SUPPORTING TEACHER DEVELOPMENT ABOUT EARLY LITERACY IN CHILDREN WITH HEARING LOSS: AN ACTION RESEARCH IN TURKEY

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Abstract:

Children with hearing loss show a similar development to their hearing peers in terms of the development of oral and written language. They may experience some delays in oral language skills, which is one of the sub-fields of literacy. Children with hearing loss in the preschool period in Turkey receive support education services from preschool inclusive environments and special education and rehabilitation center (SERC). Research indicates that education programs related to early literacy positively affect teachers' professional development, the characteristics, and practices of literacy environments. In addition, supporting the professional development of teachers with roles such as guidance/mentoring/coaching indirectly affects the literacy development of children indirectly. Research with teachers on early literacy development in children with hearing loss in Turkey are about teachers' reflections on their own learning-teaching processes. It is stated that teachers working with preschool children do not have sufficient knowledge about early literacy in Turkey. Research in SERCs also emphasize the importance of supporting the education of children with hearing loss through the participation of teachers in SERCs with in-service training. The study aims to examine the process with one hearing-impaired children teacher in the context of the early literacy development in-service training program. It was designed as participatory action research because it overlaps with an in-service training process that can meet the information needs of one teacher in SERC about early literacy development. The data were collected through field notes and video recording observations, semi-structured and unstructured interviews, documents, products, and a research diary. All data were analyzed inductively during the research process and at the end of the research. It is seen that the knowledge of teachers in the SERC, where support education services in Turkey, is limited on early

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literacy development. Teacher's needs can be listed as relating the goals with early literacy experiences, planning the lesson in accordance with the level of the child and supporting early literacy, determining the appropriate material, implementation and evaluation. A program to be developed to support teachers regarding early literacy; in addition to informing, it can be stated that the implementation and evaluation processes are supportive of the development. In the implementation of such programs, it can be emphasized that it is important to consider adult learning, to give positive and immediate feedback, and to use internal and external motivational resources.

Keywords: early literacy, hearing impaired children, teacher empowerment

1. Introduction

Children's literacy development starts from birth and through experiences, they develop some literacy skills in the preschool period (Teale & Sulzby, 1986). These skills are divided into six basic areas. The literacy skills of children from birth to the age of five; (a) alphabetic knowledge, (b) written concepts, (c) phonological awareness, (d) writings reflecting the child's discovery, (e) verbal language skills, and (f) writing names (National Early Literacy Report, 2008).

Children's early literacy skills are affected by the culture of the society they were born, the literate behaviors of the family, and the inner circle with qualified interactions. Therefore, literacy experiences in the early period are important (Brice Heath, 1983; Dyson, 2005; Teale, 1995). Some of these experiences are sharing books, telling stories, experiences with newspapers and magazines, singing songs, rhymes, riddles, and drawings (Atlar & Uzuner, 2018; Dickinson & Caswell, 2007; Justice & Sofka, 2010; Morrow, 2009; Whitehurst & Lonigan, 2001). The experiences a child can relate to reading and writing in daily routine are defined as functional literacy experiences (Cobb, 1962). Experiences with technological tools, writings such as bills, recipes, shopping lists, calendars, and other environmental writings are some functional literacy experiences (Atlar & Uzuner, 2018; Burnett, 2010; Clay, 2015; Strickland & Morrow, 1990). In these experiences, the adults provide the child with as much support as necessary (scaffolding) (Vygotsky, 1978); they support the child's oral and written language skills in interaction and play in daily routine (Clay, 2015; Morrow, 2009). Thus, although children have not learned to read and write in a regular way; they have knowledge about the function and usage of written language and exhibit literate behaviors before traditional literacy (Hall, 1987; Holdaway, 1979).

Children with hearing loss show a similar development to their hearing peers in terms of the development of oral and written language. They may experience some delays in oral language skills, which is one of the sub-fields of literacy. However, researchers emphasize that early diagnosis, using hearing aids, and cochlear implants positively affect their listening skills and oral language skills (Turan et al., 2012; Wie et al., 2007).

This section should comprise a description of the general framework, definitions and principles, primary issues and controversies, background information, contexts, etc. a rich literacy environment surrounded by writing, and who grow up with qualified experiences, show similar literacy development with their hearing peers (Atlar & Uzuner, 2018; Browns, 1979; Doğan, 2017; Ewoldt, 1985; Truax, 1978; Williams, 2004).

2. Literature Review

In early literacy experiences, adults focus on interaction without aiming at a specific literacy skill (Strickland & Morrow, 1990), so children with hearing loss need to observe the purpose and function of literacy (Aram, Most & Simon, 2008). Children with hearing loss also experience daily routines with their parents, other people in their inner circle, and teachers (Bodner & Johnson, 1982; Browns, 1979).

Children with hearing loss in the preschool period in Turkey receive support education services from preschool inclusive environments and special education and rehabilitation centers (SERC) within the Ministry of National Education in accordance (Gürgür, Büyükköse & Kol, 2016). The support education in SERCs is carried out according to the modules that include achievements in various developmental areas. These areas are associated with hearing and listening skills, language skills, and social skills (MoNE, 2008). So, some of the early literacy experiences of children with hearing loss take place in SERCs.

The quality and professional competence of teachers are important for all educational environments. It is accepted as effective teaching skills that the teacher can plan the lesson according to the learner's level, ask questions, ensure student participation, and take part in the learning-teaching process (Borich, 2017). When the learning-teaching process of teachers is considered in the context of early literacy development, studies indicate that education programs related to early literacy positively affect teachers' professional development, the characteristics, and practices of literacy environments. In addition, supporting the professional development of teachers with roles such as guidance/mentoring/coaching indirectly affects the literacy development of children indirectly (Cunningham, Zibulsky & Callahan, 2009; Dickinson & Caswell, 2007; Jackson et al., 2006; Onchwari & Keengwe, 2010; Powell, Diamond & Burchinal, 2010). Research with teachers on early literacy development in children with hearing loss in Turkey is about teachers' reflections on their own learning-teaching processes (Doğan, 2017; Gerek, 2018). In addition, it is stated that teachers working with preschool children do not have sufficient knowledge about early literacy in Turkey (Bakkaloğlu et al., 2018). Research in SERCs also emphasize the importance of supporting the education of children with hearing loss through the participation of teachers in SERCs with in-service training (Altınkurt, 2008; Gürgür, Büyükköse ve Kol, 2016; Gürgür, 2018; Korucu, 2005). So, it is thought that it is important to support the professional development of SERC teachers training children with hearing loss.

Along with the research gap, the request of the institution director of SERC to inform the teachers in the institution about early literacy has led to a need for this research. In line with the needs of the teachers, an Early Literacy Development In-Service Training Program was carried out with the five teachers in the institution. It was decided to reflect the learning-teaching process of one teacher who stated that the research process served her needs and transform the activities she carried out with her preschool students with hearing loss. This teacher is also the participant who interacts most frequently with the researcher and receives the most feedback on the activities. Therefore, the studies carried out with the SERC staff and the director of the institution and the learning-teaching process of the focused participant in this research are blended and simultaneous. The study aims to examine the process with one hearing-impaired children teacher in the context of the early literacy development in-service training program. The research sought answers to the following questions:

1) How did the learning-teaching process take place in the context of the early literacy development in-service training program with a teacher?
2) What were the needs of the teacher for knowledge and skills related to early literacy development?
3) How did the planning process take place?
4) How did the implementation and evaluation process take place?
5) How did the monitoring process take place?

3. Material and Methods

The research was designed as participatory action research because it overlaps with an in-service training process that can meet the information needs of SERC teachers about early literacy development with the participation of the researcher. Action research is an applied research design that supports the needs of students and serves to develop programs by improving teachers' professional development and practices (Ferrance, 2000; Glesne, 2014; Johnson, 2015).

The action research process is an application process in a spiral structure and in the spiral itself, in which action cycles take place. In the action research process, the researcher collects data systematically, shares the data collected during the process with other researchers and experts in order to ensure credibility, plans and performs actions, and goes to the next action step with reflective inquiries (Johnson, 2015). In this study, the researcher made action plans by reflecting on the data he collected systematically, and she shared them with the trustworthiness committee. She gave feedback to teachers within each action plan and took into account their wishes throughout their development. The researcher shared the data she collected at each stage and her reflective inquiries with the trustworthiness committee. So, she contributed to the circularity brought about by the nature of the method by making new action plans together.

3.1. The Research Environment

The place where the research was carried out is a special education and rehabilitation center in one of the metropolitan cities in the west of Turkey, serving in the field of education of children with hearing and speech disorders. Images of the research environment were not shared at the request of the director of the institution and were in line with ethical principles to protect the confidentiality of the institution (Glesne, 2014). For this reason, the physical characteristics of the research environment and the characteristics of the institution's education and training process are described.

Physical characteristics of the research environment: The institution has six individual training rooms, a group training room, a waiting room, a teachers' room, a secretariat, and a principal's room. Each teacher has their own class. In the corridor that opens to the individual training rooms, there is a material cabinet large enough to cover one wall of the corridor. Toys and books were placed in this cabinet. There is also a bookshelf in the teachers' room. It was observed that there were large envelopes in three transparent boxes on the bookshelf in the teachers' room and there were illustrated materials in these envelopes.

Characteristics of the research environment regarding the educational process: The education and training planning process in the institution is carried out based on the Guidance and Research Center (GaRC) reports for children with hearing loss. The achievements deemed appropriate in the GaRC reports are transferred to the Individualized Education Program (IEP) and a one-year plan is made for each child. Teachers prepare IEPs with a special computer program. The learning-teaching process is carried out as 8 sessions per month, 2 sessions per week for each child. A session is 45 minutes. In the evaluation process, monthly evaluation forms and GaRC annual evaluation forms are prepared with the same special computer program.

3.2. Participants

Five teachers in the institution participated in the Early Literacy Development In-Service Training Program. Two of the teachers graduated from the department of teaching the hearing impaired and the other from the department of preschool teaching. The other specialist working in the institution has a psychology license. In addition, primary school teachers who wanted to participate in the information meetings were also included in the process. The participants of the learning-teaching process are Teacher Aycan, the expert, the director of the institution, and the research consultant who is the second author of the research.

Teacher Aycan: After graduating from Karadeniz Technical University Teaching the Hearing Impaired in 2011, the teacher worked in SERCs that provide support training for various disability groups for 4 years. So, she worked with children with intellectual disabilities as well as with children with hearing impairment. During the research process, she worked in the institution for 2 years and 10 months. Teacher Aycan has students from different age groups with hearing loss. She stated that the number of

students with hearing impairment is higher in the pre-school period (Interview with the Teacher Aycan, 19.01.2018).

Expert (Researcher): The expert is the researcher who actively collects the data in the research process and interacts with the teachers one-on-one. She shared the data she collected systematically throughout the research process with the trustworthiness committee. While evaluating each action that took place in the research process, it also made a holistic evaluation of the previous steps. She evaluated the situation by making inquiries with the reflective research diary and prepared for the next action plan in line with the decisions of the trustworthiness committee.

Research Consultant: The consultant systematically and simultaneously checked the data collected by the expert. She played an active role in evaluating the actions and planning the next step. She evaluated all the preparations of the expert and validated them throughout the process and contributed to the reporting of the research at the end of the process.

Director: She initiated the research process by requesting the need for information and improvement in her institution. She also actively participated in the information meetings during the research process. She provided the continuity of the process as an authority on the resistance points of the teacher. She was also effective in the decisions taken during the research process and provided flexibility to the expert.

3.3. Data Collection and Data Analysis

The data were collected through field notes and video recording observations, semi-structured and unstructured interviews, documents, products, and a research diary. The research data are shown in Table 1. All data collected in the action research cycle were analyzed inductively during the research process and at the end of the research (Johnson, 2015).

Table 1: Research data

Data Collection Techniques	Type/Amount
Observations	Lesson Observation (45min)
	Field notes and audio recording
	Meeting Video Recordings (5hr 25min 25sec)
Interviews	Semi-Structured Interview with the Teacher Aycan (22min 35sec)
	Meeting with the Institution Director (24min 34sec)
	Unstructured Interviews (on all scheduled weeks)
Documents	15-Week Lesson Plans-Material Images-Video Recording (3min 18sec)
Products	Images of Lesson Products (11 pieces)
Research Diary	135 pages

3.4. Trustworthiness

In action research, cyclicality is ensured by the researcher's planning, realization, and evaluation of the action and moving to the next action plan. The trustworthiness of this whole process is strengthened by sharing the collected data with other experts (Johnson, 2015). In this research, the research consultant, the director of the institution, and the

expert systematically played a role in the planning and implementation of the actions, in suggesting solutions to the problems that emerged during the implementation process, and in the planning of new actions in line with these suggestions. Also, Teacher Aycan became a natural member of this committee by expressing the problems she experienced in practice and evaluating the solution proposals together with the expert.

3.5. The Research Process

The research process started when the director of the SERC requested that the teachers in the center should be informed about early literacy and that their teaching skills should be supported (Research Diary, 17.12.2017). The researcher, together with the consultant, decided that the priority is to determine the needs of the director and the teachers in the SERC, in accordance with the nature of the action research and the steps to be followed in the development of the in-service training program (Research Diary, 18.12.2017). Then, the expert prepared the questions for the semi-structured interviews to be held with the teachers and the director in line with the conceptual theoretical framework of early literacy and research findings in the literature. The research consultant and field experts ensured the validity of the questions (Research Diary, 12.01.2018).

Semi-structured interviews were conducted with all teachers and the director. The interviews were analyzed by content analysis and the literature review was continued and the needs of the teachers were presented to the trustworthiness committee. The opinions of teachers that children with hearing loss show a similar literacy development to their peers need to be supported by research. Teachers know that experiences with books are important, but they need to convey the importance of the written environment in supporting early literacy. It has emerged that there is a need to understand the importance of the story structure and to emphasize the strategies used by adults in their experiences with books. They also need information about early literacy skills. Along with all this, they have difficulty in relating their literacy experiences with the modular program followed in the learning-teaching process. Therefore, it has been seen that they need support in planning, implementing, and evaluating the lesson (Interviews with the Consultant, 19.01.2018; 23.01.2018; Interview with the Director, 19.01.2018; Interviews with Teachers, 19.01.2018).

After determining the needs, it was decided to hold information meetings with teachers together with the joint decision of the trustworthiness committee and to provide one-on-one support regarding individual needs. There were two information meetings during the research process. In this section, information meetings in the process will be briefly explained.

The subject of the first information meeting was early literacy experiences and skills of children with hearing loss, as well as literature about early literacy development (Research Diary, 14.02.2018). The expert shared the meeting presentation. So, teachers were informed about early literacy experiences, early literacy skills, and a case study was shared about the early literacy experiences of a child with hearing loss.

In this meeting, the following problems were identified: Teachers do not know and use the materials available adequately, teachers are not sufficient in relating the gains in RAM modules with their early literacy experiences, teachers are not competent in regularly planning lesson, teachers resist change (Meeting Video Record, 02.03.2018). After the first meeting, the following decisions were taken: teachers reviewing materials until the next meeting, opening a social media group for remote and continuous communication with teachers, associating the gains in the modules with the early literacy experiences, sharing an example plan with teachers, teachers make a plan for their lessons every week and send them to the expert, accepting the director as the authority in breaking the resistance (Research Diary, 02.03.2018; Meeting Video Record, 02.03.2018).

It was decided that the subject of the second information meeting with the director of the institution and the teachers would be to relate modules, achievements, and early literacy experiences (Research Diary, 16.03.2018-28.03.2018; Interviews with the Consultant, 17.03.2018, 28.03.2018; Interviews with the Director, 25.03.2018; 31.03.2018). In the second meeting, the expert explained the relationship between the achievements in the modules and the early literacy experiences in the lessons, with examples and explanations. She also talked about the importance of planning the lesson. She emphasized that an activity can be done at course entrances with calendar. It can easily become routine (Meeting Video Record, 31.03.2018).

After the meeting the following decisions were taken: the expert would prepare sample plans and share them with the teachers, the teachers would make a weekly plan for the lessons of their students before the lesson and send them to the expert, and the expert would give holistic feedback focused on the objectives and material selection, but also including methods and techniques.

Teacher Aycan's learning-teaching process is intertwined with the information meetings during the research process. In the results section, Teacher Aycan's learning and teaching process will be explained in detail with one-to-one support.

4. Results

Teacher Aycan's learning and teaching process started with the determination of needs. Teacher Aycan was informed throughout the process and was supported in the planning, material determination, adaptation, and implementation steps. The first cycle of the learning-teaching process is shown in Figure 1.
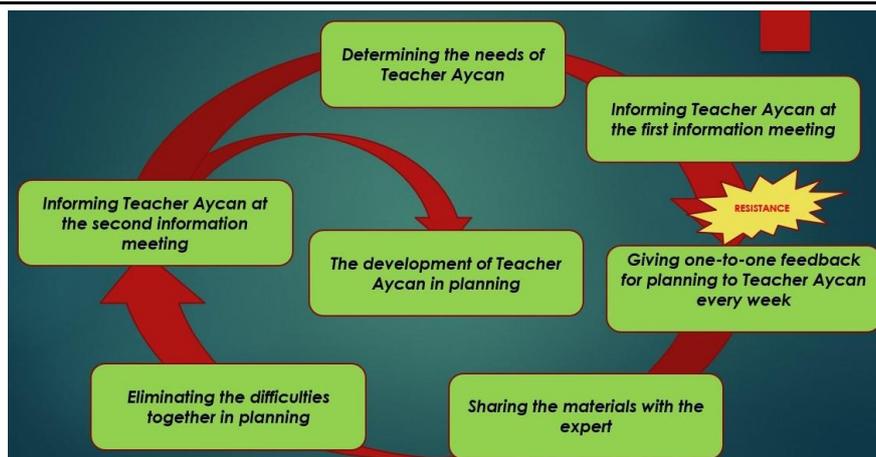
Figure 1: The first cycle of the learning-teaching process

4.1. Teacher Aycan's Needs

The needs of Teacher Aycan in an in-service training program to be prepared in the context of early literacy are shown in Table 2. Needs are related to themes; information, planning, content organization, implementation, and evaluation (Interview with the Consultant, 19.01.2018; 23.01.2018; Interview with the Director, 19.01.2018; Interview with the Teacher Aycan, 19.01.2018).

Table 2: Teacher Aycan's Needs

Information needs	- To be informed about early literacy experiences - To be informed about early literacy skills
Needs about planning	- Ability to routinely plan the lesson - To be able to determine the appropriate gains from the modular program in planning - Ability to plan the lesson by associating with more than one module - To be able to relate module gains with early literacy experiences - Being able to associate the lesson with daily life - Ability to plan the following activity
Needs about content organization	- To be able to choose materials suitable for the child and the aims of the lesson plan. - Ability to adapt the material in accordance with the objectives of the lesson and the level of the child
Needs about implementation	- Ability to use appropriate strategies - Ability to learn new methods and techniques*
Needs about evaluation	- Self-assessment - Evaluating the child

Teacher Aycan's request from the expert during the informing process was to be able to learn new methods and techniques In line with the expert-director and expert consultant meetings, it was decided that this demand of Teacher Aycan coincided with the need to "use appropriate strategies".

4.2. Informing Teacher Aycan and Her Resistance to Development

In the first information meeting, Teacher Aycan was also given information about early literacy. Expert observations also showed the resistance of Teacher Aycan. The expert reflected on her observations about the teacher during the meeting in the research diary with the following statements:

> *"…Teacher Aycan was quite tense and much more distant than the previous development."*

> *"… and Teacher Aycan did not come to the table. I did not insist that it might be difficult for her to see the presentation very closely. The atmosphere was more like "Today you will tell us, we will understand, and it will end"..."*

> *"..when I shared the general cycle of the program, it would be seen on the faces "We have trouble."*

Observing the resistance of the teacher during the meeting, the expert asked, *"Which achievements do you think may be related to the early literacy experiences?"*. Teacher Aycan first remained silent, then stated that *"they may need support in associating the achievements"* and the director confirmed this need. In addition, the director stated that the process will continue with the statement *"We also need supervision"* (Meeting Video Record, 02.03.2018). After the meeting, the expert and the director decided that Teacher Aycan would be the teacher who showed the most resistance (Interview with the Director, 02.03.2018). The director also stated that the teacher resisted her with the statements *"Literacy cannot be achieved with young children"* and *"As a director, it is not possible to interfere with the practices in her classroom"* (Interview with the Director, 07.03.2018). The director said that the resistance of the teacher may be due to reasons such as *"seeing herself as the most experienced among the young teachers in the SERC, she does not want to be compared with other less experienced teachers who graduated with undergraduate practice experience and she does not want to go out of the routine"* (Interviews with the Director, 02.03.2018; 07.03.2018). In addition, the expert and the consultant shared that Teacher Aycan might have shown resistance because they were peers. During the research process, at the request of the director, they decided to break the resistance of Teacher Aycan, to give her time to accept the expert, and to accept the director as an authority (Interview with the Consultant, 07.03.2018). With the decisions taken after the first meeting (See, Research Process), Teacher Aycan started to be supported in planning the lesson.

4.3. Supporting Teacher Aycan in Lesson Planning

The expert created a group on social media to support Teacher Aycan in planning the lesson and to ensure remote and continuous interaction. The expert published the presentation at the information meeting on this page, and thus the first interaction at a

distance began. In addition, they started to communicate via WhatsApp and Messenger applications (Research Diary, 03.03.2018; Meeting Video Record, 02.03.2018). Teacher Aycan stated that she will have difficulties in relating experiences with the achievements of the modular program used in the planning of lessons in SERCs (Meeting Video Record, 02.03.3018). In line with the needs, the expert associated each achievement in the Hearing Education, Language Education and Social Skills Education modules with the early literacy experiences with their explanations and shared them in the social media group (Research Diary, 10.03.2018; 18.03. 2018; 28.03.2018). The expert has prepared tables in which he explains the early literacy experiences that may be related to each acquisition and their reasons. Sample achievements from various modules, related experiences, and examples of their explanations are in Table 3.

Table 3: A Sample of Early Literacy Experiences
Associated with Sample Gains from Modules

Module/Outcome	Early Literacy Experiences	Explanations
Hearing and Listening Education A8. Follows the given directions.	Sharing books Tables and charts Worksheets Posters Playing games	We support following directions when she/he listens to both oral and written directions with books, worksheets, posters, and charts (from simple to complex, depending on the child's developmental level)
Language Education A3. Repeats rhythmic syllables.	Playing games Interaction Sequences/ Sequent cards Singing	In all these language and literacy experiences, there are language opportunities in which repeated sounds, repetition of monosyllabic words, and repetition of two-syllable words.
Social Communication Skills A8. Uses appropriate phrases in common situations	Sharing books Sequences/ Sequent cards	In addition to evaluating the opportunities that arise in daily routine and being a model, examples of appropriate word patterns in a situation are important experiences. Sorry, May I ……? Welcome, Good evening, Have a nice trip, Goodbye, Thank you, etc.

At this stage, Teacher Aycan Teacher had difficulty writing her plans before the lesson. She stated that he did not have time to make written planning before each lesson. Therefore, instead of the lesson plan (LP), the expert presented it to the committee by thinking of creating a lesson information form (LIF) that they could send after the lesson by relating the objectives, implementation, and evaluation of any lesson. While Teacher Aycan and the director stated that the lesson information form would make things easier, the consultant expressed her concerns that the lesson information form did not have the quality of a lesson plan and would not contribute to supporting the planning process. The expert re-shared her teaching experience in SERC and explained that working hours and conditions can have negative effects on writing a daily lesson plan. In addition, she emphasized that since Teacher Aycan may have difficulty in determining the goals

related to her lessons, thinking about the work that takes place after the lesson can facilitate establishing a relationship with the objectives. Thus, the consultant approved the creation of a lesson information form, if pre-lesson planning is started as soon as possible (Research Diary, 11.03.2018; 13.03.2018; Interview with the Consultant, 13.03.2018; Interview with the Director, 11.03.2018; Interview with the Teacher Aycan, 11.03.2018).

Teacher Aycan was able to identify only two gains from the hearing education module as the aim of the first LIF. These gains were *"Recognizes spoken words."* with *"Distinguish similarities and differences of sound."*. In her lesson, they covered a topic about vehicles, and they prepared a graphic together with the child. In addition, she made a study of matching the vehicle cards with the written cards about vehicle names (LIF, 16.03.2018). The expert quickly gave goal-oriented but holistic feedback (FB) on the material and method. The positive feedbacks are that the lesson is suitable for both the targeted acquisitions, the relationship between oral and written language is tried to be established, and the material of the lesson is related to the subject. After this point, the expert conveyed her suggestions regarding the goals. The expert indicated that *"Recognizing environmental sounds"* and *"Following the directions given"* could also be targeted in the hearing education module. Also, she reminded Teacher Aycan about the calendar activity, which was not included in the lesson information form (FB, 17.03.2018). In the following weeks, a second information meeting was held for all teachers who had difficulty relating the goals in the modules with the objectives of the lessons (See, Research Process).

After the second meeting, Teacher Aycan chose one of her students and started planning before the lesson instead of the lesson information form. The expert observed a lesson between the student and Teacher Aycan, and thus she started to have information about the level of the child (Research Diary, 31.03.2018). Over time, Teacher Aycan started to relate more than one achievement and module with her lesson (LP, 13.04.2018; LP, 20.04.2018). For example, in the lesson in which a book about birthdays was shared, she was able to write a purpose by choosing more than one and mostly appropriate acquisitions related to the module of hearing education, language education, and social skills training (LP, 13.04.2018). The expert reflected on the lesson with more than one module and achievement, starting to include calendar activity in her lessons, and the following activity planning as positive feedback about the lesson plan (FB, 13.04.2018).

Teacher Aycan prepared lesson plans every week. As the lesson planning process is supported, her ability to relate more than one module and achievement with experiences, to take goals suitable for the developmental level of the child and the subject of the lesson has improved (Research Diary, 31.03.2018-11.09.2018). While continuing to plan her lesson, Teacher Aycan has determined an early literacy activity in which she can get support in material selection and practice. This activity was sharing books.

Teacher Aycan regularly shared the materials she chose with the expert. The expert supported her to adapt the materials when she needed. In addition, she has started to plan supportive follow-up activities related to her lesson. She continued to share the

material selection in these activities with the expert. The second cycle of the learning-teaching process is shown in Figure 2.
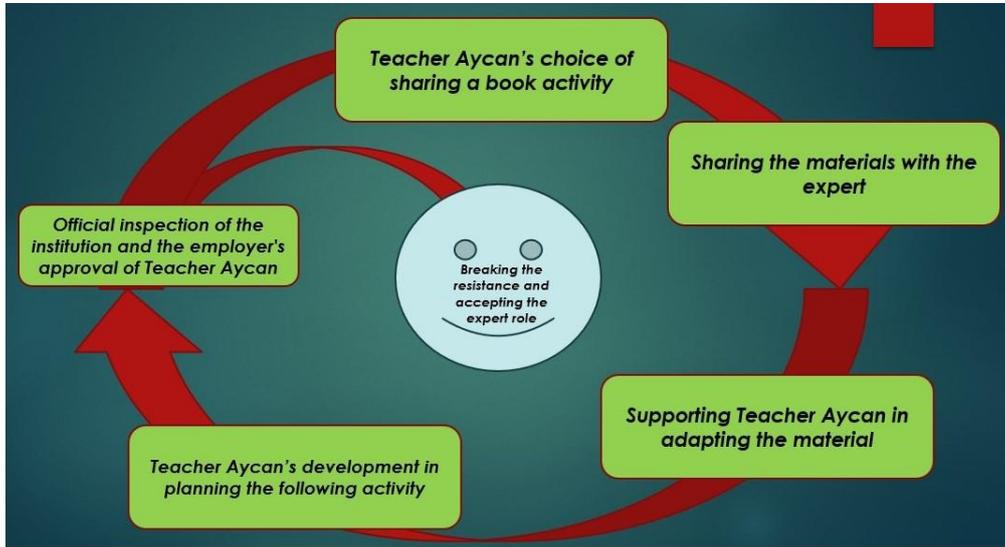

Figure 2: The second cycle of the learning-teaching process

4.4. Supporting Teacher Aycan in Material Choice and Adaptation

The expert told the teachers about the calendar activity, which can easily become a routine of the lessons. She mentioned the importance of having a big calendar in each teacher's classroom where the days are written, the month, year and season can be shared with the child, and a small calendar where the weather and days can be discussed with preschool children. She also showed examples of calendars to teachers. Teacher Aycan first prepared small calendar and weather cards for her class (See Figure 3) and stated that she started to do calendar activities with her preschool students. She also used storybooks more in her lessons and shared some examples (See Figure 3) with the expert (Interview with the Teacher Aycan, 31.03.2018).
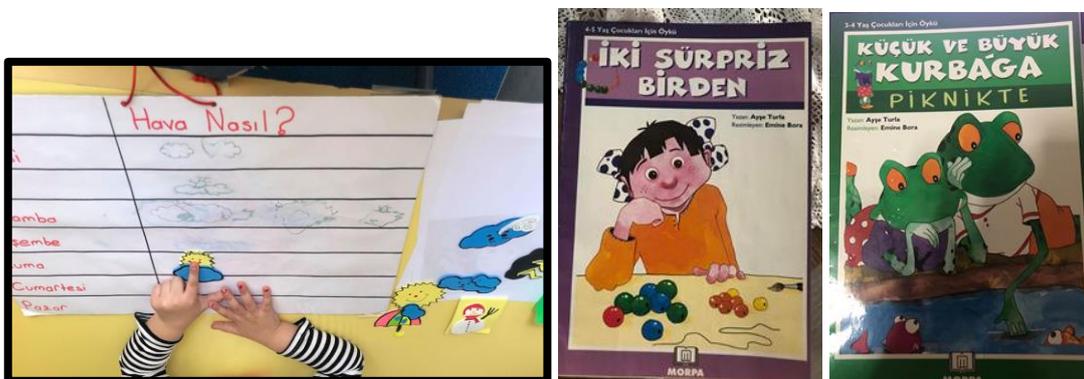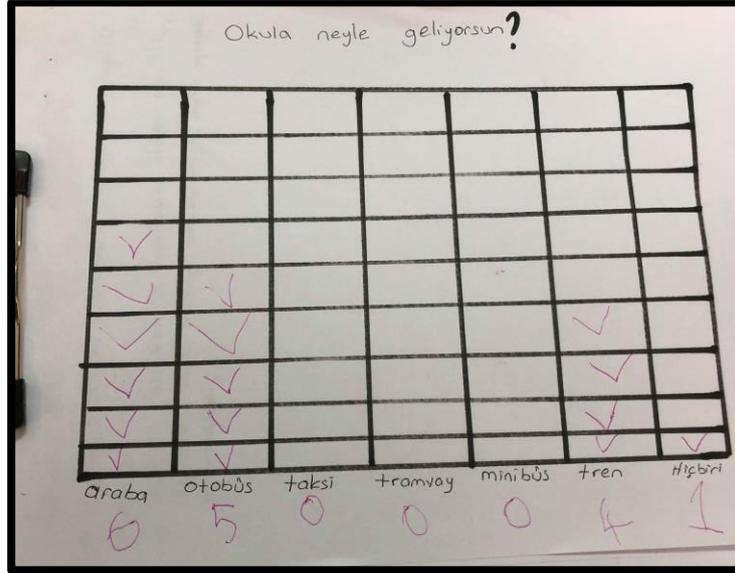

Figure 3: Examples of materials prepared by Teacher Aycan, and the books she chose

In addition, after the expert explained information about early literacy experiences and examples, Teacher Aycan included graphic activity in her lesson (See Figure 4) while she was teaching the subject of vehicles (LIF, 16.03.2018).

Figure 4: An example of the graphic activity material

The expert gave positive feedback by stating that it is an early math activity related to early literacy experiences. However, she added that only the names of the vehicles were included in the graphic, and the vehicle pictures and the information in the graphic column should also be included. In the following activity of the same lesson, Teacher Aycan found a song about the subject and added it to the lesson plan. She shared the screenshot of the lyrics with the expert. The expert shared examples of the texts of the songs written on big cardboard, and she emphasized the importance of the child seeing the text and knowing that it is the lyrics of the song. She also stated that by using images related to the song she could support the meaning of the text, facilitate the learning of the song, and that the texts of the songs that would be kept in a corner of the classroom could be shared again and again later (FB, 17.03.2018). Teacher Aycan prepared song texts related to the subject of the activities in her upcoming lessons. For example, she prepared a song text for them to sing together after she shared her storybook titled Niloya at the Dentist's. In another lesson, she prepared a song that they could sing after sharing a book about her birthday. The song text examples are shown in Figure 5.

It was determined that Teacher Aycan had difficulties in choosing appropriate materials (Research Diary, 01.04.2018; Meeting Video Record, 31.03.2018; Interview with the Consultant, 31.03.2018; Interview with the Director, 31.03.2018). the expert observed a lesson. In this lesson, the teacher benefited from the activity books in the attention and auditory intelligence development set, which is the material she gave as an example at the meeting. She stated that they shared the activity books because the child's language level was sufficient. The expert interviewed with Teacher Aycan at the end of the lesson about her observations. She shared that the selected material was above the child's developmental level. She also explained that the development of the student's receptive and expressive language can provide flexibility to the teacher in diversifying the activities, but that the materials used should be suitable for the child's developmental age and cognitive level. The teacher stated that her student answered the activities and

questions in the book. The expert shared the activity from the book with the student and asked questions. Thus, the expert and the teacher decided together that the material was not suitable for the child (Lesson Observation, 31.03.2018; Interview with the Teacher Aycan, 31.03.2018).
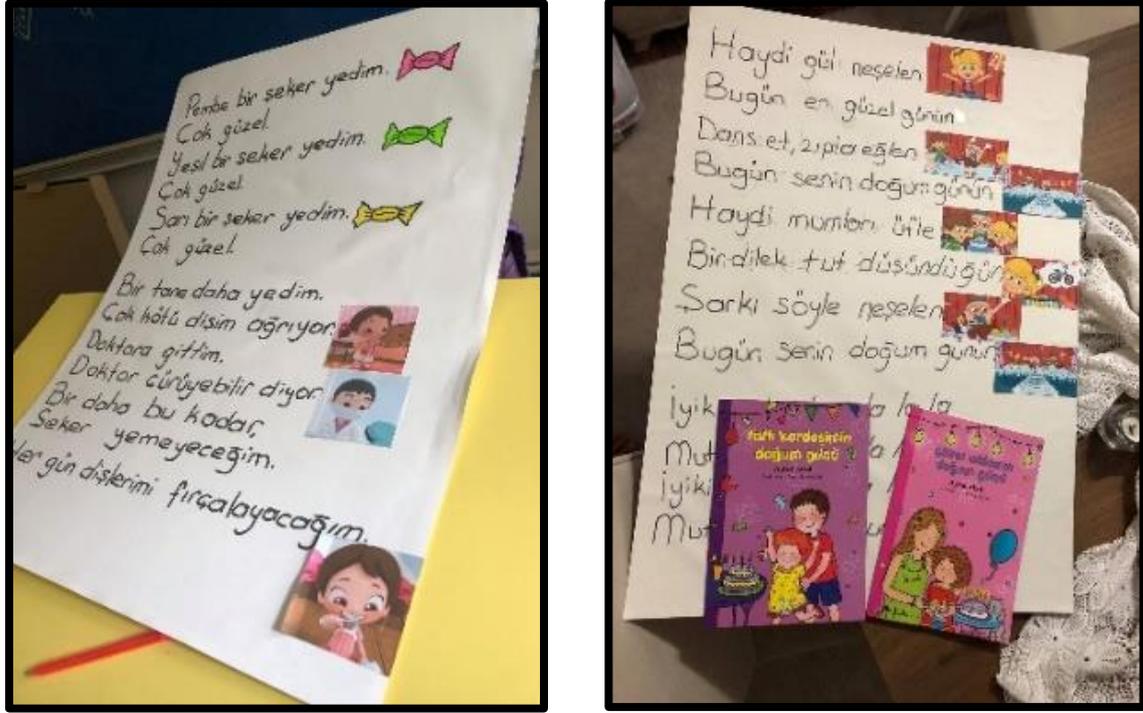
Figure 5: Examples of song texts related to books

It was decided to give information about the storybooks that the teacher will use in lessons (Research Diary, 01.04.2018). The teacher shared some of the storybooks she chose with the expert. For example, the teacher chose a storybook where the child made necklaces from colored beads and a storybook where two frogs had a picnic in the lake (Document, 13.04.2018; 20.04.2018). The expert shared the information about the structure of the storybooks with the teacher. In this feedback, she explained the structure of the story's elements (characters, time, event, plot, and sequence, etc.) and the structure of the story's text (picture-text harmony, picture-text balance, the grammatical structure of sentences, etc.) (FB, 14.04.2018; FB, 20.04.2018). Then, she started to choose books that are suitable for the child's developmental level and related to daily routine. At the same time, she independently carried out the following activity after the shared book reading activity. In the following activities, it was seen that the teacher now creates individual books from the books read (LP, 28.05.2018; LP, 01.06.2018; LP, 08.06.2018). In Figure 6, there are examples of books selected by the teacher and an example of individual books that the teacher and the child created together.
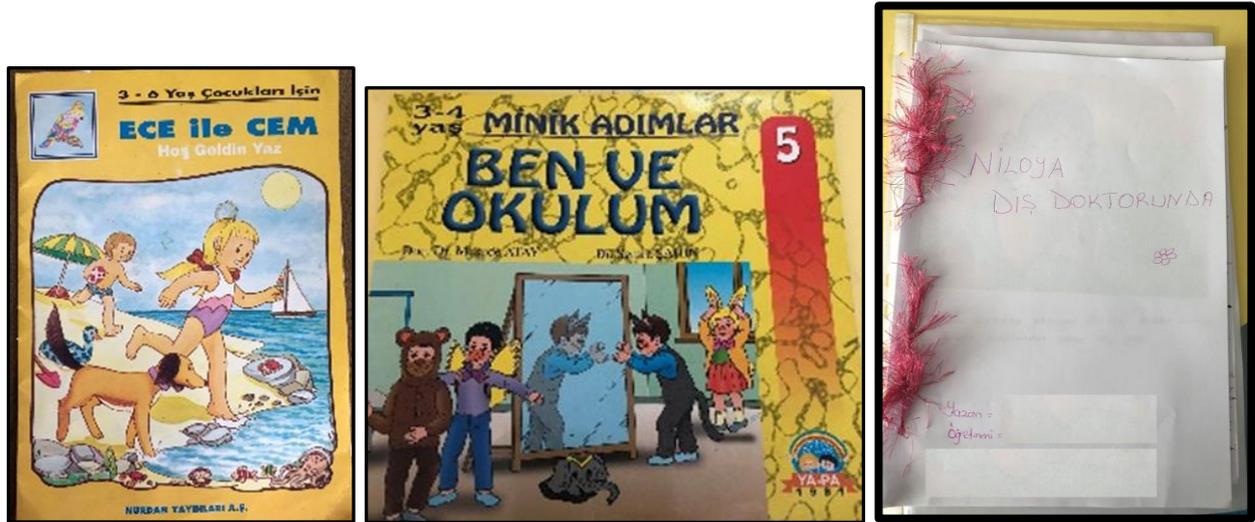
Figure 6: Examples of books in accordance with the
developmental level of the child and the book product

At this stage, the expert evaluated the development of Teacher Aycan and interviewed her (Interview with the Teacher Aycan, 28.05.2018). Then the consultant, the expert, and the director decided that the texts of the books whose pictures and plot are suitable for the level of the child may be above the level of the child and that the teacher should know how to simplify the texts and make adaptations (Interview with the Consultant, 29.05.2018; Interview with the Director, 30.05.2018). Teacher Aycan's development and ongoing support are shown in Table 4.

Table 4: Teacher Aycan's Development and Ongoing Expert Support

The teacher development	Ongoing expert support
Choice of materials suitable for the child's level	Adapting the texts of books
Appropriate following activities and material preparation	Encouraging the teacher to observe the child's early literacy skills
Sharing materials with expert during the planning process and other early literacy experiences regularly	Encouraging the teacher to self-assessment
Calendar routine	

The expert asked Teacher Aycan to simplify the texts on the pages of a book she chose. The teacher stated that she needed sample text adaptations for the first book from the expert (Interview with the Teacher Aycan, 31.05.2018). All the texts were adapted by the expert. For example, *"Ece and Cem have been thinking about taking a vacation for a long time. Finally, the day has come when they will fulfill their wishes. They loaded Cem's small motorcycle with the things they might need on vacation…."* text was adapted by the expert as follows: *"Ece and Cem have been thinking about taking a vacation for a long time. Finally, the summer season has come. Ece and Cem could now go on vacation. Ece and Cem packed their belongings into suitcases."* (Interview with the Teacher Aycan, 01.06.2018). For the next lesson, the teacher wrote the text on the nonverbal pages of the book, and she adapted the texts on

the pages (Interview with the Teacher Aycan 04.06.2018). Sample texts regarding the adaptations are shown in Table 5.

Table 5: An Example of Teacher Aycan's Text Adaptations

Original Text	Adaptive Text
Nonverbal page (Pictures about a growing up baby)	I am a little baby when I was born. I could not walk. I grew up.
Little blue trousers.	My brother's pants are too small for me. Because he is younger than me.

The expert continued to support Teacher Aycan in planning, material selection and adaptations. Then the director stated that education will be suspended in the SERC and all teachers will be on holiday. In the following week, she stated that the SERC would be officially audited (Interview with the Director, 29.06.2018). Teacher Aycan requested permission from the expert as she would have documents to prepare during the inspection. In addition, she thanked the expert and asked permission to share the work done together (Interview with the Teacher Aycan, 30.06.2018). In the meeting with the director after the inspection of the SERC, the director thanked the expert and the consultant by expressing that Teacher Aycan shared all her work in the research process with her and the officials and shared what she learned about her early literacy experiences (Interview with the Director, 27.07.2018).

Throughout the research process, although the support for lesson planning, associating goals, planning the following activity, selecting materials, and adapting was focused on the intended stage, it always progressed holistically. Therefore, although the more intensive support issues followed each other, they developed in an intertwined manner due to the nature of the process. The director stated that Teacher Aycan has made progress in planning, preparing materials, and being prepared for the lesson and that her communication with other teachers has changed positively. The expert shared with the director that it was also reflected in Teacher Aycan's practices. However, the director said that she thinks that Teacher Aycan still needs support in using strategies (Interview with the Director, 27.07.2018). The expert met with Teacher Aycan and the consultant, they decided together to support Teacher Aycan with reading strategies (Research Diary, 28.07.2018-15.08.2018). The third cycle of Teacher Aycan's learning-teaching process is shown in Figure 7.
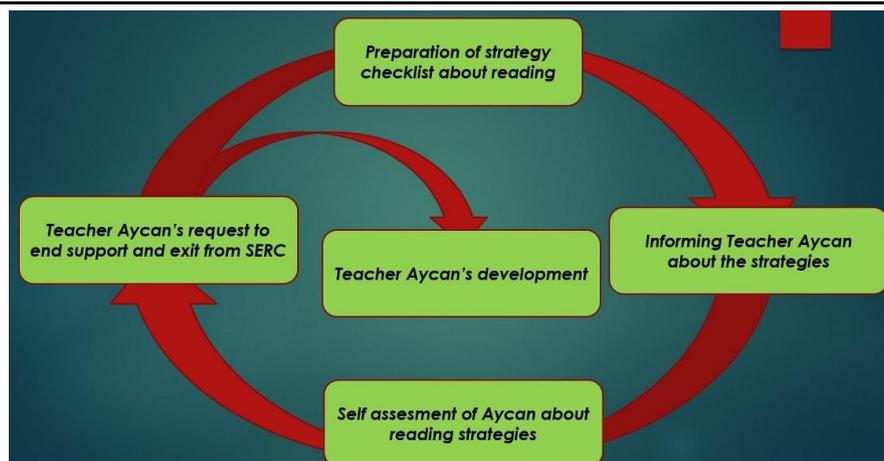
Figure 7: The third cycle of the learning-teaching process

4.5. Supporting Teacher Aycan for Reading Strategies

The expert continued the literature review to determine reading strategies after the interviews with the Teacher Aycan, the director, and the consultant. She prepared a checklist consisting of sub-strategies related to the main strategies such as preparing for the text in shared reading experiences, reviving background information, and making predictions about the book, and presented it to the committee. After the approval of the trustworthiness committee, it was decided to share with Teacher Aycan (Research Diary, 28.07.2018-15.08.2018). The expert shared the checklist with Teacher Aycan and she explained the strategies. In addition to observations about the child, she also shared the parts where Teacher Aycan could make self-assessments (Research Diary, 17.08.2018; Interview with the Teacher Aycan, 17.08.2018). After this stage, Teacher Aycan filled out the checklist and sent it to the expert after the shared reading activity (CL, 23.08.2018; CL, 07.09.2018).

In the checklist after sharing a storybook called "Hide and Seek"; she stated that the child looked at the cover of the book, could express the title and the event in the picture, and listened to the explanations of the adults. However, she pointed out that he had difficulty in making simple predictions about the subject of the book, did not verbally agree with the predictions of the adult, and did not associate it with a previously read book. In the self-evaluation part, she added that she gave enough time to the child, was a model, and made explanations and predictions (CL, 23.08.2018). The expert gave feedback by reminding her that she could write in the self-assessment section what kind of support she could provide regarding the skills that the child could partially realize and/or has not yet realized (FB, 23.08.2018).

In the second checklist, she marked the same skills regarding the child in the storybook named "Wind Rose" and stated that she used the strategies of giving time, explanation, and modeling in the self-assessment part (CL, 07.09.2018). So, it was suggested that if she could take a short video, they could examine the pre-reading strategies together. However, the teacher did not accept this suggestion because the child was shy and would disrupt the lesson of the lesson (FB, 07.09.2018; Interview with the Teacher Aycan, 07.09.2018). After the discussions with the committee, it was decided to

give feedback to Teacher Aycan with the help of a checklist for a while (Interview with the Consultant, 10.08.2018; Interview with the Director, 10.08.2018).

4.6. Teacher Aycan's Request to End Support and Exit from SERC

Supports with group meetings, and intensive one-on-one support, both face-to-face and with various communication tools, ended before all the needs were completed. The teacher stated to the director that she had *"sufficient knowledge"*, *"reflects what she learned in the lessons of other preschool students"* and *"she wants to continue without expert support"*. In her interview with the expert, Teacher Aycan thanked the expert by stating that *"the process benefits both her and her preschool students, that she has started to inform families about early literacy, and that she can get support again when needed"* (Interview with the Director, 11.09.2018; Interview with the Teacher Aycan, 11.09.2018).

The expert asked Teacher Aycan to shoot short videos about the reading experiences. Thus, it was desired to see how the developments in information about shared reading experiences, planning, material selection, and adaptation were reflected in the lessons. At the same time, it was thought that some of the teacher-student interaction and the early literacy skills of the student could be observed. The teacher refused to send the video, stating that the student was a shy child, would be uncomfortable, and would not continue the interaction. (Research Diary, 04.06.2018-29.08.2018; Interviews with the Teacher Aycan, 04.06.2018, 18.06.2018, 26.06.2018). In the monitoring process, the focus teacher sent a video in which the child pretended to read the book in a reading activity. This video is the first recording that the teacher shared with the expert about the practice in his lesson (Video Recording, 17.09.2018). In the interview after the video recording, Teacher Aycan said the child started to try to follow the writing with her finger, pretended to read the book herself and ask Teacher Aycan to write a poem at the end of the lesson (Interview with the Teacher Aycan, 17.09.2018). In the video recording the example of the text that the child pretends to read and the poem are shown in Figure 8.
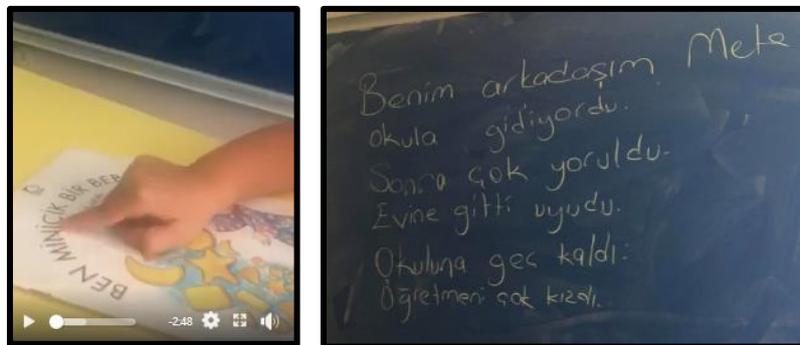
Figure 8: The book that the child chose and pretended to read
for the first time and the poem that the child asked to teacher writing

The researcher shared the development of Teacher Aycan with the director and she emphasized that there is also a need for support. The director stated that the research

was beneficial to all teachers, but Teacher Aycan did not want to continue (Interview with the Director, 17.09.2018). In the interview with the consultant, it was shared that the research could be continued with the voluntariness of the director and the Teacher Aycan, even though the Teacher Aycan's need continued, and the research was concluded (Interview with the Consultant, 17.09.2018). Teacher Aycan's development is shown in Table 6.

Table 6: The Teacher Aycan's Development

The Teacher Aycan's Needs		Developed	Not Developed	Partially Developed
Information	About early literacy experiences	✓		
	About early literacy skills	✓		
Planning	Ability to routinely plan the lesson	✓		
	To be able to determine the appropriate gains from the modular program in planning	✓		
	Ability to plan the lesson by associating with more than one module	✓		
	To be able to relate module gains with early literacy experiences	✓		
	Being able to associate the lesson with daily routine	✓		
	Ability to plan the following activity	✓		
Content	Being able to choose materials suitable for the child and the purposes in the lesson plan	✓		
	Ability to adapt the material in accordance with the objectives of the lesson and the level of the child			✓
Implement	Ability to use appropriate strategies			✓
Assessment	The child			✓
	Self-assessment		✓	

5. Discussion

The problems experienced by children with hearing loss due to their disabilities may cause problems in various developmental areas (Antia, Jones, Reed, & Kreimeyer, 2009; Dammeyer, 2010; Hintermair, 2006). It is seen that there is an intense emphasis on early intervention practices that support language development, especially at an early age, in minimizing the limitations experienced by children with hearing loss (Centers for Disease Control and Prevention, 2015; Joint Committee on Infant Hearing [JCIH], 2007; Moeller, Carr, Seaver, Stredler-Brown, & Holzinger, 2013). The fact that preschool children

diagnosed with hearing loss after newborn screening in Turkey are directed to early education environments as soon as possible and they start education with teachers in special education and rehabilitation centers (MoNE, 2018). In studies conducted in Turkey, it is stated that teachers working with preschool children do not have sufficient knowledge about early literacy (Bakkaloğlu et al., 2018). Research in SERCs; underlines the importance of supporting the education of children with hearing loss through the participation of teachers working in these centers in in-service training. The results of the research reveal that teachers in SERC need information about early literacy and needs on planning, material selection, implementation, and assessments processes (Altınkurt, 2008; Gürgür, Büyükköse & Kol, 2016; Korucu, 2005).

Literacy gains developed in Turkey were explicitly included in the preschool education program in 2013 (MoNE, 2013). In the modular program used in SERCs, the gains related to early literacy; it is embedded in hearing education, language development, and literacy development modules (MoNE, 2008). The fact that research on the early literacy development of children with special needs in Turkey started in the 2000s but increased after 2010 (Çalış and Feyman Gök, 2020), may bring along the need for more information and support for special education teachers who graduated before this period. Considering that teachers know planning in theoretical and applied courses in the undergraduate education process; It is thought that the intensity of lesson hours and planning with a special computer program affect the planning skills of the focus teacher negatively (Johnson, 2015; Ntinas et al., 2006). At the same time, the problems in the evaluation and monitoring processes carried out in GaRCs in Turkey (Yılmaz, 2016) may cause difficulties in the planning, implementation, and evaluation processes of teachers in SERCs. It can be stated that expert support is important for the focus teacher to associate the relevant acquisitions with appropriate activities in the education program consisting of modules and acquisitions used in SERCs, as in the acquisition-activity association developed by the MEB regarding the preschool program (MoNE, 2018).

When teachers are supported with literacy education programs that develop in the learning and teaching process, research indicates that the professional development of teachers, the characteristics of the literacy environment, and practices are positively affected. In addition, supporting the professional development of teachers with roles such as guidance/mentoring/coaching indirectly affects the literacy development of children (Cunningham, Zibulsky, & Callahan, 2009; Dickinson & Caswell, 2007; Jackson, 2006; Onchwari & Keengwe, 2010; Powell, Diamond & Burchinal, 2010). In this context, it can be stated that it is important to inform teachers working with children with hearing loss about early literacy and to support their skills in the learning-teaching process. According to the findings of the research, it was observed that the knowledge of the teacher on the concept of early literacy increased, the skills of planning the lesson and activity, associating the achievements with the lessons in which the early literacy activities took place, and evaluating the child and himself improved. In addition, the experience of sharing a book with the child chosen by the teacher regarding early literacy; reflecting on the early literacy skills of the child can be indirectly accepted as an example

for the development of the child. It is stated that traditional in-service training that only informs teachers do not provide enough time to affect teachers' practices (Birman et al., 2000). Although we cannot generalize, it can be revealed that action research is a research design that is suitable for in-service training program development and supports professional development in terms of being systematic and cyclical and allowing intervention for improvement (Johnson, 2015).

In the research, it is thought that the factor that makes it difficult for experts and teachers to plan systematically is that the expert supports the teacher from a distance (Perraton, 1993). In this context, it should be emphasized that increasing the one-to-one and face-to-face interaction with the teacher or providing support such as video and audio recording and supporting motivation (Johnson, 2015). In the study, it can be said that the expert's systematic and push feedback to the focus teacher is effective and the fact that the teacher can easily reach the expert at any time is an advantage brought using technology (Simonson, Zvacek, & Smaldino, 2019).

Teachers can resist to changing in any educational program developed (Demirel, 2010). One of the reasons why the teacher resists change is thought that the request for information and improvement in SERC comes from the employer. Convincing the expert teacher in the research process; protects the confidentiality of the teacher's posts from the employer and shares the positive developments with the employer. On the other hand, the teacher's sharing his development with the MoNE expert during the official evaluation of the center and receiving positive feedback from the expert and the employer can be considered as the period when the resistance is broken, and the teacher becomes aware of his development. It is known that adults care about who and why they learn information, and their learning motivation is affected by both internal and external motivation sources (Knowles, Holton & Swanson, 2005). In this context, it can be stated that the teacher's acceptance of the role of the expert, the positive feedback received from the experts and the employer, and the awareness of his development are the motivational factors in the learning-teaching process.

6. Conclusion

It is seen that the knowledge of teachers working with children with hearing loss in the institutions where support education services in Turkey are limited on early literacy development. These limitations also appear in the processes of planning the lesson, determining the objectives, implementing and evaluating the activities. Teachers' needs for early literacy development and early literacy experiences can be listed as the results of scientific research on early literacy, associating the goals with early literacy experiences, planning the lesson in accordance with the level of the child and supporting early literacy, determining the appropriate material, implementation and evaluation.

A program to be developed to support teachers regarding early literacy; in addition to informing, it can be stated that the implementation and evaluation processes are supportive of the development. In the implementation of such programs, it can be

emphasized that it is important to consider adult learning, to give positive and immediate feedback, and to use internal and external motivational resources.

7. Recommendations

Research can be conducted in Turkey and other countries in which early literacy programs inform special education teachers. Expert researchers can work with teams and collaborations to generalize these applications, to establish intensive interaction with teachers and to give feedback providing online support. In Turkey, there is still a need to develop and expand early literacy programs that include supporting families. Researchers and special education professionals can support families to provide a rich literacy environment at home and enrich their daily routines with children. Early literacy development is important for children with hearing loss as well as other children with special needs. Accordingly, there is a need for research and practices that will support the early literacy development of children with various types of disabilities.

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Conflict of Interest Statement
The authors declare no conflicts of interest.

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