Evaluation of 2013 Preschool Curriculum Objectives and Indicators According to Revised Bloom’s Taxonomy

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**Keywords**
- Preschool education program
- Bloom’s revised taxonomy
- Cognitive process
- Knowledge level
- Learning goals and indicators

**Abstract**
The purpose of the study is to reveal the types of knowledge level and cognitive processes by evaluating the objectives and indicators of Ministry of National Education 2013 Preschool Curriculum according to the Revised Bloom’s Taxonomy. The study is a descriptive research and it was carried out by using case study methodology. The data set of this study consists of 63 goals and 241 indicators in the Preschool Curriculum, which was developed by Ministry of National Education-General Directorate of Basic Education in 2013. The data were collected by using the “Objectives and Indicator Evaluation Form” created by the researchers and the content analysis method was used in the analysis of the data obtained. The whole curriculum was analyzed and according to the cognitive processes and it was revealed that the highest intensity was at the application and understanding processes, and the least intensity at the creativity process. While factual knowledge was mostly used knowledge type in the curriculum, it was revealed that operational and metacognitive knowledge were the least used knowledge types. The curriculum was cognitive dominant, and the distribution of objectives and indicators of the curriculum was not balanced across all developmental domains. The curriculum objectives and indicators may be revised to support whole development of children.

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**Introduction**
The success of educational processes in schools can be possible with the effective implementation of a well-prepared education curriculum (Kocayiğit & Aykaç, 2019). A curriculum is defined by Varış (1996) as the activities provided by an educational institution for learners, and by Demirel (2020) as
the learning activities carried out in and out of the school environment. In this regard, a curriculum is a framework forming the basis of activities planned for learners and this framework should have content that will meet the needs of learners. Curricula have four basic elements; objectives, content, educational situations, and assessment (Bümen, 2006; Demirel, 2020). Among these elements, the objectives constitute the starting point for the implementation of the curriculum and point out the content of the learning experiences to be provided to the learner and the basic characteristics that the learner is desired to have. The objectives and indicators in a curriculum enable the implementation of the curriculum for concertizing the goals expected to be achieved (Ministry of National Education [MoNE], 2013). Therefore, the objectives and indicators of a curriculum should be evaluated and examined from different dimensions as they determine the direction of the next stages of the curriculum. In this study, the objectives and indicators of the Preschool Curriculum (PsC) prepared by the Ministry of National Education General Directorate of Basic Education (MoNE GDBE) were examined.

Different theories and approaches are used when developing curricula. Depending on the content of the subject to be learned, the characteristics of the learner, and the structure of the learning process, these approaches can be formed using "subject-based", "learner-oriented", "problem-centered", "modular", or "system approach" (Demirel, 2020). PsC is a curriculum prepared with a learner-oriented approach and consists of development-oriented objectives and indicators. The objectives and indicators included in the curriculum consist of successive stages that progress from simple to complex and from concrete to abstract (MoNE, 2013). While indicators ensure that the objectives are observable, they make the objectives reach an inclusive nature. Besides, these objectives and indicators were prepared according to three different month intervals (36-48 months, 48-60 months, 60-72 months) and it was suggested for the teachers to include objectives and indicators in their activities and consider the developmental characteristics of the children according to the age group in his class (MoNE, 2013). Regardless of the approach created, the strategy to be followed in the establishment of the goals of the curriculum should include content that can meet the interests and needs of the learners and enable them to have the skills required by the age.

The changes and alterations experienced in society are also reflected in education and it has become necessary to reflect the innovations brought by the day to the curriculum (Yaşar, 2013). In this context, the changes and alterations brought by the 21st century have led to the emergence of new skills and the need to acquire these skills in schools. Therefore, curricula should be reviewed from time to time, restructured, and put into practice in the light of scientific approaches to cover the processes required by the time within (Girgin, 2011). PsC has been updated in various periods to reflect the requirements of that time. In Turkey, curriculum development and review studies were conducted in the field of preschool education in 1952, 1989, 1994, 2002, 2006, and 2013 (Çelik & Gündoğdu, 2007; Düşek & Dönmez, 2012; Gelişli & Yazıcı, 2012; Sapsağlam, 2013; Yapıci & Yapıci, 2016). In the curriculum published in 1952, the necessary information was provided under headings as the activity scheme of the activities that should be done in preschool education institutions for teachers and the "things to be considered" when teachers are performing their activities. However, there was no explanation or information about the evaluation of the child and the teacher within this curriculum (Sapsağlam, 2013). This shortcoming shows that this curriculum is not a standard curriculum that covers all components. The curriculum developed in 1989 was based on unit and subject teaching. In line with special days and weeks with the unit titles published in the Journal of Announcements (Tebliğler Dergisi), at the beginning of each academic year, it was aimed to determine the goals of the daily, unit, and annual plans and the behaviors to be acquired by children. This curriculum included a list of sample activities consisting of 30 units. It was a subject-oriented and knowledge-based curriculum that supported the cognitive development of children. However, other development domains were limited, and life-oriented skills were not included.
The curriculum published in 1994, which was the first development-oriented curriculum, was the first national curriculum in which developmental goals and expected behaviors were included (Gelişli & Yazıcı, 2012; Sapsağlam, 2013). The goals and behaviors were given ready to the teacher for the first time. This curriculum emphasized that the subjects were tools rather than goals and they were child-centered and included evaluation and family participation. Annual, daily, and unit plans were excluded. Goals and behaviors expressions were used and an indicator table for monitoring which goals and how many of these goals had been achieved were included. Based on the developmental characteristics of the child, eight developmental domains (self-awareness, psychomotor, self-care, emotional, social, cognitive, language, aesthetics, and creativity) were included (MoNE, 1994). As a result of the studies, implementations, and observations regarding the 1994 Curriculum, it was determined that the curriculum was not sufficiently understood by teachers and teachers had some difficulties in implementation. Therefore, a new curriculum was needed, and it was prepared in 2002. The developmental domains in the previous curriculum were found to be excessive and, therefore, the developmental domains were reduced to five as psychomotor, social-emotional, cognitive, language, and self-care. Instead of subject teaching, it has become necessary to use the subjects as tools. Unit-based plans were removed, and daily plans were integrated into the curriculum. The number of goals in psychomotor domains was reduced and the teacher’s self-assessment was added as well as the assessment of children. Considering the curriculum published in 2002, there were 264 objectives in total under 54 objectives (MoNE, 2002).

Curricula published in 1994 and 2002 were created based on the traditional teaching approaches. However, the curriculum published in 2006 was created based on the basic principles of multiple intelligences and constructive approach (Gelişli & Yazıcı, 2012). Similar to the 2002 PsC, the 2006 PsC was founded on developmental goals and the expression "goals" was changed to "objectives". There was no change in the development domains (psychomotor, language, cognitive, social-emotional, and self-care). However, the areas of development and their characteristics for 36-72 months children were divided into 36-48, 48-60, and 60-72 months. Importance was placed on family participation and family participation activities were diversified. Like the 2002 PsC, the 2006 PsC included daily and annual plans (MoNE, 2006). The 2013 PsC was developed within the scope of Strengthening Preschool Education Project supported by the European Union between 2011 and 2013 (MoNE, 2013). The purpose and objectives expressions used in the previous curriculum was changed to outcomes and indicators. The outcomes and indicators were rearranged and explanations for their use were expanded. The psychomotor domain was changed to the motor domain. Titles such as quality, teacher competence, professional ethics, environmental management, responsibility in preschool education, and respect for differences were not included. Thus, the curriculum became a more concise and framework plan. Play and movement activities were planned separately to make them more effective. Science and mathematics activities were separated into science activities and mathematics activities. Integrated activity term implementation was emphasized. Free time activity was changed to playtime. Group (small and large) and individual activities were emphasized. A plan-do-evaluate cycle was introduced. Annual plans were removed and reorganized as monthly plans. The daily plan concept was replaced by the daily schedule and activity plan. Concepts in the concept list were categorized. A schedule for including the concepts in the monthly training plan and another schedule for including objectives indicators were introduced. The number of child assessment tools was reduced (development observation form, development report, portfolio). Questions types were suggested for assessment at the end of the activities (for descriptive sensory, relation to life, and concepts) (MoNE, 2013).

Various taxonomies are used for the classification of objectives and indicators of curricula (Bümen, 2006). One of these taxonomies was Bloom’s Taxonomy (BT) developed by Benjamin Samuel Bloom in 1956. This taxonomy was based on arranging the information needed to be known in a certain and progressive order from simple to complex. The processes determined for the classification were listed.
consecutively, and the lower level should be accomplished to move to the next level. It became necessary to update this taxonomy, which was developed in 1956, with the new developments in education in the 21st century (Tutkun & Okay, 2012). This taxonomy was rearranged as Revised Bloom’s Taxonomy (RBT) by Anderson et al. (2001). It was rearranged into two dimensions as the knowledge dimensions and cognitive process (Ari, 2011; Bümen, 2006). The knowledge dimension, which provided help with what teachers would teach students (Zorluoğlu, Kızılaslan, & Sözbilir, 2016), consisted of four sub-dimensions as factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge. The cognitive process dimension, which helped to continue teaching actively with the questions of “How is education provided?” and “How does the student learn meaningfully?” (Zorluoğlu et al., 2016), consisted of six sub-dimensions as remember, understand, apply, analyze, evaluate, and create (Anderson et al., 2001).

Studies in the literature show that different taxonomies were used in examination of objectives and indicators of different curricula. Marzano Taxonomy was used in examination of the objectives in primary school curricula (Karadağ & Kaya, 2017). SOLO Structure of Observed Learning Outcomes Taxonomy (SOLO) was used in the examination of the objectives of primary school mathematics lessons (Doğan, 2020), 6th, 7th, and 8th grades Turkish lesson (Göçer & Kurt, 2016) and science lesson (Dönmez & Zorluoğlu, 2020). RBT was the most used taxonomy for the examination of objectives and indicators. The objectives of Turkish (Aslan & Atik, 2018) and science (Doğan & Burak, 2018; Yolcu, 2019), social sciences (Gültakin & Burak, 2019), visual arts (Karip, 2019a), and religious culture and moral knowledge lessons were analyzed at the primary school level while the objectives of mathematics (Çelik, Kul & Çalış-Çulun, 2018), Turkish (Büyükalan-Filiz & Yıldırım, 2019; Çerç, 2018), science (Zorluoğlu, Şahintürk & Bağrıyanık, 2017), social sciences (Önlen, Tatan & İbret, 2020) and physical education (Uğraş & Aral, 2018) lessons were analyzed at the middle school level. In addition to these, the objectives of mathematics (Çil, Kuzu & Şimşek, 2019), chemistry (Aydın, Aydınlı, & Nakiboğlu, 2019; Ayıldız, Aydın & Nakiboğlu, 2019; Zorluoğlu, Güven & Korkmaz, 2017; Zorluoğlu et al., 2016), geography (İlhan & Gülersoy, 2019; Sözcü & Aydınozü, 2019), visual arts (Karip, 2019b), and biology (Aslan-Efe & Efe, 2018) were analyzed at the secondary education level. Considering the literature review regarding the objectives and indicators of MoNE 2013 PsC, it was seen that there were studies conducted on subjects such as scientific basic process skills (Nuhoğlu & Ceylan, 2012), child’s right to participate (Gürkan & Koran, 2014), developing the musical skills (Kandır & Türkoğlu, 2015), the concept of health (Sönmez & Bilir-Seyhan, 2016), and values education (Aral & Kadan, 2018; Özer & Çam-Aktaş, 2019). However, it was not evaluated according to any taxonomy. It is one of the important goals for educators to gain high-level thinking skills in the design of educational environments to reach the requirements of the 21st century (Ergin, 2005). It is considered that Bloom’s Revised Taxonomy, with its rearranged form, can be a guide in evaluating the levels of cognitive processes of the objectives and indicators of the PsC. Therefore, this study aims to reveal the knowledge dimension levels and cognitive processes of the MoNE 2013 PsC objectives and indicators using the RBT. In order to achieve this, the researchers attempted to answer the following research question: “How are the objectives and indicators of the MoNE PsC distributed according to Bloom’s Revised Taxonomy cognitive processes and knowledge dimensions?”

Method

This study was descriptive research in nature and a qualitative case study method was employed. Case can be described as a system whose boundaries can be defined consisting of a person, group, organization, activity, process or an event (Meriam, 2013). In this regard, PsC could be considered a bounded activity in which a curriculum content was developed. In case studies various methodologies could be used for collecting data such as observations, interviews and documents (Johnson & Christensen, 2014). Document review is a data collection methodology in which various documents, especially printed and electronic materials, are systematically reviewed and evaluated (Bowen, 2009).
On the other hand, Payne and Payne (2004) define document review as a method used to define and classify documents produced by public and private institutions and then, make conclusions about these documents. In this study, PsC, a document prepared by the Ministry of National Education General Directorate of Basic Education (MoNE-GDBE), a public institution, was systematically analyzed and the results regarding its content were presented.

Data Set

In document review, analyses are carried out through written texts. Therefore, concepts such as universe sample or study group cannot be used in these studies. In this regard, the texts named as data set and consisting of the data to be analyzed constitute the analysis units of the study. In document review studies, some stages are important to follow, and these stages are originality, reliability, representativeness, and meaningfulness (Scott, 1990). Originality indicates that the text is an original text produced by real persons or institutions. Reliability indicates that the information contained in the text is valid, accurate, and similar to information found in similar sources. Representativeness indicates that the content of the text represents the concepts and topics it is related to. Finally, meaningfulness indicates whether the text has a clear and understandable purpose and content for this purpose (Scott, 1990).

The data set of this study consists of the objectives and indicators in the PsC prepared by the MoNE-GDBE in 2013. PsC is a developmental curriculum and the objectives and indicators are organized under four development domains (cognitive development, language development, social-emotional development, and motor development) and one skill area (self-care skills). A total of 63 objectives and 241 indicators under these objectives were analyzed within the scope of the study. More detailed information on objectives and indicators was presented in the findings section.

Data Collection Process and Tools

Within the scope of this study, the PsC, which had a printed and electronic version and was accessible to the public online, was accessed online on the website of the General Directorate of Basic Education in May 2020. It was downloaded from the website of the curriculum and used offline during this study. During the data collection process, the "Objectives and Indicator Evaluation Form" created by the researchers was used. This form contains all the objectives and indicators under the dimensions of the PsC. This form included two columns next to each objective and indicator, and the first column was used to encode the cognitive dimension and the second column was used to encode the knowledge dimension. The form was presented to three academics conducting studies in the preschool field for expert opinion in terms of content validity and positive feedback was received from the experts that it covered all the objectives and indicators. Then, the researchers came together to determine the cognitive processes of the objectives and indicators, and the classifications of all the objectives and indicators was determined by making joint decisions with a panel system. The researchers came together again for the second time and this time, the knowledge dimension of the objectives and indicators was determined jointly with a panel system. The entire data collection process lasted two months.

Data Analysis

The obtained data were analyzed using the content analysis method. Content analysis is a method used to reveal repeatable and valid interpretations from the data content (Krippendorff, 2004). The data were analyzed with a deductive approach. The objectives and indicators were digitized using the form created by the researchers according to the cognitive classifications and knowledge dimensions used in the revised Bloom Taxonomy. In this regard, 241 indicators and 63 objectives were classified according to the cognitive classifications and knowledge dimensions in the Revised Bloom Taxonomy. Then, the distribution frequencies of the objectives and indicators were presented in tables and, at the last stage, these tables were analyzed, and necessary inferences were made.
Results

In this study, 63 objectives and 241 indicators in the MoNE 2013 PsC were evaluated according to the RBT. In the MoNE 2013 PsC, there were 21 objectives and 68 indicators in the cognitive development domain, 12 objectives and 52 indicators in the language development domain, 17 objectives and 50 indicators in the social-emotional development domain, five objectives and 50 indicators in the motor development domain, and eight objectives and 21 indicators in the self-care skills area. The distribution of objectives and indicators was presented in Figure 1.

![Figure 1. Distribution of objectives and indicators in the MoNE 2013 PsC by development domains](image)

According to Figure 1, 33% of the objectives were related to the cognitive area, 19% was related to the language area, 27% was related to the social-emotional area, 8% was related to the motor area, and 13% was related to the self-care skills. Considering the indicators, 29% was related to the cognitive area, 18% was related to the language area, 22% was related to the social-emotional area, 22% was related to the motor area, and 9% was related to the self-care skills. While the motor development domain had the least objectives (5 objectives) in the curriculum, the cognitive development domain had the most objectives with 21 objectives. It was seen that the objectives and indicators in cognitive, social, and language development domains and self-care skills were proportionally balanced, and the number of objectives was higher than the number of indicators. Considering the motor development domain, it was noteworthy that there were only five objectives while the number of indicators was 50 and that there were many indicators under a limited number of objectives in contrast to other development domains.

Table 1 included the distribution of 21 objectives and 68 indicators in the cognitive development domain according to the cognitive processes and knowledge dimension.

<table>
<thead>
<tr>
<th>Cognitive Development</th>
<th>Cognitive Processes</th>
<th>Remember</th>
<th>Understand</th>
<th>Apply</th>
<th>Analyze</th>
<th>Evaluate</th>
<th>Create</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Dimension</td>
<td></td>
<td>Factual</td>
<td>Conceptual</td>
<td>Procedural</td>
<td>Metacognitive</td>
<td>No category</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11(4)*</td>
<td>3</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>21(7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8(2)</td>
<td>8(1)</td>
<td>3(3)</td>
<td>6(1)</td>
<td>2</td>
<td>1</td>
<td>30(10)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>1(1)</td>
<td>14(6)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1(1)</td>
<td></td>
<td>7(1)</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>2(2)</td>
<td></td>
<td></td>
<td></td>
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<td>2(2)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14(4)</td>
<td>20(5)</td>
<td>11(4)</td>
<td>18(7)</td>
<td>3</td>
<td>2(1)</td>
<td>68(21)</td>
</tr>
</tbody>
</table>

*Numbers are in the parentheses indicates objectives
In the analysis made according to the cognitive processes, it was determined that the highest intensity was at the understand process with five objectives and 16 indicators (32.81%) and apply process with four objectives and 17 indicators (32.81%). The least intensity was at the create process with two indicators (3.13%). Considering the distribution of objectives and indicators by knowledge dimension, it was noteworthy that the most used type of knowledge was factual knowledge with 6 objectives and 29 indicators (54.69%). Metacognitive knowledge was the least knowledge type with three indicators (4.69%). One objective and eight indicators (14.06%) in remember (3 indicators), understand (1 indicator), apply (4 indicators), and evaluate of cognitive processes were not classified under any knowledge dimension. Examples of these objectives/indicators were as follows: “Objective 5; Indicator 4: Starts a conversation”, “Objective 5;
Indicator 5: Sustains a conversation”. In these objectives/indicators, the knowledge dimension that can be presented or requested may vary according to the context or learning process. Therefore, one objective and eight indicators were could not be placed at any knowledge dimension. Considering the distribution of objectives and indicators in the language development domain, the first striking finding was the intensity of four objectives and 13 indicators at the understand process and at the factual knowledge dimension.

Table 3 included the distribution of 17 objectives and 50 indicators in the social-emotional development domain according to the cognitive processes and knowledge dimension.

Table 3. Classification of Social-Emotional Development Objectives and Indicators According to Knowledge Dimension and Cognitive Processes

<table>
<thead>
<tr>
<th>Social and Emotional Development</th>
<th>Cognitive Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remember</td>
</tr>
<tr>
<td>Factual</td>
<td></td>
</tr>
<tr>
<td>Conceptual</td>
<td></td>
</tr>
<tr>
<td>Procedural</td>
<td>-</td>
</tr>
<tr>
<td>Metacognitive</td>
<td>-</td>
</tr>
<tr>
<td>No category</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>7(2)*</td>
</tr>
</tbody>
</table>

*Numbers are in the parentheses indicates objectives

In the analysis made according to the cognitive processes, it was determined that the highest intensity was at the evaluate process with 13 objectives and four indicators (25.37%). The least intensity was at the create process with two objectives and five indicators (10.45%). Considering the distribution of objectives and indicators by knowledge dimension, it was noteworthy that the most used type of knowledge was metacognitive knowledge with 20 indicators and 10 objectives (52.63%). Procedural knowledge was the least knowledge type with two indicators and one objective (4.48%). Three of the objectives and indicators (4.48%) could not be placed at any knowledge dimension. Examples of the objectives/indicators were as follows: “Objective 10; Indicator 1: Shows that he/she is willing to take responsibility” and “Objective 11; Indicator 1: Participates in the activities related to Atatürk”. As can be seen from the examples above, no knowledge dimensions to be presented or requested were mentioned in these objectives/indicators. The most striking finding regarding social and emotional development was the intensity at the intersection of evaluate process and metacognitive knowledge dimensions.

Table 4 included the distribution of motor development objectives and indicators according to the cognitive processes and knowledge dimensions.
Table 4. Classification of Motor Development Objectives and Indicators According to Knowledge Dimension and Cognitive Processes

<table>
<thead>
<tr>
<th>Motor Development</th>
<th>Cognitive Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remember</td>
</tr>
<tr>
<td>Knowledge Dimension</td>
<td></td>
</tr>
<tr>
<td>Factual</td>
<td>-</td>
</tr>
<tr>
<td>Conceptual</td>
<td>-</td>
</tr>
<tr>
<td>Procedural</td>
<td>-</td>
</tr>
<tr>
<td>Metacognitive</td>
<td>-</td>
</tr>
<tr>
<td>No category</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
</tr>
</tbody>
</table>

*Numbers are in the parentheses indicates objectives.

In the analysis made according to the cognitive processes, it was determined that the highest intensity was at the apply process with five objectives and 48 indicators (96.36%). There were no objectives or indicators at the cognitive dimensions while there were only two indicators (3.64%) at the create process. In the analysis made according to the knowledge dimension, it was determined that the highest intensity was at the procedural knowledge with one objective and 30 indicators (56.36%). There was only one indicator (1.82%) in the metacognitive knowledge dimension. Four objectives and 19 indicators (41.82%) could not be placed at any knowledge dimension. Examples of these objectives/indicators were as follows: “Objective 1; Indicator 12: Rolls at a specified distance.” and “Objective 4; Indicator 1: Collects the objects”. As can be seen from the examples above, no knowledge dimensions to be presented or requested were mentioned in these objectives/indicators.

Table 5 included the distribution of self-care skills objectives and indicators according to the cognitive processes and knowledge dimensions.

Table 5. Classification of Self-care Skills Objectives and Indicators According to Knowledge Dimension and Cognitive Processes

<table>
<thead>
<tr>
<th>Self-care Skills</th>
<th>Cognitive Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remember</td>
</tr>
<tr>
<td>Knowledge Dimension</td>
<td></td>
</tr>
<tr>
<td>Factual</td>
<td>4</td>
</tr>
<tr>
<td>Conceptual</td>
<td>-</td>
</tr>
<tr>
<td>Procedural</td>
<td>-</td>
</tr>
<tr>
<td>Metacognitive</td>
<td>-</td>
</tr>
<tr>
<td>No category</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

*Numbers are in the parentheses indicates objectives.

In the analysis made according to the cognitive processes, it was determined that the highest intensity was at the apply process with four objectives and nine indicators (44.83%). There were no objectives or indicators at the analyze process and create process. Considering the knowledge
dimension, the highest intensity was at the metacognitive knowledge dimension with four objectives and six indicators (34.48%) while the lowest intensity was at the procedural knowledge dimension with one objective and 1 indicator (6.9%). Two of the indicators of self-care skills (6.9%) could not be placed at any knowledge dimension. These indicators were as follows: “Objective 1; Indicator 1: Combs his/her hair, brushes his/her teeth, washes his/her hands and face, and meets his/her toilet needs.” and “Objective 2; Indicator 1: Takes off and puts on his/her shoes and clothes, opens/closes buttons, and fastens/unfastens his/her shoestrings.” As can be seen here, no knowledge dimensions to be presented or requested were mentioned in these objectives/indicators.

Table 6 included the results of the classification of all objectives (63) and indicators (241) in the MoNE 2013 PsC according to the RBT.

Table 6. Classification of Objectives and Indicators of All Development Domains According to Knowledge Dimension and Cognitive Processes

<table>
<thead>
<tr>
<th>Knowledge Dimension</th>
<th>Remember</th>
<th>Understand</th>
<th>Apply</th>
<th>Analyze</th>
<th>Evaluate</th>
<th>Create</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factual</td>
<td>27(6)*</td>
<td>33(7)</td>
<td>5(1)</td>
<td>8(4)</td>
<td>6</td>
<td>-</td>
<td>79(18)</td>
</tr>
<tr>
<td>Conceptual</td>
<td>3</td>
<td>10(3)</td>
<td>12(8)</td>
<td>17(6)</td>
<td>3</td>
<td>-</td>
<td>45(17)</td>
</tr>
<tr>
<td>Procedural</td>
<td>-</td>
<td>-</td>
<td>43(5)</td>
<td>1</td>
<td>1(1)</td>
<td>1</td>
<td>46(6)</td>
</tr>
<tr>
<td>Metacognitive</td>
<td>-</td>
<td>2(1)</td>
<td>6(3)</td>
<td>7(2)</td>
<td>13(6)</td>
<td>9(3)</td>
<td>37(15)</td>
</tr>
<tr>
<td>No category</td>
<td>3</td>
<td>3(2)</td>
<td>27(4)</td>
<td>-</td>
<td>(1)</td>
<td>1</td>
<td>34(7)</td>
</tr>
<tr>
<td>Total</td>
<td>33(6)</td>
<td>48(13)</td>
<td>93(21)</td>
<td>33(12)</td>
<td>23(8)</td>
<td>11(3)</td>
<td>241(63)</td>
</tr>
</tbody>
</table>

*Numbers are in the parentheses indicates objectives

In the analysis made according to the cognitive processes, it was determined that the highest intensity was at the apply process with 21 objectives and 93 indicators (37.5%) and create process with three objectives and 11 indicators (4.6%). Considering the distribution of objectives and indicators by knowledge dimension, it was noteworthy that the most used type of knowledge was factual knowledge with 18 objectives and 79 indicators (31.91%). The knowledge types with the least intensity were procedural knowledge with six objectives and 46 indicators (17.1%), and metacognitive knowledge with 15 objectives and 37 indicators (17.1%). Seven objectives and 34 indicators (13.49%) in remember (3 indicators), understand (3 indicators and 2 objectives), apply (27 indicators and 4 objectives), evaluate (1 objective), and create (1 indicator) cognitive processes were not classified under any knowledge dimension. Considering the distribution of objectives and indicators in the overall, the first striking finding was the intensity of objectives (5) and indicators (43) at the apply process and procedural knowledge dimension. This was followed by the four objectives and 27 indicators, which could not be classified under any knowledge dimension, in the apply process.

**Discussion, Conclusion and Implications**

In this study, it was aimed to evaluate 63 objectives and 241 indicators in the MoNE 2013 PsC according to the RBT. Before this evaluation, the PsC objectives and indicators were examined in terms of their distribution in development domains. It was determined that the densities of objectives and indicators in the development domains were respectively cognitive, social-emotional, language, self-care, and motor development domains. When this order was evaluated proportionally, it was seen that the objectives in the field of cognitive development constituted one-third of all objectives and
indicators in the curriculum. Therefore, it can be concluded that this curriculum has a cognitive development dominated structure. Preschool Curriculum book included the following expressions: “This curriculum is a ‘developmental’ curriculum based on the developmental levels and characteristics of children and, in this sense, the development of all development domains... Developmental curricula deal with the social and emotional, motor, cognitive, language development domains, and self-care skills of the child with a holistic approach” (MoNE, 2013). Similarly, focusing on all development domains of the child with a holistic child approach is among the indicators of an effective curriculum in terms of international standards (National Association for the Education of Young Children, 2009). It is important that the PsC, which is a developmental curriculum, can support all development domains of the child with a holistic perspective and a balanced distribution of objectives-indicators.

According to Anderson et al. (2001), the objectives of an effective teaching curriculum should be at least at the understand process of the cognitive processes. Mayer (2002) states that meaningful learning can be achieved by including the objectives related to the apply, analyze, evaluate, and create processes for the transfer of learned knowledge. In this study, it was determined that the objectives and indicators in the cognitive area were at understand and analyze processes the most and at evaluate and create processes the least. This result suggests that the curriculum constitutes the basis for the realization of meaningful learning and supporting the acquisition of high-level cognitive skills. However, the objectives and indicators in the cognitive area should be structured in a way to support high-level cognitive processes that have an important place in the transfer of learning such as evaluation and creativity (Mayer, 2002). When the objectives and indicators in the cognitive development domain were examined according to the knowledge dimension, it was determined that the highest density was at the conceptual knowledge dimension and the least density was at the metacognitive knowledge dimension. According to Anderson et al. (2001), conceptual knowledge includes the relationships between the knowledge of categories and classifications and the more complex and organized knowledge forms. Çapan (1996) describes cognitive development as children’s ability to perceive, store, and use stored information while Senemoğlu (2018) describes it as the development in mental activities that enable the individual to understand and learn the world around him/her. From this perspective, the fact that conceptual knowledge is the most addressed category of knowledge considering the objectives and indicators of the cognitive area can be interpreted as the curriculum can play an effective role in supporting cognitive development. Metacognitive knowledge includes information about cognition and awareness of one’s cognition (Krathwohl, 2002). Another remarkable finding in the cognitive development domain was the intensity at the intersection of the analyze process and the conceptual knowledge dimension. The cognitive analyze process aims to divide the object, event, or fact into its parts and to determine how these parts relate to each other and the whole (Amer, 2006). This structuring observed in the cognitive development domain of the curriculum can provide a supportive infrastructure for children to use different information forms and complex cognitive thinking processes in their future learning lives.

The objectives and indicators related to the language development domain of the PsC were at understand and apply processes the most and at creativity process the least. The main purpose of learning activities is to transfer information, events, or facts. The most basic cognitive process category of transfer-based education goals is understand. The apply process includes applying the skill to a known task and using the skill in a suitable new situation (Anderson et al., 2001). Language development, on the other hand, includes not only learning the words but also learning the rules of the word and sentence structure (Senemoğlu, 2018). In this regard, the overlap between the content of understand and apply process and the requirements of language development is remarkable. When the distribution of language development objectives and indicators by knowledge dimension was examined, it was determined that the most used type of knowledge was factual knowledge. According to Amer (2006), factual knowledge includes the basic elements that students need to be familiar with any discipline or to know about solving problems related to the relevant discipline. However, based on
the finding that language development objectives and indicators mostly include understand and apply cognitive processes, it is clear that factual knowledge is not sufficient. According to Ausubel (1960), students understand when they can make connections between the “new” knowledge to be acquired and their prior knowledge. In other words, new information is integrated with the existing cognitive schema and frameworks. Since the concepts serve as the building blocks for schema and frameworks, conceptual knowledge provides the basis for the understanding step. Apply process, which is another cognitive process in the language development domain, is closely related and linked with procedural knowledge (Krathwohl, 2002). Therefore, for language development objectives and indicators to support understand and apply processes effectively, they should also support conceptual and procedural knowledge. Metacognitive knowledge dimension was the least used type of knowledge in the distribution of objectives and indicators. However, metacognitive activities such as consciousness, awareness, self-reflection, self-regulation, and thinking and controlling one’s thinking and learning are closely related to language development and use (Bodrova & Leong, 2017).

Competence in such social skills is one of the most important determinants of both academic skills and the development of positive social behaviors, as well as mental health and adult happiness (Trawick-Smith, 2017). It was determined that the objectives and indicators related to the social-emotional development domain of the PsC were at the evaluate process the most and at the creativity process level the least. Evaluate process is defined as making judgments based on criteria and standards and includes checking and criticizing sub-processes. In this regard, it is clear how important the evaluation step can be in interpreting and evaluating social events and situations, interpersonal relationships, and the emotional states of the individual. However, the preschool child is at a new stage of learning and experiencing social skills and relationships. Therefore, it can be said that it is aimed with the PsC to support the child’s learning social situation and skills with cognitive processes of understand and apply first, and then with high-level skills. In this study, it was also determined that the apply process ranked third while the procedural knowledge dimension, which was closely related to the apply process (Krathwohl, 2002), ranked the last. Preschool children tend to participate in concrete activities to test their competencies (Herbert & Stipek, 2005). Therefore, it is important to organize social-emotional area objectives and indicators in a way to include more practice and interpersonal interaction. The creativity process, which is included at the lowest level among the objectives and indicators related to social-emotional development, is the process of combining parts to create a new and consistent whole or to make an original product (Krathwohl, 2002). Considering the connection of creativity with generating solutions for social problems (Butcher & Niec, 2005), its importance for social-emotional development is obvious. However, considering that the preschool child is just starting to learn social relations and skills, it can be said that this curriculum includes creativity process at the expected level. In this study, the most striking finding regarding the social and emotional development is the intensity at the intersection of evaluate process and metacognitive knowledge dimensions. The child must first comprehend, then apply, and then, analyze social relationships, situations, and skills. Following the hierarchical order, the child must be introduced to the activities suitable for evaluate and create processes.

It was determined that the objectives and indicators in motor development concentrated on the apply process and procedural knowledge dimension. There was no objective or indicator in remember, understand, analyze, and evaluate processes, and factual and conceptual knowledge dimensions. The acquisition of motor skills requires especially practical activities and environment arrangements. When motor development objectives and indicators were evaluated in terms of cognitive processes, it was determined that the apply process that would pave the way for physical activities was dominant. Based on this finding, it can be said that the PsC aims to support the motor development of preschool children with activities based on practice. However, as stated by Anderson et al. (2001), the apply process involves performing and making use of works/procedures to do practice and solve problems. At the “implementing” level, the child performs the work he/she is familiar with by following the necessary
steps. At this level, the apply process serves a supportive function. However, in “executing”, which is another sub-category of the apply process, the child cannot predict what kind of a process he/she will apply to perform a task he/she is not familiar with. At this stage, the child must choose the process to be used. In other words, the child needs the support of understand and create process activities both in interpreting the type of problem he/she faces and in deciding the type of process to follow. Considering the findings of this study, it was striking that among the motor development objectives and indicators, there were no objectives or indicators related to the understand process and there were only a few indicators (2) related to the create process. Considering the knowledge dimension, it was determined that the procedural knowledge dimension was dominant. This finding can be justified by the fact that transactional information is closely related and linked to the apply cognitive dimension (Krathwohl, 2002). However, it was determined that the conceptual and factual knowledge dimensions were not included among the objectives and indicators even at a limited level. As expressed by Anderson et al. (2001), the prerequisite for procedural knowledge is understanding conceptual knowledge. Based on the findings obtained in this study, it can be concluded that this PsC does not include indicators aiming to solve problems, acquire new motor skills, or improve existing skills although it supports the motor skills that the child can already do. To support the child’s development of new motor skills, the restructuring of the curriculum in a way that includes understand, analyze, evaluate, and create cognitive process skills and conceptual and metacognitive knowledge types in a balanced way may produce more effective results.

Basic knowledge and habits related to self-care skills will pave the way for the child to become a healthy, self-sufficient, and self-confident individual and adopt positive social behaviors in the future (Demiriz & Dinçer, 2001). Therefore, PsC is critical for developing self-care skills and acquiring new skills. The acquisition of self-care skills requires practical activities as in motor activities. In the analysis made according to the cognitive processes, it was determined that the objectives and indicators were included at the apply process the most. Based on this finding, it can be said that the PsC aims to support the self-care skills of preschool children with activities based on practice. However, understand process was included on a limited scale while analyze and create processes were not included at all. Therefore, it can be said that the self-care skills objectives and indicators of this PsC focus on improving existing skills, and do not include indicators for learning new skills and transferring known skills to different situations. The results are remarkable when self-care skills objectives and indicators are considered in terms of knowledge dimension. Although the apply process dimension was the most dominant in the self-care skills area, the procedural knowledge closely related to it had the least intensity. The content of procedural knowledge consists of subject-specific skills and knowledge of algorithms, knowledge of techniques and methods, and knowledge of when to use appropriate procedures (Anderson et al., 2001). Therefore, procedural knowledge has special importance to make self-care skills, which is the only skill area in the curriculum, a viable field.

When the whole curriculum was examined according to the cognitive processes, it was determined that the highest intensity was at the apply and understand processes, and the least intensity at the creativity process. Focusing on understand and apply processes facilitates the realization of transfer-based educational goals (Anderson et al., 2001). However, as argued by Mayer (2002), high-level cognitive processes such as assessment and creativity play an important role in the transfer of learning. Although the frequency of using high-level cognitive processes decreases depending on the age of the child when determining educational goals (Krathwohl, 2002), it is important to support children’s creativity in the preschool period when the creative potential is at the highest level (Yaşar & Aral, 2010). Therefore, a balanced structuring of the curriculum by supporting higher-level cognitive processes may produce more effective results. It was determined that the factual knowledge type was included the most in the entire curriculum while the procedural and meta-cognitive knowledge types were included the least. Factual knowledge is necessary but not sufficient to meet the learning needs of the child who learns through concrete experiences and interactive practices. Metacognitive
knowledge, on the other hand, should be further supported due to its role in the development of 21st-century skills such as problem-solving, critical thinking, communication, collaboration, and self-regulation (Pellegrino & Hilton, 2012), and the awareness of the individual about his/her cognition (Pintrich, 2002). When classifying the objectives and indicators according to their knowledge dimensions, 7 objectives and 34 indicators could not be associated with any knowledge dimension. This situation arises from the fact that the knowledge dimension to be presented or requested varies according to the context/learning process and the relevant objectives and indicators consist of general expressions. However, objectives and indicators should clearly express knowledge, skills, abilities, competencies, attitudes, and values in a way that characterizes the basic learning it aims (International Accreditation Council for Business Education [IACBE], 2016). As revealed in a study conducted by Özsırkıntı, Akay & Yılmaz-Bolat (2014), clearly writing the objectives and indicators can help the teacher in the successful implementation of the curriculum.

2013 PsC is a developmental curriculum that aims to support all development domains of children in a balanced way (MoNE, 2013). However, when the distribution of objectives and indicators by development domains were examined, the results showed that the objectives related to the cognitive development domain constituted one-third of the entire curriculum. This distribution refers that the 2013 PsC is a mainly focusing on cognitive development of children. In early childhood period, a child begins to experience social relationships and skills and for this reason, it may be suggested that social-emotional domain objectives and indicators should be increased and arranged in a way that include more interpersonal interactions. Early childhood period has also a critical importance in the motor development and psychomotor learning of the child. In this respect, restructuring of motor development domain objectives and indicators, based on all cognitive processes and knowledge dimensions through a balanced distribution can support the child’s acquisition of new motor skills. The same rearrangement stands out for self-care skills as well. Therefore, arranging all development domains objectives and indicators in close proportions and balanced way can help achieve the goal of holistic development. In addition to this, all indicators can be placed in a hierarchical order from basic to more complex and in a way that measurability of the indicators should be clearer and more observable.

In summary, despite the increasing interest in RBT in our country, there is no evidence that it has been used in curriculum development studies in early childhood field yet. Gökmenoğlu (2014) suggests that curricula assessment should led to make a judgement about the future of that specific curriculum. In this regard, we suggest that using RBT in preparation of an early childhood curriculum may provide more effective results for planning and objective assessment of teaching practices of early childhood teachers.
References


TÜRKÇE GENİŞ ÖZET

2013 Okul Öncesi Eğitim Programı Kazanım ve Göstergelerinin Yenilenmiş Bloom Taksonomisi Çerçevesinde Değerlendirilmesi

Giriş


Yapılan incelemede kazanım ve göstergelerin incelenmesinde en çok Bloom Taksonomisi’nin kullanılduğu görülmüştür. OÖEP’nin öğrenme hedeflerini oluşturan kazanım ve göstergelerin hangi düzeydeki biliselli becerileri kapsamında değişendirilmesinde yeniden düzenlenmiş halile Bloom Taksonomisi’nin yol gösterici olabileceği düşünülmüştü. Bu nedenle bu çalışmanın amacı, MEB 2013 OÖEP’de yer alan kazanım ve göstergelerin Bloom’un Yenilenen Bilisellik Taksonomisinin göre değişendirilerek hangi bilgi süreçne ve bilisellik süreçte katkı sağladığı ortaya koymaktır. Bu amaç gerçekleştirmek için “Yenilenmiş Bloom Taksonomisi’ne göre MEB OÖEP’n’in kazanım ve göstergelerinin biliselli ve bilgi boyutunda dağılımı nasıl?” sorusuna yanıt aranmıştır.

Yöntem

Bu çalışmada nitel yöntemlerden durum analizi yöntemi kullanılmıştır. Doküman incelemesi; çeşitli belgelerin, özellikle basılı ve elektronik malzemelerin sistemik olarak gözden geçirildiği ve değerlendirildiği bir veri toplama metodolojisidir (Bowen, 2009). Bu çalışmada bir kamu kurumu olan Millî Eğitim Bakanlığı Temel Eğitim Genel Müdürlüğü (MEB-TEGM) tarafından üretilen bir doküman olan OÖEP sistematik bir biçimde incelemiş ve içeriğine dair sonuçlar ortaya konmuştur. Çalışma verilerini analizinde içerik analizi yöntemi kullanılmıştır. Veriler tümdeğelimci bir yaklaşıma analiz edilmiştir.

Bulgular


Tartışma, Sonuç ve Öneriler


Programda yer alan tüm gelişim alanlarının yakın oranlarda kazanım ve göstergе içerecek şekilde düzenlenmesi, bütüncül gelişim amacının gerçekleştirilmesine yardımcı olabilir. Ayrıca tüm göstergeler, kazanımların gözlenebilir hali olarak basitten zora doğru hiyerarşik bir düzende yerleştirilerek öğrenme çıktılarının ölçülebilirliğine katkı sunulabilir.
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