

**T02: Teacher Development in Pilot Inclusive Schools Using  
Problem-Based Learning for Students with Special Needs  
in Inclusive Classes in Educational area  
offices secondary school district 26**

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**Abstract**

The study was on the process of teacher development using problem-based learning technique for students with special needs in inclusive classes at Nadoonprachasan School, Office of Secondary Education Service Area 26, using action research methodology. Quantitative and qualitative data were collected. The research was divided into 3 phases. The 1<sup>st</sup> Phase dealt with teacher development by training in problem-based learning. The 2<sup>nd</sup> Phase dealt with increasing the teachers' potentiality in research, using individualized problem solving technique. The 3<sup>rd</sup> phase dealt with the results of the development of students with learning problems by assessing each student individually.

The results revealed that the teachers needed to have training on student's problem-based learning in some specific aspects by screening the students individually. The specific problems were reading problems such as illiteracy because being unable to remember the letters, seeing the letters or the words in a wrong order, skipping words, no fluency in reading, reading the same words repeatedly, going back and forth on the text, being unable to comprehend the text, being unable to line up events in chronological order. In terms of writing, the problems were that the letters were unequal in size, the space between two words was unequal, one letter overlapped another, and the text was frequently erased. Regarding the problems of calculation, they had no understanding of addition, subtraction, multiplication, division, and problems. Teachers should be developed to be able to use individualized problem solving technique. In solving the reading problems, the techniques used were: asking questions from what was read, simultaneous reading with the teacher, teaching how to read by word, asking the student to tell about what was read, highlighting illegible words and practicing reading them with the teacher. In solving writing problems, the techniques used were: simultaneous writing with the teacher, dictation, fishbone technique, and diagram. In solving the calculation problem, the simple technique of teaching mathematics was used with the emphasis on practicing from seeing and hearing. For example, in teaching counting numbers, students were asked one by one to count in ascending order, students did their exercise together with the teacher, particularly in interpreting the given mathematic problem. The results of the student development came from individualized evaluation. The means to solve specific problems were obtained by using the PAOR model. P) Plan refers to planning to solve individual student's problems in reading, writing, and calculation, using Individualized Education Plan (IEP). A) Action refers to analysis of the authentic problems in order to make the Learning Log. O) Observation refers to recording the

data obtained from observing the student and correcting the homework. R) Reflection refers to the review of the practice from each individual student's record.

**Keywords:** 1) Teacher development in pilot inclusive schools, 2) The problem-based learning

Process, 3) Students with special needs in inclusive classes

### **Origin/problems for the research study**

Inclusive education is relevant to current issues in education under educators' attempt based on educational paradigm of equity and rights as an compulsory acts toward human dignity (Cholathanon, 2003). Educational scholars have been trying to promote justice and learning of every student by using strategies to develop inclusive schools as learning community possessed by everyone with acception to various individual differences (Hallahan & Kaufman, 1994).

Many problems have been found through this movement comprised school administration, over load of student number in each classroom, continuing supports for students with special needs, inadequate parents/community's involvement in educational system, in effective education services, no changes in teachers' teaching, not enough tools and supporting services suitable for students with special needs and also needing more in-service training for the related key-persons. Somewhere in school level, administrators there rejected or avoid to include students with special needs into their school systems. (Arrayawinyu, 1999) Moreover, school staffs pay no importance and no effective supports to run special education, over work load for inclusive responsible teachers, responsible classroom teachers, responsible various school projects especially they have to do individualize educational plan. Inadequate collaboration among school administrators, responsible teachers and families who know well how to deal with their own children with special needs. Some school administrators feel that inclusive education is not their own main duty which cause no sustainability in inclusive education (Office of Basic Education :Thailand, 2005),

Although basic inclusive education enhance achievement in quantity, there are many problems in quality such as difficulties in reading, letter remembrance, word reading, reading comprehension, main idea extraction, identifying main problems to solve in every subjects, cannot write following what teacher do on black board and what teacher tell, have calculation difficulties, inadequate analytical process, difficulties in language, in remembrance, in calculation, in transformation, in communication and in learning (Preium, 2009).

Teacher development is a direct responsible role of responsible units. It has to be done systematically and continuously relevantly to problems and needs. Therefore, direction frame and clear policies have to be concerns for effective desired goals. Only 5 % of responsible teachers earned their degree in special education and can effectively deal with IEP. Teachers developing by in-service training both contents and teaching methods following Peaget found that teacher developing need time for teacher to learn from students' selves. They need to know about brain functioning as teachers are as treaters in school by screening, solving and rehabilitation students' learning difficulties to support maximize students' learning (Sri-Sa-Ard, 2003).

Rahabhat MahaSarakham University (RMU) has identified its identity and uniqueness enable staffs and students to follow the acts rightly especially in teacher developing was the main tasks of Special Education Programme, Faculty of Education. This programme run supervision for responsible teachers among local inclusive schools . It is found that responsible teachers needs more skills and expertizing to deal with IEP. They had low confidence to run IEP and special education schools projects .All of the faculties in Special Education Programme ,RMU have accepted the importance .The author have interested in maximization development of children with special needs in those schools for channels of declaration their full potentials and being one of good members in their society via IEP running through teaching and learning process.

### **Purposes of the study**

The researchers set the research objectives as follow;

1. To study problems and needs of responsible teachers' developing in a target inclusive school .
2. To implement intervention via problems based on-going.
3. To evaluate the intervention

### **Definitions**

**1. Teachers' developing in inclusive schools :** In-service teachers' training both contents and teaching methods in special education transforming into practice to enhance potentials of students with special needs.

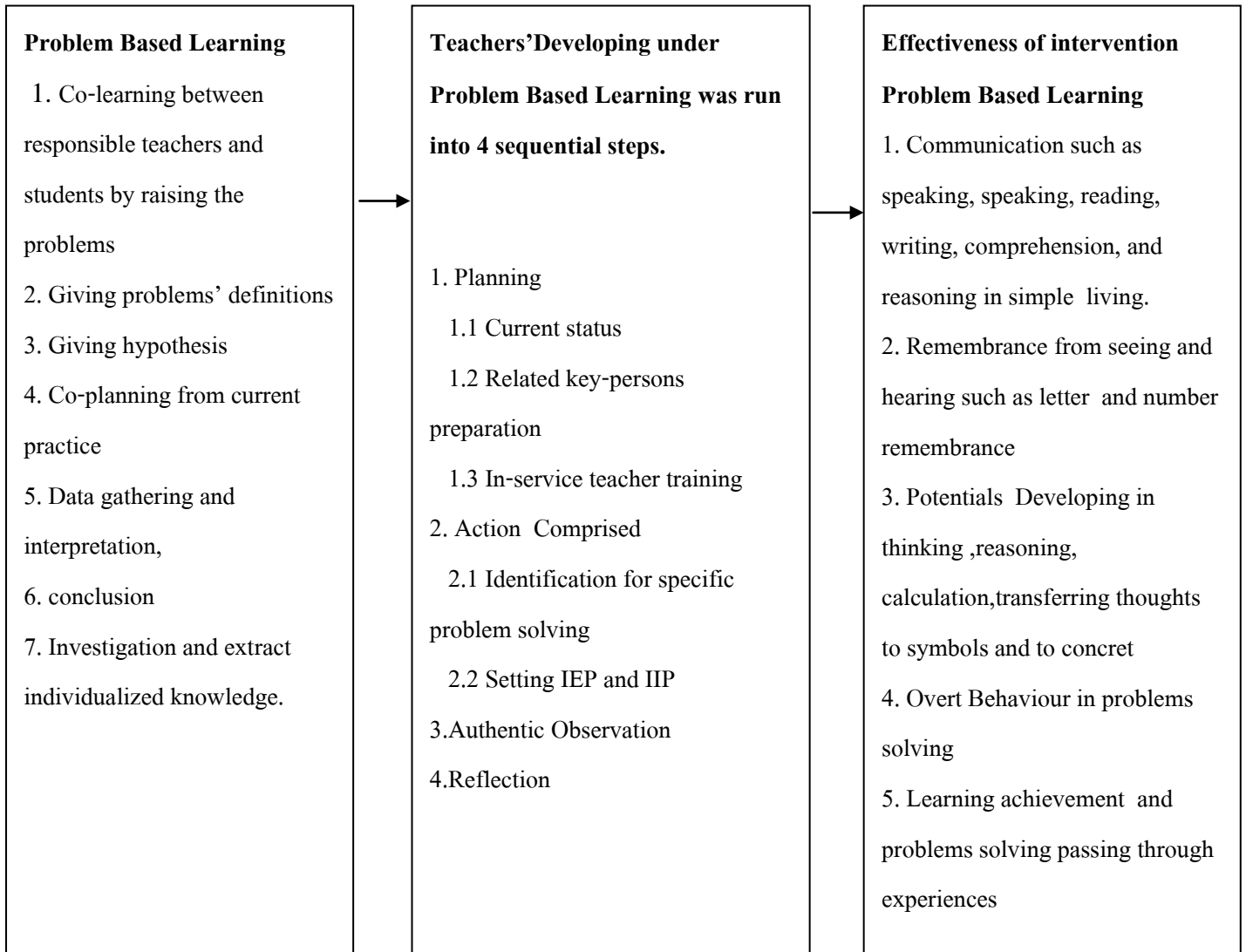
**2. Problems based on-going to solve learning difficulties :** Co-learning between responsible teachers and students by raising the problems, giving problems' definitions, Giving hypothesis, co-planning from current practice, data gathering and interpretation, conclusion ,investigation and extract individualized knowledge.

**3. Students with special needs in inclusive classroom :** Students with various needs in regular class room such as students with special needs with talents, low academic achiever, students with learning difficulties. Those needs individualized services.

### **Benefits of the study**

1. As an alternative way of teacher developing and developing techniques in students' learning difficulties solving.
2. Gaining IEP by effective problems based on going.
3. Gaining effective model for teacher developing and developing techniques in students' learning difficulties solving.

## Frame of study



**Figure 4.** Research frame of thoughts revealed intervention effectiveness on teachers' developing by problem based learning to solve learning difficulties in inclusive classroom for children with special needs in Nadoon Prachasan School under Office of Secondary School area 26 ,Mahasarakham province, Thailand. It will depend on the change of students' development by action research to develop students with special needs and solve specific learning difficulties through 4 steps of Planning , Action Comprised ,Authentic Observation and Reflection.

## **Research methodology**

### **Population and sampling**

They comprised teachers and students with special needs in 135 inclusive schools totally 2833 subjects. Multi stage sampling was allocated through 3 steps as follows;

1. Random sampling from 50 % of total inclusive school number which was 65 schools.
2. Screening students with special needs in the 65 schools,
3. Identified target school and children with special needs there.

### **Research steps**

**There were 3 phases as follows;**

#### **Phase 1. Teachers' developing process via problem based learning**

- 1.1 Finding problems and needs
- 1.2 Looking through the target students' learning achievement to analyze developing ways for children with needs
- 1.3 Setting up meeting among school administrators, responsible teachers, parents/families, local education supervisor, school committee, children with special needs
- 1.4 Raising the problems specifically
- 1.5 setting up IEP
- 1.6 Teachers' training
- 1.7 Setting up Meeting between responsible teachers and target students
- 1.8 Teachers seminars among responsible teachers in inclusive schools to share experiences and create knowledge to develop children with learning difficulties specifically such as in reading, in writing, in calculation. That led to specific teaching methods.
- 1.9 Writing up research proposal

#### **Phase 2 Teachers' potentials raising via problem based research to deal with children with special needs in inclusive classroom.**

- 2.1 Planning: It comprised conceptual Skill, Human relationship, technical skill, and related characteristics as work habits, desired value and sense as researchers.
- 2.2 Action: It comprised students' screening, setting up IEP, and running activities under IEP.
- 2.3 Observation: It comprised Observing specific in leaning difficulties, and in on-going implementation.
- 2.4 Reflection: It comprised responsible teacher meeting after the intervention and analyze data to concrete knowledge in specific teaching methods.

#### **Phase 3 Study target's students development.**

##### **Research Tools**

**Data collection was run simultaneously with both qualitative and quantitative through this action with research tools as follows;**

1. Rating scale checking lists constructed from related literature review and participants' experiences.

- 2.Meeting
3. IEP
4. Seminar to bring IEP into IIP
5. Teachers' training and after teaching records
6. Learning Log(LL) which was learning pathways under past and update experiences of knowledge and modern to construct IEP and IIP
7. Students' development assessment listings in 5 areas comprised Communication, Remembrance, Thinking, Overt Behaviour, Learning achievement.

## Results

### 1.) Sampling General Characteristics

#### A.) Responsible teachers (n=10)

1.1) Educational level: Bachelor degree and Master degree (88.9% and 11.1 respectively).

1.2.)Teaching experiences :17.6 Years(Min=4 ,Max 31 years)

#### B.) School committee(n=5)

1.1)Educational level: All of them earned Bachelor degree .

1.2)Age:Means = 47.36 (Min =39,Max=54 Years)

#### C.) Students(n=10)

1.1)Age range : 14-16 Years

#### D.) Parents/families

1.1) Age range: Means=48.59 Years(Min=28,Max=61 Years)

1.2) career: Rice Farmers(58.6%),Merchants(24.1%),Labor(12.1%), Government staffs(5.2%)

#### E.) External Experts(n=5)

1.1)Educational Level: Bachelor Degree(20%) ,Master Degree (60 %)and Doctoral Degree(20 %)

1.2)Age : Means=47 Years(Min=37-53 Years)

### 2.) Teachers Developing Process:

A.)Planning and Preparation under 5 rating scale(Min=1,Max=5):There were 6 components(School administrators, Teachers' readiness, budgeting ,Environment and assistive tools ,Activities schedule, Students screening ) and total. All were in highest level (Means=4.61,Min=4.57,Max=4.75).

B.)Implementation under 5 rating scale(Min=1,Max=5):There were 3 components(Students screening, Intervention, and Evaluation) and total. All were in highest level(Means=4.66,Min=4.63,Max=4.73)

C.)Evaluation under 5 rating scale(Min=1,Max=5):There were 3 components as Before intervention(Means=2.3), during intervention(Means=4.76) ,and after intervention(Means=4.73) and total. The last two components were in highest level while the first component were in low level. In this research the last component will be brought into the calculation in the next steps of analysis.

D.) Reflection on ideas gained by this research experiences: They were all in highest level among the following 4 components comprised Knowledge and

understanding (Means=4.70), Positive attitude toward student developing (Means=4.72), Referral channels for self potential declaration (Means=4.66), Individualize students' learning from IEP (Means=4.68) and total (Means=4.69).

- 3.) Responsible teachers' Satisfaction: There were 3 components (Intervention highest level (Means=4.65, Min=4.60, Max=4.67)

## Discussion

A.) According to Planning and Preparation under 5 rating scale (Min=1, Max=5): There were 6 components (School administrators, Teachers' readiness, budgeting, Environment and assistive tools, Activities schedule, Students screening) and total. All were in highest level (Means=4.61, Min=4.57, Max=4.75). This is because target students and inclusive schools administration system lacked daily inclusive skills such as self help care, daily learning activities, low academic achievement in every subject from restrictions in hearing, speaking, reading, writing and calculating. All of that were a basic components for learning, perception and social as the target students isolated themselves from classroom peer. Relevantly to Raveepong (2008) who found that students with learning difficulties have defects in central nervous system which fluctuate brain functioning. They have problems editorially, visually, palpating. Sequentially, they lacked of potentials in remembrance, attention, discrimination things, synthesizing, problems solving including many restrictions on various skills such as communication, social, public services access, self care, daily living activities, doing tasks and leisure and in the same finding supports that target students had problems with symbols system in communication in type of language, language contents, language functioning. Moreover Office of Secondary School Area 26 (2006) reported that these students pay no attentions in learning, low academic achievement, school refusal, low learning attention span and most of them cannot reach the requirement to pass through secondary school level. There is no continuing and regular rapport between inclusive schools and Office of Secondary School Area 26 especially on supervision which is inadequately effective both from external and inside those schools. This showed ineffective administration system relevantly to Raveepong (2008) who found that although there were numbers of teachers' developing, they were inadequate supervision in application into practice.

B.) According to Teachers Developing Process: 1.) Planning and Preparation under 5 rating scale (Min=1, Max=5): There were 6 components (School administrators, Teachers' readiness, budgeting, Environment and assistive tools, Activities schedule, Students screening) and total. All were in highest level (Means=4.61, Min=4.57, Max=4.75). and 2.) Implementation under 5 rating scale (Min=1, Max=5): There were 3 components (Students screening, Intervention, and Evaluation) and total. All were in highest level (Means=4.66, Min=4.63, Max=4.73). This revealed the success of the intervention because of teachers and parents. Because this intervention have parents/families as effective mediators as parents/families know their own children the best and gave full meaning full information and they were willing to be one of key-persons. They also encouraged and influenced the target children to follow the intervention activities. Relevantly to Arrayawinyu (1999) who claimed that when parents/families found the

lights of at the end of tunnels they will give involvement and Raveepong (2008) postulated that parents involvement effects on special education intervention.

C.) Accoring to Reflection on ideas gained by this research experiences: They were all in highest level among the following 4 components comprised Knowledge and understanding (Means=4.70), Positive attitude toward student developing (Means=4.72) , Referral channels for self potential declaration(Means=4.66), Individualize students' learning from IEP (Means=4.68) and total(Means=4.69).Because, This intervention is relevant to Hoy & Miskel (2001) who claimed that co-operative learning gave positive attitudes of job satisfaction which related to high task performance which make the target students were able to do better communication ,have better reading and writing ,love more to read,can tell or write stories, submit mathematics home work in/on time, have independent living especially problem solving in unexpected events with no panic differently than before attend the intervention which less attention and high frequency of mistakes. They had better learning behavior with regular peer such as running projects with classroom friends,make local material products or participation in local tradition activities and school activities in culture. Moreover, parents satisfied with students' development and felt that schools did not ignore /isolate their own children and tried to find ways to include the target students to their peer in learning process .Moreover ,it had interaction between responsible teachers and target students via effective communication, transforming intrinsic problems into research question relevantly to Raveepong (2008) who claimed on self created knowledge as a learning log which will enable the teacher to analyze needs and pathways for problems solving .Relevantly to Lewis and Williams (1994) who found that the success of learning from practice was the interaction between teachers and students, students and students Co-learning via critical appraisal and elaboration which yielded active participation and over learning.

### **Suggestions**

**Suggestions for implementation:**Responsible teachers should do and run IEP and IIP by themselves as students with special needs requires specific technics.It needs well planning from the beginning ,suggestions and closed supervision from the experts.Moreover parents/families needs to get /give information and involvement in school and home activities for their own children.

**Suggestions for further researches :** Life skills and academic skills for students with learning difficulties should be considered to find direct and indirect variables under path analysis.



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