



## DISCUSSION IN EARLY CHILDHOOD EDUCATION AS A TOOL FOR SHAPING KEY COMPETENCES 4C

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### Abstract

*The article is a review and focuses on the importance of discussion in early childhood education as an effective tool supporting the development of key competences of the 21st century, referred to as the 4Cs: critical thinking, creativity, communication and cooperation.*

*Theoretical aspects related to 4C competences are presented, including the way they are assessed and the development model, as well as issues related to discussions in the educational process. The article recalls the results of domestic and foreign scientific research relating to the importance of discussion in the development of individual 4C competencies. In addition, selected discussion methods that can be successfully implemented in early childhood education to develop creativity, communication, cooperation and critical thinking are discussed.*

*Creating space for discussion in the classroom is conducive to students' activity, developing their cognitive independence and building social competences. The teacher plays a key role here, as an organizer of the space for discussion, moderator, supporting the learning process through open communication and cooperation.*

*The article is an inspiration for reflection on activating teaching methods that support the comprehensive development of a child at the earliest stage of education.*

**Keywords:** 4C competences, dialogue, discussion, early childhood education, student, teacher.

### Introduction

Modern education faces challenges related to rapidly occurring social, cultural and technological changes. In this context, the primary task of the school is not only to impart knowledge and prepare students to efficiently navigate the world of information, but above all to develop attitudes based on cooperation, openness and responsibility for oneself and others.

In documents on education, special attention is paid to the competences necessary to function in a rapidly changing reality. And so, in "The P21 Framework for 21st Century Learning" (2019), the 4C competencies are indicated: communication, collaboration, critical thinking, creativity. In turn, the Organization for Economic Co-operation and Development in the document "The Future of Education and Skills: Education 2030" distinguishes three key transformative competences:

- Creating New Value - the ability to think creatively, innovate, adapt, be curious and open. It involves

developing new solutions, products, services, ways of doing and thinking, as well as collaborating to create new knowledge.

- Reconciling tensions and dilemmas - the ability to resolve conflicts, combine different perspectives and make complex decisions. It requires integrated thinking, empathy, and the ability to systematically perceive problems.
- Taking responsibility - the ability to act in an ethical, socially and environmentally responsible manner. It includes self-regulation, the ability to anticipate the effects of one's actions, solve problems and reflect on one's choices and their consequences OECD (2018).

It is important to organize a learning environment in which the student has the opportunity to develop key competences, including the use of appropriate methods by the teacher. From this perspective, various forms of discussion occupy an important place in the didactic and educational process. They are a particularly effective way to develop all four



fundamental competencies. By exchanging thoughts, asking questions and coming up with solutions together, students not only absorb school material, but also develop communication, social and reflective skills (Alexander, 2008; Mercer, Littleton, 2007). Discussion thus becomes a space for education in dialogue, cooperation and responsibility in relations with others.

In initial teaching, discussion methods play an important role, supporting the development of communicative, social and cognitive competencies of students. They are appropriately modified and adapted to the developmental capabilities of children. A key role in the implementation of activities based on discussion is played by the teacher, who accompanies students in the development process – their tasks are supportive and consist in creating favorable conditions for learning, and not in passing on ready-made knowledge or giving detailed instructions.

### 1.1. Aim of the article

The aim of the article is to present the importance of discussion in the development of 4C competencies in children of younger school age. The article discusses the theoretical foundations, an overview of current research and presents selected discussion methods that can be applied in educational practice. This reflection aims to show that already at the early school stage it is possible – and worth – creating a culture of discussion as the foundation of early school education for children.

## 2.0 LITERATURE REVIEW

### 2.1. Introduction to the 4C competence

The educational reports emphasize the importance of: interpersonal skills, creativity, critical thinking and responsibility, as the foundation for preparing students for the challenges of the future.

According to The P21 Framework for 21st Century Learning, the 4Cs are the essential learning and innovation skills necessary for students to succeed in increasingly complex living and working environments (The P21 Framework for 21st Century Learning, 2019).

In turn, Bernie Trilling and Charles Fadel (2009) emphasize that 4C competences are the "soft core" of lifelong learning and an indispensable condition for finding oneself in a modern society based on knowledge, information and cooperation.

In the literature on the subject, the ambiguity of the terms "competence" and "ability" is indicated. The term 'competences' is used interchangeably with 'skills' and, in turn, more broadly, referred to as a set of skills, knowledge and attitudes that together meet a complex demand (Ananiadou and Claro 2009).

### 2.2. Competence development

One of the most comprehensive attempts to operationalize support for the development of 4C competencies at the programmatic and institutional level is the evaluation grid (see Thornhill-Miller et al., 2023). Within each of the four

competencies, the authors distinguish three different components (Table 1), and then seven dimensions assessed for three different components of each C. The use of the evaluation grid can be applied in an integrated way both in education and in the labor market.

**Table 1. Evaluation grid – components as part of the assessment of each competence**

Creativity	Creative process	Creative environment	Creative product
Critical thinking	Critical thinking about the world	Critical thinking about yourself	Critical action and decision-making
Cooperation	Engagement and participation	Taking perspective and openness	Social regulation
Communication	Message formulation	Message delivery	Feedback on messages and communication

Source: Thornhill-Miller B, et al. (2023). Creativity, Critical Thinking, Communication, and Collaboration: Assessment, Certification, and Promotion of 21st Century Skills for the Future of Work and Education. *Journal of Intelligence*, 11(3).

In the didactic and educational process, teachers' knowledge of these competencies is one thing, while the other is a matter of their targeted development. Bill Lucas and Ellen Spencer (2017) outlined a four-step process for developing competencies (Figure 1.1). The model is cyclical and shows how teachers can systematically create conditions for the effective development of 4C skills. The model does not end at the fourth stage – after its implementation, the teacher can return to the first stage, developing further competences or deepening the already mastered ones.

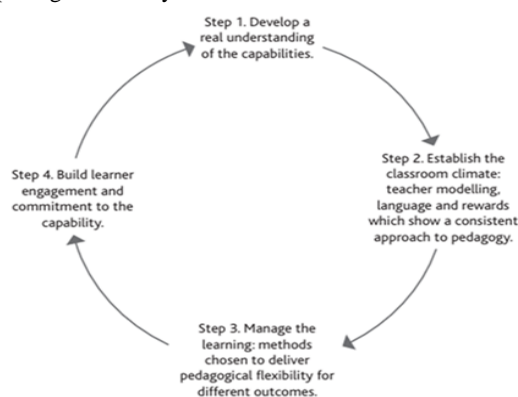


Figure 1.1. A four-step process of cultivating capabilities.

Source: Lucas, B., & Spencer, E. (2017). *Teaching Creative Thinking: Developing learners who generate ideas and can think critically*. Crown House Publishing, p. 10.

### 2.3. The need for a change in the didactic paradigm

With regard to the activities undertaken at school and referring to the creation of an environment conducive to the development of fundamental competences, the words "Without a focus on mastery of generic capabilities, assessment and teaching practices tend to privilege memorisation, essay writing, individual mastery of set content and solving of problems with formulaic solutions" are meaningful. The risk is that schools create students dependent on direct instruction, cramming, drilling and coaching, reliant on expert instruction by teachers who are expected to guide learners through a carefully prescribed body of knowledge, assessed in predictable ways. (Milligan et al, 2020, p. 14)

From a didactic perspective, this means that it is necessary to change the teaching paradigm: from education based on the transfer of knowledge from the teacher, to education based on the development of competences – through active activities of the student and support shown by the teacher. In early childhood education, this means, m.in, the need to implement methods that allow children to freely express their thoughts, make decisions, ask questions, cooperate and take a creative approach to problem solving – i.e. activities that can be effectively implemented through discussion.

Discussion techniques introduce into the educational process a specific mode of organizing learning, whose essential feature is flexibility in planning. This flexibility involves taking into account the needs, interests, and abilities of pupils, thereby moving away from a completely rigid scenario of the lesson. Discussion also presupposes an acceptance of unpredictability—both in the course of educational situations and in the ways children reason, which may follow paths different from those anticipated by the teacher.

Equally important is the role of the educator, who does not limit his or her activity to the transmission of content, but rather assumes the function of organizer and inspirer of the learning process. The teacher creates conditions for the exchange of ideas, encourages active participation, moderates the conversation, and supports pupils in formulating and developing their own viewpoints.

### 2.4. Discussion as a tool for developing the 4Cs in early childhood education

In the context of early childhood education, the development of the 4Cs takes on a special importance. It is in the first years of school that basic cognitive strategies, ways of solving problems and coping with social situations are formed. The ability to listen to others, cooperate in a group, formulate and justify one's own opinions or a creative approach to tasks – this is the foundation not only of further education, but also of the child's functioning in everyday life.

Therefore, as noted by B. Lucas and E. Spencer (2017), competence-focused education must assume active methods,

based on interaction, reflection, discussion and joint action, i.e. exactly those that are conducive to the development of 4Cs from an early age.

The 4Cs are interrelated and develop in an integral way, not in isolation. Communication fosters collaboration, critical thinking enables a creative approach to a problem, and creativity without dialogue cannot be shared or developed in a community.

## 3. DISCUSSION IN THE EDUCATIONAL PROCESS

### 3.1. From the transmission model to the constructivist model

Contemporary education is increasingly moving away from the transmission model, in which the teacher transmits knowledge and the student receives it, in favor of a constructivist approach, assuming the active participation of the student in the learning process. Therefore, activating methods are used. Among them, the discussion takes on particular importance as a form of educational communication, which is conducive not only to the transfer of information, but above all to the joint construction of meanings, reflection and the development of social and cognitive competences.

From the point of view of developmental psychology, a child of early school age goes through an important stage in the development of concrete operations (Wadsworth, 1998), in which he begins to understand cause-and-effect relationships, analyze, classify and organize information. Executive functions, the ability to control impulses and plan speech are also developed. Children at this age also begin to assimilate the principles of social dialogue – they learn to wait for their turn, listen to others, recognize the emotions and intentions of interlocutors. Conversation and moderated discussion – even in a simple form – therefore become not only possible, but also developmentally necessary.

### 3.2. Discussion as a space for shared cognition

In early childhood education, this means recognizing the child not as a recipient, but as a participant in the process of cognition. Robin Alexander (2008) postulates a model of *dialogic teaching* – i.e. teaching through conversation, in which the teacher acts as a moderator, and students have the opportunity not only to formulate answers, but also to ask questions, comment, argue and undertake joint reflection. It is in such situations that the ability to discuss develops, which does not become a tool to win, but an opportunity to search, think together and exchange opinions. During the discussion, the student has the opportunity to see that his thoughts, opinions and way of seeing the world matter. At the same time, he discovers that he can learn a lot from his peers. In this way, his confidence in expressing his own views, assessments and decisions develops. Discussion understood in this approach is not just a free exchange of opinions, but an orderly process of joint creation of knowledge.

### 3.3. The role of the teacher in moderating the discussion

Research indicates that moderated and supportive discussion contributes to better students' results in reading comprehension, problem solving and argumentation (Wegerif, 2010). Already at the stage of early education, you can observe how children – thanks to conversation – not only assimilate the curriculum content, but also learn cooperation, respect for other people's opinions and responsibility for learning together.

The introduction of discussion in early childhood education supports students not only in achieving school success, but above all in building the competences necessary to live in a society based on cooperation and dialogue. Research indicates that the effectiveness of these methods in early childhood education depends on the teacher's competence in conducting dialogue and building relationships with students (Mercer & Littleton, 2007; Alexander, 2008).

Students engage in more in-depth statements only if the teacher is able to provide an atmosphere of open and partnership dialogue. Of particular importance here are open questions, careful listening to the child's perspective and creating situations conducive to the development of critical and creative thinking. The role of the teacher is primarily to prepare appropriate educational experiences, such as: initiating topics that show social problems, building a context conducive to courage in statements, supporting in understanding concepts and explaining content, creating space for dialogue and helping students become aware of their own beliefs and ways of reasoning.

Educational practice shows that a teacher, acting as a moderator and guide, should demonstrate a high communicative culture, didactic flexibility and pedagogical reflexivity. Thanks to this, it is possible to deepen common knowledge and create an environment conducive to effective learning through dialogue. The teacher builds the atmosphere of the classroom, which is important when sharing his thoughts in the group. The student should feel safe to be able to openly present their opinions.

## 4. THE IMPORTANCE OF DISCUSSION FOR THE DEVELOPMENT OF EARLY SCHOOL CHILDREN'S COMPETENCES – RESEARCH REPORTS

### 4.1. Discussion and language and cognitive development

Early school age is a period of particularly intensive language, cognitive, and socio-emotional development. Children acquire communication skills, learn to function in a peer group, develop the ability to cooperate, argue, ask questions and think creatively. Supporting these processes through appropriately selected teaching methods is of fundamental importance for the formation of competences referred to as 4Cs. A literature review shows that discussion methods, even in a simplified form, effectively support the development of these competences in children. The results of domestic and

foreign research will be presented together, because, as mentioned earlier, competences are developed integrally.

Discussion requires analyzing information, formulating one's own opinions, and evaluating the views of others. It is an excellent training in critical thinking from an early age. Robin Alexander (2008) of the *Dialogic Teaching* project showed that students who participate in discussion-based lessons show greater cognitive activity, better language skills, and a developed ability to formulate logical, thoughtful responses. The discussion is also conducive to building the student's identity as a co-creator of knowledge.

### 4.2. Discussion and critical and social learning

Research by the team of Neil Mercer and Karen Littleton (2007) on the so-called "*exploratory talk*" proves that children who learn through conversation and joint analysis of problems achieve better results in tasks that require cause-and-effect thinking and creative problem solving. Students not only absorb knowledge, but also participate in its co-creation.

On the other hand, the *Philosophy for Children* program (created by Matthew Lipman) – implemented around the world – has been documented that children who participate in regular philosophical dialogues develop the ability to formulate their own judgments, critical analysis and empathetic listening. This program has also been tested in an adapted version for children aged 6–9 years with very good results (Trickey & Topping, 2004).

Discussion methods teach not only speaking, but above all goal-oriented communication: formulating thoughts, active listening and constructive response. Discussions in which students have more opportunities to express themselves lead to increased student participation in the conversation, as well as more developed and coherent statements (Murphy, et al. 2009).

Discussion – especially conducted in pairs and small groups – requires cooperation, setting common rules, dividing tasks. Research shows that students who work together on learning tasks benefit more than those who learn alone, both in terms of knowledge development and confidence, motivation, and peer relationships (Trilling & Fadel, 2009, p. 108).

### 4.3. Discussion and creative thinking and agency

Although discussion seems to be the domain of logic, it is the free exchange of ideas and the diversity of perspectives that stimulate creative thinking. Brainstorming, problem-based debates develop children's imagination and teach a creative approach to problem solving. In the context of creativity, Anna Craft's (2005) research shows that children who have the opportunity to express themselves, ask questions and participate in open conversation show greater cognitive initiative and greater flexibility in thinking. Children's creative thinking is revealed precisely in the conditions of an open conversation, in which there is no one "right" answer, and diversity is a value.

During the discussion, students develop creative thinking according to the CRL (Centre for Real-World Learning) model, which includes five basic creative habits (Figure 1.2).





**Figure 1. 2. CRL's five dimensional model of creative habits of mind.**

Source: Lucas, B. (2016). A five-dimensional model of creativity and its assessment in schools. *Applied Measurement in Education*, 29(4), 278–290.

This model is an attempt to combine existing theories with school practice, offering teachers and students a tool to develop and assess creativity through concrete, observable behaviors in different areas of teaching (Lucas, 2016).

Michael Tomasello (2000), on the other hand, argues that dialogue and discussion are not additions to the cognitive process, but its foundation — it is thanks to them that a person acquires unique cognitive abilities: abstract thinking, language, reflection and joint planning of actions. In education, this means the need to create dialogical, participatory forms of work with children.

The analysis of the cited research results shows that correctly implemented discussion methods contribute to:

- increasing language and cognitive competences, including speech development and language awareness;
- developing the ability to work in a group and respect different points of view, solving problems in a group;
- strengthening the agencyfulness of students in the process of acquiring knowledge;
- critical thinking and reflection on one's own learning process;
- creative approach to tasks and generating new ideas.

## 5. EXAMPLES OF DISCUSSION METHODS SUPPORTING THE 4C IN EARLY CHILDHOOD EDUCATION

In early childhood education, the teacher has a number of ways to create a space for discussion. The presented examples include a brief description, possible use in grades I–III and an indication of the 4C competencies being developed. They do not exhaust possible actions, but indicate the direction of using discussions to develop students' competences.

### 5.1. Discussion circle

A discussion circle is one of the simplest forms of conversation in the classroom. The participants – students and the teacher – sit in a circle, which symbolizes equality and

mutual respect. In a safe atmosphere, children take turns expressing themselves on a given topic, sharing opinions, emotions or reflections. No one is forced to speak, and the rules of conversation (e.g. non-interruption, active listening) are set together. For conversations, the essence of which is the exchange of thoughts, it is best to arrange the space in the form of a circle.

With regard to the 4C competence: children learn to formulate statements, listen to others, understand the intentions and emotions of the interlocutor (communication); joint conversation is conducive to building bonds and integration of the class team (collaboration); the statements of others become a point of reference for thoughts and conclusions (critical thinking); Freedom of expression encourages the search for individual perspectives (creativity).

### 5.2. Think-Pair-Share Method

The Think-Pair-Share method was developed by Frank Lyman (1981). It is based on three stages: think-connect-share. The students begin to consider a given question or problem on their own. The next step is to exchange thoughts as a couple and then discuss it in a group.

During the work with this method, children learn: to express thoughts and paraphrase the statements of a colleague (communication); to formulate answers together and listen to each other (collaboration); to compare perspectives and argue (critical thinking); to create new ideas and solutions (creativity).

### 5.3. Snowball questioning

*Snowball questioning* is a round of questions and answers. Referring to the formation of a snowball, the discussion begins with a question (asked by a teacher or student) and revolves around the answers and questions of the participants.

Thanks to the use of this method, students learn: to analyze questions, look for arguments, evaluate statements (critical thinking); develop the ability to precisely formulate questions and answers (communication); participate in a common conversation, based on the statements of others (collaboration); They build new questions in a non-standard, non-linear way (creativity). Students studying in groups not only ask questions, but also encourage others to provide answers and explain the material (Bukit, Ariastika, Noviati & Lubis, 2023).

### 5.4. The Oxford debate

The Oxford debate, also known as the "for and against" debate. It is based on two different positions of the participants on one problem. Each group presents arguments "for" or "against" the thesis, and the role of the teacher is to moderate the course. In early childhood education, this discussion takes a simplified form – students are given a simple problem question (e.g. "Is it better to have one animal or several?") and express themselves in groups, giving arguments for one of the solutions.

With regard to the 4C competence: students learn to see different perspectives and argue (critical thinking); develop the ability to express views clearly (communication); learn to

jointly formulate a position in a group (collaboration); create a creative justification of their views (creativity).

### 5.5. Roundtable discussion

During the round table discussion, each student has the right to speak on equal terms, and the vote is given in accordance with the established order. In early childhood education, this form is ideal for sharing reflections or ideas, e.g. after reading a book, after a group project or in relation to a given problem.

Participation in this type of discussion allows you to develop the following skills: formulating statements on a specific topic (communication); waiting for your turn and listening to others with respect (collaboration); reflection on one's own and another person's speech (critical thinking); creation of creative solutions.

### 5.6. Aquarium

Aquarium is a discussion technique that can be successfully used in early childhood education. Only people in the aquarium, i.e. those sitting in the middle, can talk. The other students are observers who summarize the discussion.

By participating in this form, students learn to create critical thinking; develop the ability to present their opinion (communication); talk together and respect each other (collaboration); formulate creative arguments.

### 5.7. Panel discussion

The panel discussion engages students by playing the roles of experts and the audience. At the beginning, the "experts" present their positions on a given issue, and the other students ask them questions or comment on their statements. In younger classes, e.g. during the implementation of a topic in the field of healthy eating, students can play the role of a doctor, dietician, trainer or scientist.

Thanks to the use of this method, students learn: to publicly present their opinion and answer questions (communication); analyze problems and give meaningful answers (critical thinking); create a panel in cooperation with others (collaboration); use unconventional arguments (creativity).

### 5.8. Small Group Work

It is possible to implement small group discussions in early childhood education - SGW (Small Group Work). The role of the teacher is to divide the class into groups and teach children new rituals related to working in small teams, choose the subject matter of the class, create space for conversation in the group by enabling and supporting the active participation of children (Tal, 2018). In addition, the cause for discussion may also be an action organized by organizing task stations known to teachers in a slightly modified form. Instead of group tasks completed on time or points, students are given a sheet of paper with a given word, e.g. house or a problem to solve. The students are asked to write/draw the meaning of this word or give a proposal for a solution to a problem. After visiting all the stations, a discussion on proposals takes place.

## 6. Challenges and limitations in the implementation of discussion methods in early childhood education

### 6.1. Developmental limitations

Although discussion methods are widely recognized as an effective tool for developing key competences, their implementation in early childhood education faces numerous difficulties. They are partly developmental in nature, resulting from the cognitive and emotional capabilities of the child. Students may find it difficult to:

- logical ordering of one's own statements,
- listening to your conversation partner without interruption,
- postponing the need for immediate response,
- respect for different points of view.

These skills develop gradually and require appropriate support from the teacher, who acts as a moderator and communication model.

### 6.2. Institutional and organisational barriers

Another group of limitations are institutional and systemic conditions. In many schools, the discussion is hindered by m.in:

- large class sizes, which limit the possibility of involving all pupils,
- didactic spaces that are not conducive to working in a circle or in small groups,
- pressure on the implementation of the core curriculum and preparation for external evaluations.

As Ruth Kennedy (2007) points out, dialogue and debate require not only physical space, but also mental space – time for reflection, freedom to express one's own opinions and acceptance of diversity. In an overly formalized everyday school life, these conditions are often not met.

### 6.3. Conditions for the effective implementation of discussion methods

Therefore, discussion methods in early childhood education have a huge development potential, but their effectiveness depends on:

- appropriate preparation of the teacher,
- organizational conditions of the school,
- developing a culture of dialogue in the classroom,
- systemic support for educational institutions.

As N. Mercer & K. Littleton (2007) emphasize, educational dialogue does not happen alone – it must be created, nurtured and supported by conscious educators and an open school environment.

## 7. Summary and recommendations

### 7.1. Conclusion

Literature analysis and a review of domestic and international research clearly indicate that discussion methods are an effective tool for supporting the development of 4C competencies – communication, cooperation, critical thinking

and creativity – in early childhood education. Their use enables children not only to assimilate educational content, but also to acquire the skills necessary to function in a society based on dialogue, cooperation and reflection.

Communication and cooperation are developed by participating in conversation, listening to others, formulating their own thoughts and solving problems together. Critical thinking is formed in situations where students have the opportunity to analyze different points of view, argue and ask questions. Creativity, on the other hand, develops in the course of free, non-standard exchange of thoughts, joint creation of ideas and exploration of solutions.

However, the use of discussion methods in early school education requires appropriate preparation of the teacher, conscious planning and adaptation of forms to the developmental capabilities of children. The student becomes the subject of the dialogue, and the teacher – its guide and facilitator.

## 7.2. Recommendations

In the light of the presented analyses, it is possible to formulate important recommendations for pedagogical practice and for the process of preparing teachers for work in early childhood education.

- I. It is justified to systematically introduce dialogue methods into school practice already at the stage of initial education. Dialogue, treated not as an additional didactic technique, but as a fundamental element of the learning process, is not only conducive to the formation of communicative competences, but also supports the social and cognitive development of the child.
- II. A key area is to take into account issues related to the culture of dialogue and discussion methods in the course of preparing teachers for the profession. The education programs of future educators should include not only theoretical knowledge about dialogue and its role in education, but also practical experience in moderating conversations, conducting discussions and supporting students in the process of co-constructing knowledge. It is equally important to include this issue in the system of professional development, so that teachers can constantly develop their competences in this area.
- III. It is essential to provide teachers with adequate institutional and substantive support. This applies both to the development of lesson plans and teaching materials, as well as to the creation of a space (both physical and symbolic) conducive to having conversations with children. In order to effectively use discussion methods, a teacher needs tools, inspiration and the opportunity to exchange experiences with other practitioners.

To sum up, discussion methods should become an integral part of education from its earliest stages. They create a space in which the child can learn responsibility for their own words and decisions, experience a sense of agency and participate in a community based on dialogue. Education understood in this way not only supports the development of the individual, but also builds the foundations for a society based on cooperation, mutual respect and openness to a diversity of perspectives.

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