

Using PEP 3 in Early Intervention for Children with Autism Spectrum Disorders Ages 3-4 Years Old in Vietnam: Situation and Lesson

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Abstract The paper had some theoretical reviews and studied the implementation on how to use PEP 3 tool in early intervention for 3-4 year old children in specialized schools. Amount of 86 teachers and 63 parents with children with autism spectrum disorders was involved in the study. Research results showed that: (1) the 3-4 year old period was a golden to develop cognitive, thinking, language-communication development as well as form desirable behaviors; (2) Verifying the level function of a child was essential in order to then make a decision of the matching intervention program to the child with appropriate goals and strategies; (3) PEP 3 early intervention program was accessible to teachers and parents on both transition assessment as well as exercises and playing activities for children; (4) Teachers and parents were aware about goals, meanings, contents and methods of PEP 3 during the early intervention; (5) although there were some advantages in using the program, teachers and parents still have met some difficulties such as lacking of knowledge, materials and training courses to facilitate to using PEP 3.

Keywords: PEP 3, early intervention, autism spectrum disorder (ASD), 3-4 year old children

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1. Introduction

Detecting, screening, diagnosing and evaluating children to remove the factor of suspicion of having ASD are very important and necessary to conduct in-depth assessment, then determine appropriate and successful early intervention to a child. Age from 3 to 4 is an important milestone that children develop most strongly in all aspects, especially interacting with the world around them at the first stage. Successful early intervention for children with ASD should pay attention to choosing methods, therapists, environments and its conditions, ect. However, specialists must evaluate comprehensively accurate the child's development before having successful early intervention. It will help educators to come up with appropriate and effective support strategies and strategies to children with ASD, which helps them to minimize the difficulties then integrate into the community. Among a range of early intervention tools and programs for children with disabilities, PEP 3 has being seen as an appropriate tool for development evaluation to have early intervention program for children with ASD.

There were so many international studies on early intervention for children with ASD, some of them made a significant achievement. The Lovass's study in 1987

named Teaching children with ASD through Discrete Trial Training (DTT) was one of them. 19 children were involved into the test with intensive intervention of 40 hours a week and other 19 children were intervened for 10 hours per week, and 21 children were not provided any intervention. As a result, 47% of children competing the training for 40 hours per week were reported to be higher IQ result and presented better applied behaviors than the other 2 groups [1]. In 1998, Ozonoff, S., & Cathcart, K. carried out a research on the effectiveness of home-based program for children with ASD. They used 2 groups within 11 children in each group having or without intervention. After 4 months of intervention, the results showed that the group of children participating in the program had many skills such as immitating, gross motor skill, fine motor skill, pre-language skills 3-4 times higher than the other one.

It proved that intervention at home in PEP program had effect in improving development for children with ASD [2], Villa et al conducted a study on 137 cases with ASD under 12 years old on the reliability and confirmation of PEP R compared to the adapted behavioral scale of in 2010, which results indicated that the data was equivalent to Vineland. The finding helped to improve the statistical description system and effectiveness of this tool not only in designing appropriate programs but also in determining the effectiveness of that intervention [3],

Bradshaw et al. conducted a research which was participated by over 180 children with ASD and their families in a group of using PEP-R and other group of non- using PEP-R (PEP-NR) during 6 months. Results revealed that parents participating in the program reported about the stress indicator decreasing significantly when they were at home [4].

In Vietnam, early intervention was particularly studied in many researches. One of them was of the research from Tran Van Cong and Ngo Xuan Diep on the effectiveness of early intervention program based on the collaborations between family in 2017. It clarified that the effectiveness of early intervention depended on a lot of factors, and the understanding, proactiveness and family and school collaboration, then raising the awareness of parents and care-givers were the important factors during the education process to children with ASD [5]. In 2007, Vu Thi Bich Hanh published a book on early detection and intervention of children with ASD, in which briefly reviewed some national and international relevant works, thereby gave some implications that the future of children with ASD depends on early diagnosis and early intervention [6]. Nguyen Van Thuy stated that all children with ASD had the needs of intensively comprehensive intervention, as soon as possible in his work on setting up and testing the intervention model for children with ASD in Hanoi [7]. Do Thi Thao carried out research on Applying TEACCH method in early intervention for children with ASD [8], early educational intervention for children with ASD [8,9], using PEP-R in early intervention for children with autism spectrum disorder [10].

Studies on early intervention as well as utilizing PEP program in early intervention for children aged 3-4 years old have got not much attention from reserachers. This paper introduced a survey on how teachers and parents used PEP 3 in early intervention for children with ASD from 3 to 4 years old, then indicated to lessons learned in the process of educating children.

2. Content

2.1. Introducing PEP 3 in Early Intervention for Children with ASD from 3 to 4 Years Old

Psychoeducational Profile, Third Edition PEP-3 was revised in 1979 from PEP by Eric Scholer, Margaret D. Lansing, Robert J. Reichler, Lee M Marcus at the Faculty of Medicine, North Caronila University, Chapel Hill, USA and then updated version of PEP-R in 1990. This is a standardized assessment tool based on developmental approach. The aim is to evaluate developmental domains and behavioral problems in children with ASD and children with communication deficits, which helps to identify learning strengths, impairments in development, new abilities, and other useful information in educational programs

PEP test allowed the authors to confirm that it was the first time for children with ASD to be evaluated in each developmental area compared to the evaluation through intellectual scales in the past (Wechsler, Stanford- Binet).

At the same time, PEP was a tool of parents to use to support Treatment and Education of Autistic and Communication Handicapped Children program (TEACCH). In addition, the authors simultaneously affirmed that parents of children with ASD are not the cause of the child's disorder as it widely recognized before 1970, but that was from neurological biology brain [11].

PEP-3 was designed to assist educators in developmental assessment and early intervention plans for children with ASD and other developmental disabilities. PEP-3 consists of two main parts as practically applied assessment and children directly observation. This section includes 10 sub-tests, of which 6 sub-tests measure developmental ability and other 4 sub-tests measure adaptive behavior of children. The assessment part involved by caregivers has 3 sub-tests which had a purpose to record the child's behavioral responses as well as some common skills the child gains through responses of the parents or caregivers [11,12].

The subtests of the development were as followed: Sub-test No 1: Verbal / pre-verbal awareness test with 34 items focused on cognitive and word memory. These items measure problem solving, naming, sorting, and kinetic coordination. While sub-test No 2: Expressive language test including 25 items evaluated a child's ability to express words or give gestures. Additionally, sub-test No 3: Language acquisition consisting of 19 items was intended to measure a child's ability to understand spoken language. Sub-test No 4: a set of 20 item fine motor skill test assessed the child's capacity in the coordination of different body parts. And sub-test No 5: Gross motor skill test with 15 items evaluated the child's ability to control different parts of the body. Finally, sub-test No 6: hand - eye c coordination including 10 items evaluated the child's ability to imitate through vision and movement coordination [11].

The sub-tests of adaptive behavior included that: Sub-test No 7: Feeling and emotional expression with 11 items measured how well a child exhibited an appropriate emotional response, both using facial expressions or body language. And sub-test No 8: Social interaction consisting of 12 items to measure a child's ability to interact with others. While Sub-test No 9 on specific motor behaviors, with 15 items was used to measure the typical tactile and sensory behaviors of children with ASD. Finally, sub-test No 10 on typical verbal behaviors with 11 items intended to evaluate the child's ability to speak appropriately with minimal repetition or babbling [11].

Caregivers' assessment section included as followed Sub-test No 11 on behavioral problems with 10 items defined abnormal behaviors, language skill, communication skill and social relationships of a child. Besides, sub-test No 12 on self-care had 13 items to evaluate the child's self-help skills such as eating, sleeping, toileting, dressing, bathing.... Additionally, sub-test No 13 on adaptive behavior with 15 items helped to find out a child's ability to cope with many diverse situations in life [11].

In order to be able to effectively use PEP in developmental assessment and early intervention for children with ASD, it is necessary to ensure that some procedure mapped out as follows: interviewing caregivers, child assessment, intervention planning and intervention. transitional support.

There were many forms of taking advantage of PEP 3 in early intervention for children with ASD at the age from 3 to 4, these were (1) Individual teaching for children with ASD which the teacher provided an individual lesson or used specific learning materials, means of teaching, assignment for each child; (2) Group-based learning was established through cooperative learning that children could share their understanding and compare to their classmates by themselves; (3) Play-based activities which teachers organized exploring activities for children or letting them experience on actions, attitudes, and tasks through playing; and (4) after-school activities such as sightseeing, outdoor activities which helped children learn things relevant to their lessons.

2.2. Survey Outcomes on PEP 3 Using by Teacher and Parents in Early Intervention for 3-4 year-old Children with ASD

2.2.1. Current early Intervention Program for Children with ASD aged 3-4 Years Old in Vietnam

2.2.1.1. Utilization and effectiveness of early intervention

Currently, participating in training courses, reading materials to supplement knowledge about early intervention programs is a rather proactive and easier than before, which helps teachers and parents to perceive a comprehensive view of intervention programs as well as teaching approaches. Survey results on 86 teachers and 63 parents on the frequency of usage (often equivalent to 3 points, sometimes equivalent to 2 points and never equivalent to zero) and efficiency level (very effective equivalent to 3 points, effective equivalent to 2 points and ineffective equivalent to 0 points) for early intervention programs showed the positive correlation between the utilization

and effectiveness of the PEP program, as follows:

Teachers and parents all implemented quite often the PEP program (Table 1) with Mean score (M) equal to 2.82 (teachers and parents reported to respectfully M=2.82 and 2.83), followed by TEACCH program with M reached to 2.77 (teachers and parents were reported M=2.79 and M= 2.77). The third rank in frequency using was ESDM program with M at 2.75 (teachers and parents correspondently achieved M=2.77 and M= 2.75). The next one was Small Step program with M = 2.72, then ABA /VB program with M= 2.67, and early childhood education program with M reaching out of 2.65 and finally ABLLS with M reaching 2.58.

Teachers and parents when evaluating the effectiveness of early intervention programs (Table 2) agreed that PEP was the most effective program with M = 2.87 (including M =2, 87 for teachers and 2.89 for parents). TEACCH program was ranked the second with M= 2.85 (2.83 by teachers and 2.86 by parents). Then, ESDM program with M= 2.81 was the third rank (2.85 by teachers and 2.79 by parents). The fourth was ABA / VB with M = 2.78; M=2.7 was the next one by Small Step program; the early childhood education program had M= 2.62 ranked at the sixth and finally ABLLS program had M =2.58.

A mother of a child with ASD named H. shared: "When my child was diagnosed as autism spectrum disorder by doctor, I was very confused and didn't know how to deal with it. However, after being guided by experts, I have determined to find out an appropriate educational intervention program for my child. Therefore, in addition to reading books and articles online, I also signed up for intensive courses on Intervention programs, and personally after applying PEP to my child, I felt quite effective. Because it not only helped the therapists to assess to my child's development, but also suggested some activities for parents to use in each developmental stage at home".

Table 1. Frequency of usage of early intervention program

Early intervention program	Teachers (n=86)			Parents (n=63)			Total (n=149)		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Early childhood education program	2,63	0,341	6	2,71	0,331	5	2,65	0,438	6
PEP	2,82	0,321	1	2,83	0,311	1	2,82	0,410	1
ABLLS	2,61	0,348	7	2,53	0,351	7	2,58	0,441	7
TEACCH	2,79	0,325	2	2,77	0,316	2	2,77	0,413	2
Small step	2,72	0,337	4	2,73	0,327	4	2,72	0,428	4
ESDM	2,77	0,330	3	2,75	0,322	3	2,75	0,421	3
ABA/VB	2,67	0,339	5	2,68	0,338	6	2,67	0,433	5

Table 2. Effectiveness of early intervention program

Early intervention program	Teacher (n=86)			parents (n=63)			Total (n=149)		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Early childhood education program	2,61	0,401	6	2,63	0,348	6	2,62	0,347	6
PEP	2,87	0,347	1	2,89	0,312	1	2,87	0,311	1
ABLLS	2,6	0,418	7	2,58	0,349	7	2,58	0,348	7
TEACCH	2,83	0,361	3	2,86	0,322	2	2,85	0,314	2
Small step	2,71	0,367	5	2,7	0,342	5	2,7	0,339	5
ESDM	2,85	0,352	2	2,79	0,327	3	2,81	0,324	3
ABA/VB	2,78	0,364	4	2,78	0,331	4	2,78	0,329	4

Considering the correlation between the frequency and the effectiveness in using the above intervention programs, PEP program with $r = 0.92$ presented the positive and close correlation between them. It was followed by TEACCH program with $r = 0.87$, then ESDM program with $r = 0.85$. This proved that the three above programs were often implemented by teachers and parents due to their effectiveness.

2.2.1.2. Tasks to improve the efficiency of early intervention programs

To find out about the tasks that teachers and parents regularly organize to improve the effectiveness of early intervention programs, we surveyed 86 teachers and 63 parents on the frequency of implementation (3 points scored to regularly used, 2 points scored to sometimes used and 0 points scored to never used) and the efficiency (very effective in use as 3 points, effective in use as 2 points and ineffective in use as 0 points). The results were as follows:

Regarding to the frequency of tasks (Table 3), both teachers and parents believed that assessing the development and introducing appropriate intervention is the top priority with M reaching 2.82 ($M = 2.84$ for teachers and $M = 2.8$ for parents), then it followed by preparation of specific facilities and equipment with $M = 2.81$ (in which teachers and parents scored at 2, 83 and 2.79). The next one was the task of counseling to take information about their family with $M = 2.79$ (2.81 for teachers and 2.77 for parents). And the regularly strategic assessment to early intervention program was reported at the next rank with $M = 2.76$ (2.78 for teachers and 2.75 for parents).

Three tasks that both teachers and parents did less are counseling and sharing strategies to support families with

$M = 2.72$, then regularly providing in-depth professional training sessions among teachers with $M = 2.63$ and diagnostic with $M = 2.48$. Teacher named A said that "As a teacher, what I am interested in is to understand the child's development to share with the family about their child, thereby have an agreement on intervention program, supply facilities and equipments to instruct many exciting lessons".

The results (Table 4) showed that developmental assessment and providing appropriate intervention relevant to functional level of a child had efficiency assessed by $M = 2.87$ (2.87 points assessed by teachers and 2.89 points of parents). The second rank as 2.82 rated by teachers and parents was the Facilitating specific equipments to maintain the child's concentration and interests throughout the learning process (teachers scored as 2.85 and parents as 2.81). The third rank with $M = 2.8$ followed by collecting data from caregivers (teachers scored as 2.82 and parents as 2.79), then the regularly strategic adjustment of the intervention program to help teachers and parents to rebuild plans and make transitional strategies for children ($M = 2.79$). Three tasks less rated were screening and diagnosis ($M = 2.76$), counseling and sharing family support strategies for teaching children at home ($M = 2.74$) and regularly professional exchange through training sessions ($M = 2.7$).

Being asked about the reason why diagnosis had less effective, Ms AY, a teacher of children with ASD told that "teachers are not responsible for screening and assessment of children. While experts screen, diagnose and evaluate children's development to remove suspicious factor of being autism spectrum disorder, teachers collaborate to parents to intervene based on the suggested program of the expert before".

Table 3. Tasks doing by teachers and parents to improve the efficiency of early intervention program

Tasks	Teachers (n=86)			Parents (n=63)			Total (n=149)		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Collecting data from care givers	2,81	2,231	3	2,77	2,339	3	2,79	2,246	3
Screening and diagnosis the child	2,51	2,311	7	2,45	2,373	7	2,48	2,398	7
Development evaluation and providing appropriate early intervention	2,84	2,212	1	2,80	2,313	1	2,82	2,211	1
Consulting and sharing strategies to support family at home	2,74	2,281	5	2,71	2,372	6	2,72	2,356	5
Regularly strategic adjustment evaluation towards early intervention	2,78	2,237	4	2,75	2,361	4	2,76	2,251	4
Facilitating specific equipments	2,83	2,223	2	2,79	2,338	2	2,81	2,243	2
Professional exchange among teachers through regularly training workshop	2,69	2,289	6	2,61	2,368	5	2,63	2,371	6

Table 4. Efficiency of tasks doing by parents and teachers to improve effectiveness of early intervention program

Tasks	Teachers (n=86)			Parents (n=63)			Total (n=149)		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Collecting data from care givers	2,82	3,629	3	2,79	3,213	3	2,80	3,430	3
Screening and diagnosis the child	2,79	3,638	5	2,75	3,233	5	2,76	3,489	5
Development evaluation and providing appropriate early intervention	2,87	3,621	1	2,89	3,122	1	2,87	3,411	1
Consulting and sharing strategies to support family at home	2,78	3,642	6	2,72	3,251	6	2,74	3,493	6
Regularly strategic adjustment evaluation towards early intervention	2,81	2,633	4	2,77	3,227	4	2,79	3,438	4
Facilitating specific equipments	2,85	3,628	2	2,81	3,124	2	2,83	3,412	2
Professional exchange among teachers through regularly training workshop	2,71	3,648	7	2,70	3,258	7	2,70	3,524	7

Thus, we recognized that performed tasks doing with high frequency were proportional to their effectiveness, serving as a mutual basis for the effectiveness of early intervention program for children with ASD from 3-4 years old

2.2.2. Using PEP in Early Intervention for Children with ASD Aged 3-4

2.2.2.1. Roles and meanings of PEP 3

PEP program was highly appreciated by both teachers and parents for its frequency of usage and its effectiveness (Table 5). Teachers and parents believed that the first and most important meaning of the early intervention was to help children to improve their cognitive and memories, which was reported about 85.9% teachers and parents (82.5% of teachers and 90.5% of parents). Additionally, 81,2% reported to help children to get more concentration mainly on ongoing activities. (80.2% of teachers and 82.5% of parents). 75,2% of them reported that it helped children to improve their language and 2-way communication (73.2% of teacher and 77.8% of parents). 68.4% reported to maintain children interaction with others (67.4% of teachers and 69.8% of parents). 63.1% reported to help children form appropriate behaviors (63.9% of teacher and 61.9 % of parents). Finally, 62.4% reported to play with diverse objects or toys (59.3% of teachers and 66.7% of parents)

A teacher named HP stated that "first of all, it is necessary to help children increase ability to focus on their memory and cognitive. After they have skills by themselves, it is easier to intervene children on language and communication. Personally I think that PEP has focused on increasing the cognitive memory ability and their concentration, then

improving language of communication for children".

In summary, we saw that it was quite similar in the opinions of teachers and parents about the role and meaning of the PEP program in early intervention, which revealed that both parents and teachers were clearly aware of the role. game and importance of using PEP in early intervention for children with ASD.

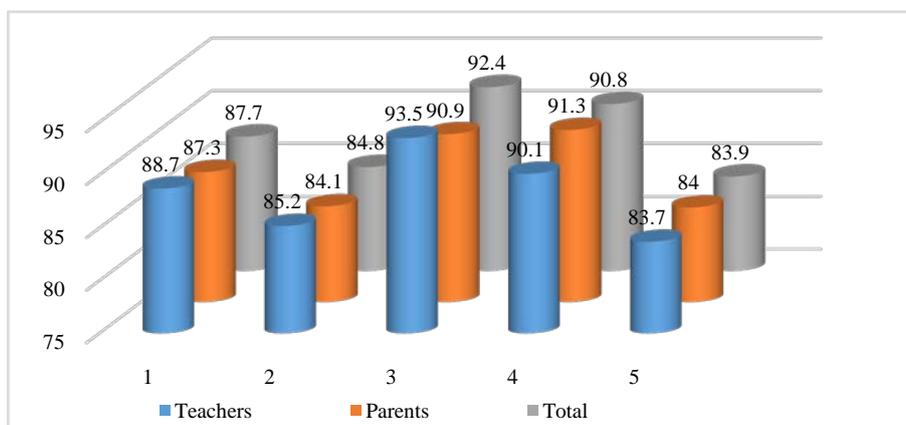
2.2.2.2. Goals of PEP 3 in early intervention for children with autism spectrum disorders

The goal (Figure 1) that teachers and parents put a priority in using PEP reported to 92.4%, in which focusing on expressive and perceptual language (93.5% of teachers and 90.9% of parents). 90.8% reported to develop cognitive, thinking and memory abilities of children (90.1% of teachers and 91.3% of parents). 87.7% reported that it helped children to have concentration and actively participate in interactions with others (87.3% of parents and 88.7% of parents). Then, it helped children to develop motor skills, including fine motor, gross motor, hand eye coordination accounts for 84.8% (of which 85.2% of teachers and 84.1% of parents). Last but not least it helps children to form appropriate adaptive behaviors, accounts for 83.9% (of which teachers account for 83.7% and parents account for 84%). Mr. TY, one of fathers of children with ASD said, "The reason we both agreed to use and follow the approach of the PEP program was its comprehensive program with clear goals that enhanced the ability to interact, play with others, remember longer, thereby developing communication language of my child".

Hence, teachers and parents have identified the appropriate goal when using PEP 3 in intervention to help children develop language, cognition and positive behavior.

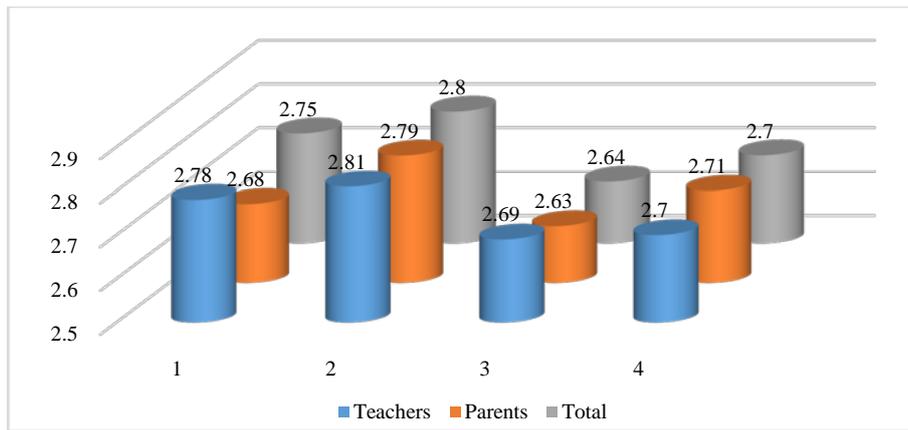
Table 5. Roles and meanings of PEP 3 in early intervention for children with ASD

Roles and meaning	Teachers (n=86)		Parents (n=63)		Total (n=149)		
	SL	TL	SL	TL	SL	TL	Rank
Improve the attention of children.	69	80,2	52	82,5	121	81,2	2
form appropriate behaviors	55	63,9	39	61,9	94	63,1	5
Develop language and communication	63	73,2	49	77,8	112	75,2	3
Strengthen interaction to other.	58	67,4	44	69,8	102	68,4	4
Play with diverse toys and games	51	59,3	42	66,7	93	62,4	6
Enhance their memories and cognitive skill.	71	82,5	57	90,5	128	85,9	1



Note: 1. PEP 3 improved to engage actively interaction; 2. PEP 3 strengthened mobility ability; 3. PEP 3 developed language (expressive and receptive langugae); 4. PEP 3 enhanced their cognition and thinking; 5. PEP 3 developed desired adaptive behaviors

Figure 1. The goal of PEP 3 in early intervention for children with ASD



Note: 1. Group activities; 2. Individualized activities; 3. Outdoor-activities; 4. Daily life situation

Figure 2. Forms to activities in PEP in early intervention

2.2.2.3. Forms to organize activities in PEP 3 to early intervene for children with ASD

Regarding to forms of teaching in PEP to achieve the best results (Figure 2), teachers and parents were quite consistent that individual activities were a key priority with Mean score of 2.8. Then, group activity hours was scored as 2.75 by teachers and parents Using in everyday environments with M reaching 2.7 was followed and finally in outdoor activities with M = 2.64.

A mother HY. shared "At home, most of the time I teach my children after completing housework in the evening. I tried to let my child have free play with other peers, so that my child has more interaction environment. In addition, in all daily situations, I tried to remind him and correct his mistakes immediately. and reward him as soon as possible".

2.2.2.4. Factor Influence to the process of PEP 3 in early intervention for children with ASD

Learn more about factors that affected the effectiveness of early intervention through PEP 3, we conducted the survey with 5 levels: very much influence (5 points), much influence (4s points), balance (3 points), sometimes influence (2 points) and little influence (1 point). The obtained results (Table 6) show that the starting time of the intervention was recorded at 3.87 and made a main decision and had a great influence on the effectiveness of the early intervention. Then, it was followed by the factor of choosing the appropriate intervention method for the child's functional level (M=3.82), professional capacity of teachers (M= 3.79), children to assess intensively and transitional to determining functional levels (M= 3.75),

awareness and coordination between school and family (M= 3.74). Two factors of less influence to early intervention were period of time (M=3.7) and intervention environment (M= 3.68).

Being asked about the assessment of factors affecting the use of PREP program in early intervention for children with ASD, teacher named AH told that "effective intervention depends on many linking factors for each child but the sooner the intervention is possible, especially in the golden stage, the timing of the intervention has a great influence ". Mr. MH, father of a child with ASD shared, "personally I think that in order to intervene effectively and rapidly progress, family should send their children to intervene early, it also depends on external factors such as assessment to determine the appropriate method, the capacity of the interventionist and the coordination of the family". Thus, all of them had the same perspectives in the influence of factors in the process of using PEP.

2.2.2.5. Advantages and disadvantages in using PEP 3 into early intervention for children with ASD

a. Advannatges In the process of using PEP 3, teachers and parents (Table 7) agreed that the most advantaged factor was the willingness of the school to send teachers for intensive training (M= 2.71). It was followed by useful tools and materials for children in the program (M= 2.69), then teachers and parents with the basic understanding on TEACCH, (M=2,68) that helped PEP to be applied quite easily. Two factors were reported as less favorable factors as coordination between home and school (M=2,57) and positive and cheerful participation of children without undesirable behavior (M = 2.55).

Table 6. Influence level of factors in the process of PEP in early intervention for children with ASD

Factors	Teachers (n=86)			Parents (n=63)			Total (n=149)		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Starting time to early intervention	3,89	5,112	1	3,81	5,612	1	3,87	6,811	1
Period of time to intervene	3,72	5,224	6	3,70	6,235	6	3,70	6,944	6
Intensive developemntal assessment	3,75	5,221	5	3,76	6,012	4	3,75	6,912	4
Appropriate intervention Method	3,85	5,118	2	3,80	5,647	2	3,82	6,814	2
Collaboration of family and school	3,79	5,219	4	3,73	6,123	5	3,74	6,921	5
Teachers' professional ability	3,81	5,213	3	3,78	5,651	3	3,79	6,901	3
Condition and environment to intervene	3,70	5,243	7	3,67	6,251	7	3,68	7,132	7

Table 7. Advantages of applying PEP into early intervention

Factors	Teacher (n=86)			parents (n=63)			Total (n=149)		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
School/center facilitate teacher to participate into indepth- training	2,68	0,588	2	2,74	0,589	1	2,72	0,512	1
Teacher/parents understand TEACCH so that they are easily to apply PEP	2,71	0,576	1	2,67	0,605	3	2,68	0,547	3
Useful material and learning tools	2,63	0,591	3	2,7	0,592	2	2,69	0,535	2
Children participating positively and without unexpected behavior	2,57	0,651	5	2,53	0,634	5	2,55	0,612	5
Coordination and collaboration between family and school	2,6	0,603	4	2,58	0,622	4	2,57	0,579	4

Table 8. Disadvantages during applying PEP 3 into early intervention for children with ASD

Factors	Teachers (n=86)			Parents (n=63)			Total (n=149)		
	M	SD	Rank	M	SD	Rank	M	SD	Rank
Lack of trainings	2,7	0,624	4	2,7	0,627	2	2,7	0,631	3
Little knowledge and references on PEP 3	2,73	0,611	1	2,78	0,623	1	2,75	0,612	1
Less support by professionals	2,75	0,619	2	2,67	0,629	3	2,71	0,627	2
Parents without much understandings on program, then not choosing or less cooperating	2,67	0,647	3	2,63	0,688	4	2,64	0,635	4

A teacher named HO indicated that "the most advantage that we have is that both the school and the family fully support teachers to participate in intensive training, moreover, teachers and parents know about TEACCH so using PEP is also quite easy". Although it has certain advantages, but there are still some disadvantages as follows:

* *Disadvantages:* According to parents and teachers (Table 8), the most disadvantaged factor encountered during applying PEP program for children with ASD was the lack of knowledge, formal references about PEP 3 (M= 2.75). The next disadvantaged factors were reported as receiving less support and attention of professionals (M = 2.71; less professional trainings (M = 2.7) and finally, parents even understood not much about the program, so they did not choose or coordinate (M= 2.64). The evaluation of disadvantaged factors have slight different, but the differences themselves became a mutual factor for the effectiveness of intervention.

VT, the young father of a child with ASD shared, "Actually, I hurt when see my children so I have more motivation to learn and teach them, but most of materials are foreign language and I don't know foreign language". Teacher H Y. told that "the biggest difficulties of the teacher are reference accessibility and less cooperation between family and school. Many skills of children need to practice at home"

In summary, parents and teachers have recognized the important of PEP 3 to have effective intervention for children with ASD from 3-4, however, both parents and teachers still faced difficulties in the process of applying the program to build a system of measures and strategies to teach children. Therefore, it is necessary to have practical, feasible and necessary methods for the use of PEP program in early intervention to develop their cognitive ability, language and desired behaviors

2.3. Lessons Learnt from Using PEP 3

Based on an overview of the current situation of using PEP 3 for children with ASD 3-4 years old in Vietnam,

we draw some lessons in using the program to improve the effectiveness as follows

(1) Teachers and parents need to be trained and fostered on early intervention in general, PEP 3 in early intervention in particular for children with ASD from 3-4 years old. Regularly training sessions, professional exchange should be held for teachers and parents.

(2) The process of using PEP 3 should be followed an appropriate process and measures to organize diverse activities in order to stimulate the child's ability in actively playing. Educating children should be happened in a natural intentional environment, and flexible integrating the individualized work and group work and outdoor activities with appropriate games to motivate children and maintain their concentration. Therefore, it is necessary to set up a system of measures to use the PEP program in early intervention to be the most effective, which helps teachers and parents to make agreement on how to implement and support the child as much as possible.

(3) Environmental conditions and facilities contributed important factors determining success of teaching. Additionally, teachers need understand TEACCH method in order to apply and arrange a structured environment, using teaching tools suitable to the child's capacity.

(4) Family and care givers are the fundamental factor for the success of the process so it needs for a good coordination between home and school on the process and method, reward, and strategy to maintain interests.

3. Conclusion

The age of 3-4 years old is the important period of children with ASD to strongly acquiring knowledge of the surrounding environment and forming logical thinking for children through their strengths, which can be visual perception or auditory perception. However, the prerequisite for success in early intervention is to determine the current function and the appropriate intervention program, then proceed with the process and measures of that program. Teachers and parents are all aware of the importance,

meaning, goals, forms, and content of PEP 3 in early intervention process for children with ASD from 3-4 years old. Although having certain advantages in using the program, but many disadvantages still exist for parents and teachers, which has been thought on how to use this program more effectively by a lot of professionals, educators or parents. Therefore, the most important thing is to have an appropriate and practical process and system of measures for teachers and parents to easily apply PEP 3 in early intervention for children with ASD from 3-4 years old.

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