Provisions Supporting Dialectical Thinking and Emotion Comprehension in Kindergarten Settings

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Abstract

This paper explores the correlations between provisions created by teachers to support dialectical thinking and emotion comprehension in the learning environment of preschool institutions. Particularly, it describes the instruments designed by researchers at Moscow City University's Laboratory of Child Development to assess the characteristics of preschool learning environment that promote dialectical thinking and emotion comprehension of children. Assessment scales were constructed using the principles underlying the Early Childhood Environment Rating Scale (ECERS-3). This article presents the results of validation of the developed assessment tools, which involved the contrasting groups method, analysis of expert scores consistency, and calculation of internal consistency (Cronbach's alpha).

Than the validated tools were used to test the hypothesis that preschool teachers who create provisions to support emotion comprehension in children are significantly more likely to also support provisions for dialectical thinking. The sample consisted of 31 preschool student groups from 23 educational institutions representing nine administrative districts of Moscow, with both low- and high-quality learning environments. Correlation analysis was used to demonstrate a strong relationship between

preschool settings necessary to develop emotion comprehension and dialectical thinking of children. The findings of this study allow recommending the designed tools to be used for assessment of kindergarten learning environments and can serve as the basis for reconceptualizing the pedagogical framework of supporting emotional and cognitive development of children to make it more coherent and consistently embracing the psychological characteristics of preschoolers.

Keywords dialectical thinking, ECERS-3, emotion comprehension, learning environment quality assessment, preschool education.

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Classroom organization in kindergarten is critical to success in adult life [Diaz et al. 2017; Voltmer, von Salisch 2017; Curby et al. 2015; Denham et al. 2014]. Such crucial components of cognitive development as creativity, innovative thinking, and ability to understand the dynamics of a changing world begin to shape at preschool age, which makes it a good idea to study the development of dialectical thinking in children starting with the age of 3–4 [Veraksa 1981; Veraksa, Dyachenko 1991; Shiyan et al. 2017].

In Russian psychology, the construct of dialectical thinking has been developed within the framework of the structural-dialectical approach. In the present article, we regard dialectical thinking as a particular type of thinking that allows individuals to find an effective balance between opposites, i. e. to detect qualitative transformation processes in the world around and solve paradoxical and controversial situations, thereby generating new content within problems that require creative solutions [Shiyan 2016; 2014].

Home environment determines the baseline level of creative thinking that children bring to the education system, while their further development is conditioned by the learning environment [Jankowska, Karwowski 2019]. That is why it is so important to develop and try out learning environment assessment methods that would allow evaluating the provisions created by preschool teachers to support dialectical thinking in kindergarten settings.

The key indicators of children's emotional development include the ability to recognize and name the basic feelings, realize the effects of environmental factors on one's psychological state, understand that there can be essential differences between feelings and their manifestations, and analyze the dual nature of emotions (e. g. a combination of joy and sadness, excitement and fear, etc.) [Pons et al. 2019; Pons, Harris 2019; Tenenbaum et al. 2004; Albanese et al. 2010; Molina et al. 2014; Rocha et al. 2015; Tang et al. 2018].

As children grow up and their emotional experiences become increasingly complex, they inevitably face the need to make sense of intricate, ambivalent, and controversial situations, which activates their dialectical thinking structures, in particular in such activities vital for early childhood development as play, storytelling, and image creation.

Assessment of learning environments, in particular of children's interactions with teachers and peers, allows identifying the factors of cognitive and emotional development and examining the interplay between them [Kashapov, Ogorodova, Pavlova 2016; Hun Ping Cheung 2013; Sheridan et al. 2016; Smith, Mathur 2009; Bijvoet-van den Berg, Hoicka 2014; Chan, Yuen 2014; Craft, McConnon, Matthews 2012; Garaigordobil, Berrueco 2011]. Kindergarten settings have been actively evaluated all over the world thanks to the active development, tryout, and wide application of reliable and valid expert assessment instruments in the recent years, such as the ECERS, CLASS, and SSTEW rating scales and Germany's National Criteria Catalogue. Expert judgment results usually provide opportunities for deep professional self-reflection and substantial reformation of learning processes.

The recent years have seen different countries initiating pilot studies to assess effectiveness of learning environments in unlocking children's creative potential. For example, a kindergarten initiative was launched in Hong Kong to support preschool teachers in fostering children's creativity in their classrooms [Hun Ping Cheung 2013]. Hun Ping Cheung identifies the following significant characteristics of the learning environment: (a) creativity is integrated into various learning activities; (b) creative tasks are meaningful for children; (c) children are given sufficient time to think and explore (time constraints can be a factor hindering creativity development; (d) teachers are allowed freedom and self-determination in carrying out creative practices; (e) teachers often use open-ended questions and provide children with opportunities to share their ideas; (f) teachers encourage children to think differently, act differently, and see things from different perspectives; (g) teachers shift from teaching the whole class to teaching in small groups; (h) teachers give children the criteria they require to judge the different qualities of their creative efforts and engage them in the development of feedback parameters.

The main drivers of children's socio-emotional outcomes include the following: activities that train children's language and motor skills, stimulate their curiosity and concentration through educational games, and encourage them to explore new aspects of their personality and to embark on new activities independently [Jensen, Jensen, Rasmussen 2017; Cadima et al. 2019], scaffolding techniques (activities to support children as they are led through the zone of proximal development based on the appropriation of cultural practices), small group classroom activities, make-believe play and dramatization [Blair, McKinnon, Daneri 2018], and emotion co-regulation strategies [Silkenbeumer, Schiller, Kärtner 2018]. Development of the ability to understand emo-

tions, including hidden and complex ones, can be greatly promoted by supporting pretend play [Goldstein, Lerner 2018; Hoffmann, Russ 2012; Galyer, Evans 2001; Slot et al. 2017] as well as conversational interventions [Harris 1999; Thompson 2006; de Rosnay, Hughes 2006; Aznar, Tenenbaum 2013; Grazzani, Ornaghi, Crugnola 2015; Pons et al. 2019].

The sets of provisions that should be created to foster emotional competence and dialectical thinking are similar but not identical. As both sets of provisions have some significant specific features, instruments to measure the relevant constructs should also be independent—but still interrelated.

General Principles of Constructing Scales to Measure the Provisions Fostering Dialectical Thinking and Emotion Comprehension in Children

This study presents the results of an empirical tryout of two learning environment assessment tools: the Dialectical Thinking Support Rating Scale (DTSRS) and the Emotion Comprehension Support Rating Scale (ECSRS). These two scales were developed by researchers at Moscow City University (Laboratory of Child Development, Research Institute of Urban Studies and Global Education) using the principles underlying the Early Childhood Environment Rating Scale (ECERS-3) [Harms, Clifford, Cryer 2019]:

(a) Assessment is focused on the opportunities that are accessible to children every day in their preschool learning environment;
(b) The scales are based on the sociocultural theory of cognitive development [Vygotsky 2000];
(c) Assessment is holistic in nature (object-spatial environment fosters child development only when teachers make use of it and children have sufficient time to make action choices);
(d) For objectivity purposes, assessment is based on observed facts.

The scales have seven points, where 1–2 score points correspond to low-quality provisions; 3–4 points, to the minimum acceptable quality of learning environment; 5–6 points, to good quality (all children in the group have sufficient opportunities for development); and 7 points, to excellent provisions (development of every child in the group is amplified with due regard to their zone of proximal development).

Dialectical Thinking Support Rating Scale

The first version of the DTSRS was developed in 2018 by Nikolay Veraksa and Ekaterina Sviridova [Veraksa et al. 2019] to evaluate the provisions for dialectical thinking development. The need for such a scale was substantiated in a theoretical analysis that showed that the existing instruments assessing preschool learning environments did not differentiate between provisions for the development of different types of thinking structures. The empirical tryout of the DTSRS revealed a number of significant correlations between the scores on this scale and ECERS-R scores, but this data was not consistent enough. Statis-

tical analysis allowed assuming that divergences are caused by structural differences between the two scales. A new version of the DTSRS was developed (DTSRS-2) to ensure data comparability. DTSRWS-2 has a structure typical of ECERS scales: it has two subscales, Understanding Growth Processes (UGP) and Controversy Management/Innovative Thinking (CMIT); each subscale measures quality by levels; and each level corresponds to a system of indicators. All the DTSRS-2 indicators represent observed facts, e. g. Indicator 5.1 of the CMIT Subscale: "During the period of observation, the teacher has created at least three problematic situations where children could formulate suggestions and tentative solutions to the problem".

The DTSRS-2 is unique in that it is based on the cultural-historical approach, in particular on the works by Lev Vygotsky, Leonid Venger, and Nikolay Veraksa. Dialectical thinking is defined as a basic ability underlying the understanding of growth processes as well as constructive controversy management and innovative thinking.

Seventeen indicators designed to measure the understanding of growth processes allow to find out the following:

- How often the teacher draws children's attention to situations involving change and novelty;
- Whether the teacher discusses the history of familiar objects with children;
- Whether the teacher analyzes cyclic processes (diurnal and annual cycles, developmental processes of plants, insects, and animals);
- Whether the teacher draws children's attention to the interplay of opposites and contradictions in the content analyzed.

Thirteen indicators designed to assess controversy management and innovative thinking consider three aspects of the learning environment:

- Controversy management, i. e. whether (and how often) the teacher creates situations in the learning process where children can notice, analyze, and try to handle controversies;
- Encouragement of children's ideas, i. e. whether the teacher initiates discussions over problematic situations, whether expression of children's ideas is welcomed, and how children's mistakes are perceived by the teacher (as a reason for ridicule and punishment or as a resource for development);
- Children's access to examples of significant global cultural accomplishments (pictures, models, artifacts) and ways of treating them as possible references and sources of their own inspiration.

Emotion Comprehension Support Rating Scale

The ECSRS includes 52 indicators organized into three subscales: (1) promotion of emotion comprehension development (PECD) (teacher's

activities to encourage children's emotional development); (2) use of materials for emotional development (UMED) (physical and temporal availability of specific components of the object-spatial environment that contribute to children's emotion comprehension); and (3) classroom organization conducive to emotional competence development (COCE) (physical and temporal availability of an emotionally safe environment where children can experience and express various emotions).

All the indicators are formulated in terms of the situations observed, e. g. Indicator 3.2 of Subscale 2: "There are at least three different examples of emotionally charged images in the classroom (including at least one in classroom interior design)".

The indicators allow to find out the following:

- How the teacher responds to emotions (positive and negative) expressed by children;
- Whether the teacher demonstrates their emotional accessibility to children;
- Whether some of children's feelings are imposed by adults;
- Whether emotions are discussed in contexts that are meaningful for children;
- Whether children have access to materials for emotional development and whether such materials are used by the teacher;
- Whether a child has the opportunity to spend some time on their own and relax in the classroom.

DTSRS-2 and ECSRS Empirical Tryout Results

Empirical tryout (testing of an instrument's validity and reliability) of the scales was carried out in January–March 2020 by certified ECERS experts using the contrasting groups method, measurement of inter-rater reliability, and calculation of internal consistency (Cronbach's alpha). The sample consisted of 31 preschool student groups from 23 educational institutions (19 public schools, one public educational center, two private institutions, and one nonprofit organization offering half- and full-day preschool education programs) representing nine of the 12 administrative districts of Moscow.

Standardized Cronbach's alpha for the ECSRS is 0.75, indicating a sufficient level of internal consistency. The same coefficient for the DTSRS-2 is 0.9, which corresponds to a very high level of internal consistency.

The mean ECSRS score for all the groups in the sample is 2.62 (SD=1.09; Med=2.33), with the lowest of 1.00 and the highest of 5.33. The mean DTSRS-2 score is 2.06 (SD=1.35, Med=1.75), with the lowest of 1.00 and the highest of 7.00.

Descriptive statistics are visualized in box and whisker plots (Figures 1 and 2), where *x* is the mean of the data, the bold horizontal line is the median, the lower edge of the box is the first quartile, the upper edge of the box is the third quartile, and whiskers show the minimum

Figure 1. **Descriptive statistics for the ECSRS.**

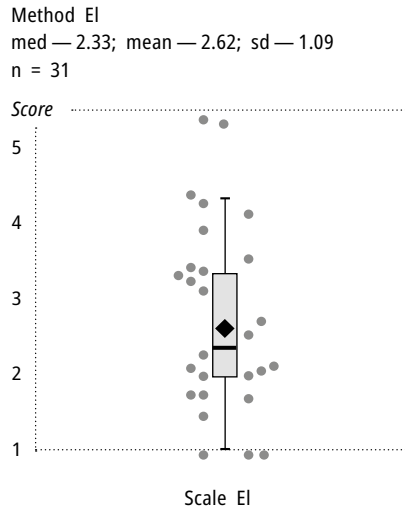
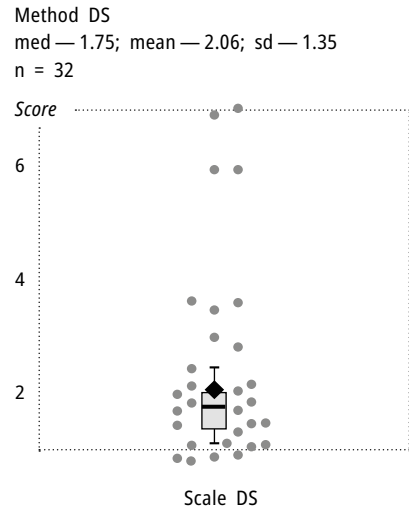


Figure 2. **Descriptive statistics for the DTSRS-2.**



and maximum of all of the data in a normal distribution. For illustration purposes, all the points are slightly shifted apart from one another.

The normal distribution hypothesis is impossible to test because of the small sample size, yet both scales show a tendency toward normal distribution.

To test validity of the scales, we analyzed the significance of differences in the total scores and scores on individual indicators between the contrasting groups (Welch's *t*-test and the Mann–Whitney *U* test). Differences in the mean total scores on the ECSRS were found to have a significance level of α=0.01 (*p*-value = 2.06e-05 and 6.9e-05 for the Welch's *t*-test and the Mann–Whitney *U* test, respectively). Differences on the DTSRS-2 show a significance level of 0.05 for the Welch's *t*-test (*p*-value=0.017) and 0.01 for the Mann–Whitney *U* test (*p*-value=2e-04). Significant differences were detected for all the ECSRS indicators at α=0.01, for the CMIT Subscale of the DTSRS-2 at α=0.01, and for the UGP Scale of the DTSRS-2 at α=0.05.

Reliability of the scales was tested based on percentage agreement among raters within one score point. For the ECSRS, complete inter-rater agreement was observed in 23% of the cases, and disagreement within one score point was observed in 92% of the cases. Average absolute deviation (AAD) is 0.46 score points, which is essentially lower than the standard deviation of the mean total score, indicating sufficient reliability of the ECSRS. Individual indicators of the ECSRS also demonstrated high internal consistency: disagreement within

one score point was at the level of either 85 or 100% for all the indicators except one (69%).

Complete agreement on the total DTSRS-2 score and absolute SD for this scale were not analyzed as the scale consists of only two subscales. Instead, each subscale was tested independently. Complete inter-rater agreement and disagreement within one score point were 62 and 85% for the UGP Subscale and 77 and 92% for the CMIT Subscale, respectively (AAD = 0.69 and 0.31 score points, respectively).

Correlations between Provisions Supporting the Development of Dialectical Thinking and Emotion Comprehension: The Research Hypothesis

The interplay of affect and cognition is one of the key problems in modern education. "Separation of the cognitive part of our mind from its affective part is a major and deeply ingrained flaw of the entire traditional psychology." [Vygotsky 1984:361] The same could be said about traditional pedagogy: research on the quality of preschool education in Russia shows that kindergarten classrooms are explicitly focused on cognitive development without caring too much about children's emotional comfort. For example, adults do not always set a positive tone when greeting and saying goodbye to children; meal times and bedtime routines rarely take place in a relaxed and friendly atmosphere; and children hardly ever have a corner in the classroom where they can spend some time on their own [Remorenko et al. 2017, Shiyan et al. 2021].

The assessment tools used in the present study, unlike the ECERS scales, are focused on specific aspects of the learning environment: provisions that help children learn to understand their own emotions and those of others, and provisions that support the development of dialectical thinking which allows children to see growth processes and be creative. Development of two separate instruments appears to be reasonable because each of them enables the teacher to identify their strengths and weaknesses and build their own "step in the development". Both assessment tools were developed based on the methodological premise about the interplay of affect and cognition. In particular, we assumed that emotion comprehension involves discussion of emotions with the use of cognitive tools, while cognitive tasks should be perceived by children as interesting, meaningful, and engaging.

It is essential to test empirically the hypothesis that provisions supporting the development of emotion comprehension do not hinder cognitive stimulation, complex problem solving, or creative effort.

The present study seeks to explore the relationship between kindergarten settings promoting dialectical thinking and those promoting emotion comprehension and to identify the key characteristics of the provisions for emotional development that have positive effects on the development of dialectical thinking.

We hypothesize that preschool teachers creating provisions to encourage emotion comprehension in children are also significantly more likely to organize classrooms conducive to dialectical thinking.

Research Design

The study involved 31 preschool student groups from 23 educational institutions of Moscow. Each group was observed once by an expert who spent three hours with children during the most active time of the day (usually from 8.30 a. m. to 11.30 a. m.) without interfering into the learning process or asking questions. Experts documented availability and accessibility of classroom supplies, teachers' methods of interacting with children, and characteristics of spatio-temporal classroom organization. Assessment was performed on both scales simultaneously. The sample included groups with both low and high levels of learning environment quality. Calculations were performed in *RStudio* 1.2.1335 using the programming language R3.6.1 (2019–07–05) and basic statistics libraries.

Initial data analysis was followed by a correlation analysis of total scores on both scales (Pearson's correlation coefficient and Spearman's rank correlation coefficient were measured for all paired comparisons). In addition, correlations between the total ECSRS score and every indicator of the DTSRS-2 were analyzed.

Results of Learning Environment Assessment Based on the DTSRS-2, by Indicators

The majority of preschool learning environments in the sample meet all or some of the Minimum Acceptable Quality Level (MAQL) criteria in fostering children's understanding of growth processes. For instance, most classrooms dispose of illustrative models reflecting transformations; teachers draw children's attention to changes in the world around, mention opposites when discussing phenomena or situations, and tell children about object and action transformations, possible developments of situations, and consequences of events. However, such activities are mostly sporadic and are not used by teachers consciously and consistently as a resource for promoting the development of dialectical thinking in children. Meanwhile, it cannot be said that these indicators are not differentiating: their means (in a binary scoring system) vary between 0.84 and 0.97, meaning that in some preschool learning environments even the Low Quality Level (LQL) indicators are rejected.

Contrariwise, characteristics of high-quality learning environments on the UGP Subscale are not typical for the absolute majority of the groups. Such characteristics include frequency of addressing the interplay of opposites in the content delivered, discussion of growth processes and situation transformations with children with a focus on the structure of change and encouragement of children's independent discovery of changes and cycles. The means of these indicators—showing whether "0" or "1" values prevail in raters' judgments—vary from 0.03 at the Excellent Quality Level (EQL), indicators of which are accepted by raters only in few isolated cases, to 0.09 at the Good Quality Level (GQL), which means that indicators at this level are accepted more often but still rarely.

The strongest differentiators of learning environment quality (percentages of accepted and rejected indicators are approximately equal in this sample) include parameters reflecting ad-hoc mentions of opposites and changes related to diurnal, weekly, or annual cycles by the teacher, parameters describing the teacher's response to expectations vs. reality gaps, and elements of the object-spatial environment (access to specific materials like toys, books, and models that help children see and understand the dynamics of change). All these indicators correspond to the MAQL, which became the cut-off for this subscale (the mean score on the UGP Subscale is 2.13, with the lowest of 1 and the highest of 7 score points).

Indicators of high-quality learning environments are also extremely rarely observed on the CMIT Subscale, but differences among the groups at the MAQL are more prominent than on the UGP Subscale (the mean score on the CMIT Subscale is only 2.00). In nearly all the groups, preschool teachers do not ignore children's ideas: every child has the opportunity to give an answer of their own that reflects their attitude toward or opinion on particular matters, and children's art is displayed in the classroom environment (the proportion of accepted LQL indicators varies from 0.87 to 0.91). At the next (MAQL) level of quality, however, the sample becomes highly heterogeneous, all the indicators showing considerable variations among the groups (means ranging from 0.41 to 0.63 in a binary scoring system). At the upper two levels of quality, GQL and EQL, the sample is relatively homogeneous again, but in this case with regard to rejected indicators (means ranging from 0.09 to 0.22).

Therefore, it must be admitted that situations where children's ideas and suggestions, creative ones in particular, are heard and the teacher creates controversial situations, asks children to solve them with due regard to opposites, and helps them analyze diverging perspectives and understand the differences between them are rather untypical for the preschool learning environments in the sample.

Results of Learning Environment Assessment Based on the ECSRS, by Indicators

The ECSRS subscales demonstrate relative homogeneity of scores on the indicators within each level of quality. As a rule, all the indicators are accepted at the lower two levels (LQL and MAQL) in most of the groups.[1] The mean values of binary scores range from 0 to 0.13 on the PECD Subscale, from 0 to 0.16 on the UMED Subscale, and from 0.10 to 0.16 on the COCE Subscale. Consequently, the following is observed in a significant (for our analysis) number of sample groups: (1) emotion-

[1] The Minimum Accepted Quality Level is considered to be achieved only if all the indicators of the LQL and MAQL are accepted. That is to say, "low quality" does not mean that there are no provisions at all, but it means that the existing provisions are not sufficient to consider the quality of the given preschool learning environment acceptable.

al expressions are not prohibited, teachers paying attention to children's emotional manifestations and responding to them neutrally or positively and mostly consistently; (2) the classroom environment is relaxed; (3) children have access to some materials for emotional development, including visual aids, which are also used by teachers at least sometimes; emotion pictures match the relevant emotion words and do not depict anything scary or violent; and (4) children have the opportunity to spend dome time on their own in the classroom or go to a cozy corner.

Absolutely unanimous scores were given on some indicators (e. g. the ones related to scary and violent content or to the order in which teachers should respond to emotions of more than one child). These indicators are not differentiating for the sample of our study, yet there may be cases in practice where they could be rejected.

Higher levels of quality (MAQL and above) maintain the same homogeneity to some extent (the mean score values on the PECD Subscale at the MAQL are mostly above 0.7; on the COCE Subscale, they vary from 0.77 to 0.90; on the UMED Subscale, however, the indicator related to children's access to materials for emotional development has a mean of 0.84, while the other indicators within this level are rather differentiating, their mean values ranging from 0.58 to 0.65). Indicators of the higher levels tend to be rejected much more often than accepted on all the subscales.

Therefore, the sampled preschool learning environments have the following provisions that support emotion comprehension in children:

- The learning environment features some materials with emotionally charged visual content (toys, books, banners, games, etc.), which demonstrate at least a minimum level of diversity and are sometimes used by teachers in their interactions with children;
- Children are given freedom to express their emotions, including negative ones;
- Teachers sometimes use words describing emotions in appropriate situations with children, or even role-play emotions in imaginary situations, e. g. as part of a game, reading lesson, or drama play;
- Children have the opportunity to spend some time on their own or relax within the classroom environment, but places for expression of emotions of different polarities are rarely organized in a specific way, equipped with necessary furniture, materials, and how-to-use instructions, or accessible to children at all times.

On the whole, analysis of the ECSRS scores shows that children's emotions seem to be a rather low priority for preschool teachers; no focus on support for the development of emotion comprehension is observed; materials and activities related to this aspect of development are designed and used largely as envisioned by teachers; and teaching supplies and approaches are largely stereotypical and of minimum acceptable quality.

Table 1. **Coefficients of correlations between the total ECSRS score and DTSRS-2 subscale scores.**

DTSRS-2 Subscale	Total ECSRS score	
	Pearson's correlation coefficient	Spearman's rank correlation coefficient
1. Understanding of Growth Processes	0.594**	0.557**
2. Controversy Management/Innovative Thinking	0.565**	0.531**

** Significance level α = 0.01.

Correlation Analysis Results

A stable significant correlation at the level of α=0.01 was revealed between the ECSRS and DTSRS-2 total scores, i. e. between the total indexes of support for emotion comprehension and dialectical thinking in children. Pearson's correlation coefficient is 0.61 (p-value=3e-04), and Spearman's rank correlation coefficient is 0.6 (p-value=3e-04).

Significant correlation is also observed between the total ECSRS score and each of the two DTSRS-2 subscales. All the coefficients are moderate and significant (Table 1).

Discussion

Our study confirms the hypothesis that preschool teachers who create provisions to support emotion comprehension in children are significantly more likely to also support provisions for dialectical thinking.

It is therefore fair to say that a learning environment promoting children's emotional and cognitive development has a strong holistic effect on both affect and cognition. Our findings confirm the idea of interplay between these two aspects of development [Vygotsky 1984].

Based on the study results, the following characteristics of learning environments can be regarded as significantly negative with regard to the development of emotion comprehension and dialectical thinking in children:

- Stringent discipline, "tension in the air"; negative value judgments; yelling;
- A ban on free expression of emotions, both positive and negative;
- Discrepancies between what adults say and how they say it;
- Emotional disengagement and remoteness of teachers;
- Teachers manipulate children via shaming and guilt-tripping;
- Children are imposed emotions that they do not feel;
- Children's questions are ignored and their curiosity is not fostered by encouraging them to ask questions;
- Children's ideas or lack of knowledge are ridiculed;
- Predominance of choral responses;

- Children's creative work is organized in strict compliance with examples and patterns, not in accordance with the child's intention.
- Positive characteristics of the learning environment include the following:
- Consistence of adults' responses to children's emotional expressions;
- Focus on identifying and discussing emotional states, especially complex and controversial ones;
- Encouragement of emotional support among children;
- Children are taught civilized methods of conflict resolution;
- Children have the opportunity to spend some time on their own, relax, and play in a cozy corner as well as to regulate strong emotions through active movement;
- Teachers' interest in children's questions and problems; encouragement of curiosity;
- Teachers draw children's attention to diverging perspectives on a regular basis, which results in children getting an idea of the productive potential of conflicts and controversies;
- Children's ideas are noticed, supported, and discussed in a positive manner;
- Teachers promote response diversity, e. g. by expressing surprise and joy when children fantasize and make up stories or drawing other children's attention to a new response;
- Children are given at least one hour before midday—the most productive period for early childhood development—when they can do whatever they want;
- Teachers encourage children to make up stories (fairy tales, game characters) and invent things.

Data obtained from the empirical tryout and correlation analysis demonstrates the great potential of applying the developed instruments in preschool learning environment assessment. At the same time, it provides ground for reconceptualizing the pedagogical framework of supporting emotional and cognitive development of children to make it more coherent and consistently embracing the psychological characteristics of preschoolers.

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