stangaine, & Augstkalne, 2014).

Questions help children to understand different nuances of the word known and unknown. For example, word *live* (*alive*) may be used in various situations –



attitude towards living, non-living nature, human, flower. In the same time, the word has inquiring, asking (researching) character.

*Where do crocodiles live?*

*Where does Africa live?*

Thus, child substitutes word *located* with a word *live*. It may have several reasons – child does not understand concept Africa, or his active vocabulary does not have word *located*.

The questions asked a while later show that child still is interested in *Africa*. But now, starting his question with *isn't it so*, child verifies correctness of his knowledge, thinking about the people that live there.

*Isn't it so that crocodiles live in rivers of Africa?*

*How they (Africans) can get water for drinking? From sea?*

Child is looking for regularities, answering by himself, running his imagination. Thus, if there are crocodiles in rivers, people, which need water for living, will get it from sea.

By studying cognitive interests of children and collecting 230 child questions, it was concluded that:

- household/ everyday topics that are more relevant to the particular situation at meals, walks, visits, etc. are the most common questions. They cover means of transportation, food, housework, place of residence;
- questions about identity, life and death are still asked;
- cognitive interests of children are also related to the natural phenomena and processes;
- significant place is taken by values, view about different phenomena in the world;
- interest is attracted by time and space issues that are often related to the questions mentioned above;
- questions related to literature, language.

Subjects of child questions are proportionally shown in the figure (Fig. 2).

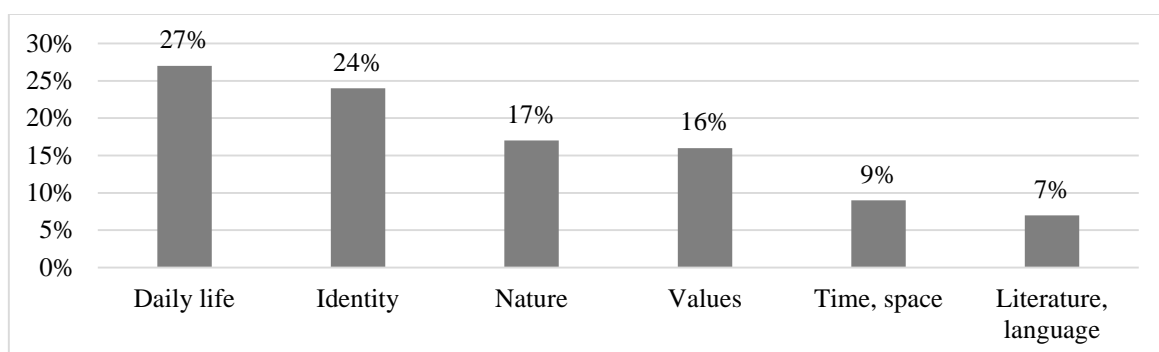


Fig.2. Subjects of questions asked by children

Consequently, the subject and content of children questions indicate to the child's actively inquiring attitude towards objects, phenomena, themselves. Individual children have persistence of interests, which may be seen in the permanence of interests. It means that, based on a deliberate choice, child is interested in something for a longer time – is asking questions repeatedly, willing to observe, speak and draw.

### Conclusions

- With the help of questions, child wants to find out something, trace some phenomenon more in deep, remind about himself, find contact, make sure that his thoughts are correct.
- Child's experience, his perception, needs, contacts with others serve as a source of his questions. By thinking over, comparing, fantasizing, observing, researching, child asks questions and looks for answers.
- Questions tell us about child's cognitive interests, views, speech and thinking skills, ability to establish dialogue with others – children and adults.
- The data acquired within the research show that there is certain interconnection between time, place and child's cognitive interest, which is expressed via questions. Children cognitive interests are caused, in particular, by observations in nature, especially in respect to the questions asked by older children.
- By asking and giving answers, formulating own thoughts in words, child's vocabulary is expanded.
- At older pre-school age (5–6 years), children interests become more enduring and dynamic, which means that the knowledge, skills and attitudes acquired act as a moving system that changes, switches easily. In differing conditions, children can use their knowledge and skills in various versions.
- Adult responsiveness, ability to listen to child's questions, patience in seeking answers, explaining unclear, encouraging to think and ask the next questions all are significant factors encouraging child's cognitive interests.

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