

# Developing Inclusion: A Participatory Action Research of Primary Education for Students with Invisible Disabilities in Thailand

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## Abstract

*This research project investigated institutional development using Participatory Action Research (PAR) to reform a special education program. A public school of Thailand shifted from a traditional to inclusive education program for greater support of students with disabilities' access to quality education. The purpose of this research focused on evaluating and developing the educational program to provide students the ability to integrate and engage in more social learning opportunities. The research was divided into four primary PAR procedures: planning, action, observation, and reflection. Qualitative research was used to collect the data that included the following participants: school administrators, regular teachers, special education teachers, and students who have been attending the special education program. SWOT analysis was addressed for understanding and analyzing the Strengths, Weaknesses, Opportunities, and Threats of the school's educational program. The results showed the implement of inclusion to determine what needed to remain or be modified by evaluating and developing five major areas: policy and curriculum, human resources, environments, budget, and other requirements.*

## 1. Introduction

Educational systems are designed to promote students' academic success. Acceptance and respect of others is also emphasized for teaching students to understand the value of differences. One essential component of inclusive education is that social communities understand accepting the differences of individual needs [1]. Public schools are facing significant challenges from rapidly growing populations of diverse students in the classroom, particularly students with invisible disabilities who are in the categories of social, behavioral, and emotional disability [2]. Most students can be subject to neglect from teachers because of their hidden disabilities.

Invisible disabilities cannot be seen with the naked eye or are difficult for others to recognize [3]. Teachers can sometimes misunderstand students who are misbehaving in the classroom, but truly these students are waiting for additional supports and interventions in academic learning to be able to adapt their behavior within the social environment.

Invisible disabilities are a neurological, cognitive or mental impairment that related to developmental disabilities such as Learning Disabilities (LD), Autism Spectrum Disorders (ASD), mood disorders such as bipolar disorder, anxiety, and depression [2], [4]. Students who are misunderstood with invisible disabilities may not receive or can lack proper education matched with their individual needs.

The Kingdom of Thailand is experiencing an increasing population with disabilities, from 2.9% in 2007 when compared in 2001 at 1.8% [5]. Furthermore, Sorntamart and Srisuruk noted that the Autistic Thai Foundation reported approximately 370,000 people were diagnosed with ASD in Thailand. In 2014, the prevalence of ASD was shown as 6 in 1,000 births, and the number of children with ASD was increasing rapidly [6]. This unique challenge is still ongoing to impact public schools' management, policies, curriculums, budget, teachers' roles, teaching strategies, and other educational services for supporting these students with invisible disabilities. The Ministry of Education classifies students with disabilities into 9 categories, including both visible and invisible disabilities: (1) visual impairment, (2) hearing impairment, (3) intellectual disabilities, (4) physical and health impairment, (5) learning disabilities, (6) speech and language impairment, (7) behavioral and emotional disorders, (8) autism, and (9) multiple disabilities [6]. Mainly, the role of educational leadership is to provide an equal opportunity for education and funding for quality services to ensure all students with/without disabilities receive the maximum allotment of support.

For a period of time students with disabilities were segregated from other regular students. Most students with disabilities worked closely with special education teachers and therapists in the self-contained classrooms or resource rooms. Alternatively, students with higher functioning disabilities had the opportunity to participate with their regular peers in the mainstream classroom. In 2008, the Education Provision for People with Disabilities in Thailand mandated powerful support of inclusive education for students with disabilities to fully integrate in the regular classroom [7]. Inclusive education is designed to provide students with disabilities the opportunity to engage in the regular classroom with individual support needs. Inclusion

has demonstrated an educational system that values human rights, equal access to educational services and opportunities, dignity, respect, and acceptance [8].

This research project aimed to explore the institutional development by using the Participatory Action Research (PAR) to reform a Special Education Program (SEP) for effective inclusion. A public school of Thailand had a strong mission to reform special education by shifting from a traditional program to an inclusive program for greater support of students with invisible disabilities to access quality educational and social opportunities. Nine students with invisible disabilities have been attending the SEP in this school. These students were diagnosed with intellectual disabilities, learning disabilities, developmental delay, autism, and Down syndrome. The goal of the school's mission was to provide the students with the ability to integrate in the regular classroom rather than segregate them from social learning. The nature of social environment such as modeling, sharing, loving, caring, and respecting is a part of building friendships and accepting the differences within society. All students have learned to accept and understand the differences of individual needs. Finally, the advantages of developing the Special Education Program have influenced teachers' accountability and collaboration toward improving high efficiency of educational services.

## 2. Theoretical Framework

The research project investigated institutional development using Participatory Action Research (PAR) to evaluate and reform the Special Education Program (SEP) at a public school in Thailand. PAR has an expanded history in several fields of social practice that focuses on exploring and engaging through human interaction and social movement [9]. The participatory research is an alternative philosophy of social research or social life that approaches community development. PAR is recognized as a subset of action research, "systematic collection and analysis of data for taking action and making change" by achieving practical knowledge [10], [11]. Burnes viewed the theory of action research, according to Lewis and said, "...You cannot understand a system until you try to change it..." [12], [13]. Thus, PAR was considered to be the most suitable method for conducting this research by utilizing both action research and qualitative research.

### 2.1. Action research

An action research is addressed into three categories: *explanatory* reveal testing hypotheses,

*interpretive* reveal understanding phenomena within context, and *critical* reflection on concerns with transformation of society, politics, and individuals [14]. Mainly, the action researcher is a part of the collaborative effort within the community's or organization's members to investigate and seek alternative solutions for improving their situation. Therefore, the action researchers described themselves in relation to other individuals of meaningful engagement in their social community [11].

### 2.2. Qualitative Research

A qualitative research methodology is utilized to describe understanding of diverse perspectives of individual phenomena, knowledge, and experience in particular aspects without predicting, manipulating, or controlling [11]. The role of qualitative research is to design techniques for "observing, documenting, analyzing, and interpreting characteristics, patterns, attributes, and meanings from the human phenomena under study" [11]. Truly, the qualitative researcher expects to gain better understanding of an individual's viewpoint within their natural setting and their social context that people bring to the researcher [15]. Therefore, qualitative researchers described themselves in relation to explorers, discovering deeper insights into holistic human experiences and complex human behaviors [11].

### 2.3. Key of Participatory Action Research

PAR describes understanding from the learning processes of reality, experiences, and responses. PAR is a social practice directed toward studying, interacting, reframing, and changing [9]. Additionally, PAR is a "social process of collaborative learning" that people come together to interact and analyze their own solutions, developing and changing through the consequences of actions [9], [11].

Thus, the features of PAR exhibited the sequence of steps in a spiral of self-reflective cycles of learning processes, described as follows:

- *Planning* a change
- *Acting* and *observing* the process and consequences of the change
- *Reflecting* on these processes and consequences
- *Re-planning*
- *Acting* and *observing* again, and
- *Reflecting* again.

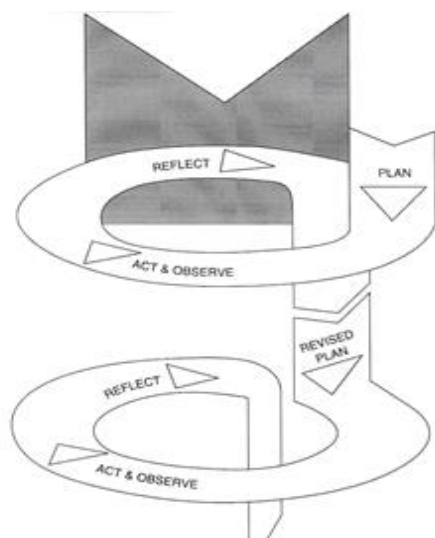


Figure 1. The Action Research Spiral [9]

The purpose of PAR is to generate transformative change, community development, empowerment, access, social justice, and participation. Indeed, this research was designed using PAR to empower the participating school's team members for engaging in the processes of evaluating, planning, learning, practicing, analyzing, and problem-solving at the Special Education Program (SEP).

The school administrators have shown significant concern for the SEP, and required active improvement. Four primary concerns consisted of (1) inadequate number of special education teachers in the SEP, (2) students in the SEP had withdrawn from the program and entered other local public schools, (3) students in the SEP had lacked opportunities to participate in the regular classroom, and (4) parents had lost confidence of SEP's management and services.

PAR was utilized in this research project for three main reasons. First, it was important to involve participants when considering SEP's problems. Second, the participants and researcher were engaged in equal collaboration during the research's spiral cycle, process of evaluation, planning, acting, observing, analyzing, reflecting, and problem solving. Finally, the participants had the opportunity to be included for empowering their decisions and responsibilities.

The research's spiral cycle and reflection were drawn upon for implementing the four primary PAR phases, including:

- Phase one: *Planning* is a process for evaluating the traditional program and creating the plan to develop toward an inclusive program. SWOT analysis was addressed for analyzing and understanding the Strengths, Weaknesses,

Opportunities, and Threats of the school's management and the special education program.

- Phase two: *Action* is a process of building a collaborative team with school administrators, regular teachers, and special education teachers to all work together.
- Phase three: *Observation* is a process of associating the plan and action to understanding progress and concerns.
- Phase Four: *Reflection* is a process of analyzing the changes and reviewing the plan to provide feedback, and considering alternative solutions.

The role of PAR researcher in this research project was divided into three major characters:

*Special Education specialist* provides school members and parents practical knowledge that produces change through understanding students with invisible disabilities. This knowledge can include, but it not limited to, teaching strategies, behavioral intervention, classroom management, and sensory integration [16].

*Practitioner or action researcher* demonstrates and connects relationship with school members for gaining a cooperative team in the field.

*Qualitative researcher* provides in-depth understanding of the social structure of the school members' perspectives, and their realistic working experiences through circumstance without manipulation of data under this research.

### 3. Methodology

This institutional development was designed using Participatory Action Research (PAR) to present a method of investigating and developing the Special Education Program (SEP) for greater support of students with invisible disabilities. This section described how this research project was conducted which used: research questions, selecting participants, setting, data collection procedures, and data analysis.

#### 3.1. Research Questions

The three primary questions were addressed are as follows:

*Q1 Does this research project present the process of developing the Special Education Program to efficient inclusive education for students with invisible disabilities?*

*Q2 What did the research project contribute to students with invisible disabilities progress within inclusive education?*

*Q3 What are the advantages, concerns, and solutions of this research project?*

### 3.2. Participants

The research project used a purposeful sampling to match the criteria of the purpose study.

Participants were divided into three groups including: (1) the regular teachers who have been working in the primary education level, (2) the school's team who were an influence on students in the SEP and presented the major role to develop the SEP as described in Table 1, and (3) students with invisible disabilities who have been attending the SEP as described in Table 2.

The two tables below are exhibited demographics participants in group 2 and group 3 which are made up by the school's team and the students in the SEP.

Table 1. School's team demographics

Gender	Role	Grade Level	Working (Years)
M	Director	-	-
F	Assistant director	-	21
M	Regular teacher (social study)	1	6
F	Regular teacher (Alternative study)	4	4
M	Regular teacher (P.E.)	5	5
F	Regular teacher (Math)	2 and 4	20
M	Regular teacher (social study)	5 and 4	10
F	Regular teacher (English)	5	9
F	Head of SEP	5	-
F	Special Education Teacher	SEP	7
F	Special Education Teacher	SEP	5

Table 2. Student demographics

Gender	Age	Grade Level	Disabilities Classification
M	7	1	Developmental delay
M	8	1	Communication and social skills deficits
M	8	1	Autistic Spectrum Disorders (ASD)
F	11	4	ASD
M	9	4	ASD
F	14	5	ASD
M	12	5	Down syndrome
M	10	5	Learning disabilities
M	10	5	ASD

### 3.3. Setting

The public school in this research project is under management by the Faculty of Education at a local university in Thailand. This school provides kindergarten through grade 12 and includes basic educational programs that include a regular educational program, a special education program, and an international English program. Approximately 3,000 students are enrolled and approximately 200 teachers employed.

### 3.4. Data Collection Procedures

It was critical that data collection in this research focused on investigating the five principle areas that impacted SEP's development from traditional education toward inclusive education:

- First Policy and Curriculum, the goal of this area was to understand how the school's policies and curriculum could be modified and applied to generate higher efficiency for students in the SEP.

- Second Human Resources, the goal of this area was to understand how all teachers in the school could cooperate while working and assisting students in the SEP for integrating and engaging within the regular classroom activities.
- Third School and Classroom Environments, the goal of this area was to understand how these environments could be accommodated to students' learning within an inclusive setting.
- Fourth School Budget, the goal of this area was to understand how the school's budget could be allocated to the SEP effectively to enhance higher educational quality.
- Finally, Other Requirements, the goal of this area was to understand what requirements could be necessary and how they could be implemented to provide proper education for contributing to the students' progress.

The three different methods of data collection were addressed in this research for productive planning and action in the field, they were: semi-structured interviews, field notes and participant observations, and content analysis of textual materials:

- Semi-Structured Interviews:* The qualitative interview was to provide the opportunity for the researcher to explore deeper understanding of different aspects of the SEP, and learn new information about the school's structure from participants' working experiences at the school [15]. Formal and informal types of interviews were used for learning and observing the conversation between researcher and participants. Individual and group interviews were required to gain a more comprehensive understanding of the different perspectives and to build effective communication and collaboration for achieving SEP's goals.
- Field notes and participant observations:* The researcher conducted observations of the participants in natural activities and during interactions within the school's environment such as in the special education classroom, in the regular classroom, at the playground, at the cafeteria, in the swimming pool, at the library and other places that students and teachers in the SEP participate.
- Content analysis of textual materials:* The researcher collected the data of textual materials which were both formal and informal documents. The formal artifacts in this research project included Individual Education Programs (IEPs), behavioral intervention plans, policy documents, budget forms, and other documents of the SEP's

that were used. Furthermore, informal artifacts included websites, photographs, school newsletters, the school handbook, brochures, and other sources that could be beneficial information to help the researcher gain better understanding about the SEP's framework and the participants' perspectives.

### 3.5. Data Analysis

This research project investigated institutional development to determine improvements to an educational program for students with invisible disabilities. Therefore, data analysis focused on examining and evaluating five principle areas that were relevant to driving the SEP's development, including policy and curriculum, human resources, environments, budget, and other requirements. The SEP's goal was to enhance higher educational quality within inclusion. There were two processes of analysis in this research, SWOT analysis and thematic coding.

First, SWOT analysis indicated the framework to identify Strengths, Weaknesses, Opportunities, and Threats through five principle areas, based on analyzing and synthesizing data from three data sources, including formal and informal interviews, observations, and textual materials. The aim of SWOT analysis was to evaluate and identify the key internal/external, factors that were a significant part of the strategic planning process and for achieving the goal of developing traditional education toward inclusive education. Two main categories included: (1) internal factors examined the strengths and weaknesses, and (2) external factors examined the opportunities and threats that impacted the SEP by presenting external environment [17]. Primary questions were created integrating and analyzing the data to understand the SEP problems and the solutions for productive planning that were following:

- *Strength:* What is the internal factor that presents significant help to achieve the SEP's goal?
- *Weakness:* What is an internal factor that presents harm towards achieving the SEP's goal?
- *Opportunity:* What is an external factor that presents significant help to achieve the SEP's goal?
- *Threat:* What is an external factor that presents harm towards achieving the SEP's goal?

After analyzing and identifying these positive and negative factors of the SEP, strategic planning was developed to strengthen the positives, and minimize the negatives. The researcher also considered any

possibility that obstacles would occur during the action process, so that analysis procedure was produced at the same time data was collected to prepare for alternative planning [18].

Second, thematic coding system was an essential system for analyzing and sorting data. This research took for over six months to complete the PAR process which followed four phases: planning, action, observation, and reflection. Therefore, large information was concerned while interpreting and analyzing the data. The aim of thematic coding was to help researcher for reducing and organizing a large amount of data. The researcher transcribed all data from three data sources and followed the coding system process to organize the data into major themes by constructing and characterizing patterns in the data [15]. The analysis process was produced at the same time while gathering the data for avoiding complex data in this research.

#### 4. Analysis Findings

Participatory Action Research (PAR) was used in this instructional development to investigate and evaluate developing the Special Education Program (SEP) in Thailand. The results of this research were divided into four phases following PAR procedure, including: planning, action, observation, and reflection.

##### 4.1. First Phase

The results from *Planning* was analyzed using SWOT analysis strategies to evaluate the traditional education program of SEP and indicated the framework for developing toward an inclusive program. The SWOT analysis matrix described the strategic planning by identifying a strength, a weakness, an opportunity, and a threat at the SEP.

Table 3. SWOT Analysis Matrix

<p><b>i. Strength</b> (Internal factor)</p> <p>Regular Teachers</p>	<p><b>ii. Weakness</b> (Internal factor)</p> <p>Special education Knowledge and Skills</p>
<p><b>iii. Opportunity</b> (External factor)</p> <p>University</p>	<p><b>iv. Threat</b> (External factor)</p> <p>Rapid growth of children with invisible disabilities</p>

i. SWOT analysis matrix showed the regular teachers were presented as a Strength. The study found that 50 regular teachers are an adequate number for serving regular students at the primary education level in this school. A majority of the regular teachers held a minimum educational degree at the master level. These teachers had recorded professional performance, high qualifications, and long experience teaching. The regular teachers have shown strong passion to participate in this research project for the SEP's development toward inclusive education for students with invisible disabilities. They believed that all students in this school deserve equal opportunity to engage in learning activities in the same classroom with their peers. The regular teachers explained that students in the SEP were welcomed to integrate in the regular classroom. Even though, some students in the SEP already participated in certain subjects, they could attend in more classes for better social learning. Additionally, the regular teachers also shared perspectives about the benefits of inclusive education that could promote positive attitudes in the classroom such as (1) building social friendship, (2) learning to understand differences and acceptance of each other, and (3) creating moral learning.

ii. SWOT analysis found deficient knowledge and skills related to the special education field presented a Weakness. However, the regular teachers agreed to cooperate with this research project for shifting to inclusion, they had shown a lack of confidence in their knowledge and capable skills for teaching students with invisible disabilities. Furthermore, the regular teachers pointed out their significant concerns in the inclusive classroom setting would be students who have behavioral and emotional aggression. The regular teachers expressed their nervousness while they were working with students in the SEP who screamed, cried, attempted to hurt themselves or ran away during the classroom activities. The regular teachers embraced that they decided to ignore these students because of lack of understanding about behavioral intervention and techniques. The challenges of the inclusive classroom were that these students could disturb other regular students in their academic learning progress because of the unpredictable misbehaviors.

iii. SWOT Analysis showed that the University was presented as the Opportunity. This school is under management by the local university that provides great academic and funding resources. The teachers in this school receive the benefits to access numerous

international research articles and journals from the University’s database. The University is also the scholarly location where access to professional experts and advice in specialized fields can be facilitated.

iv. SWOT Analysis found rapid growth in the population of children with invisible disabilities, that growth was presented as Threat. Just like other public schools in Thailand, the SEP has also been facing similar challenges having to limit the number

of children that can be accepted with invisible disabilities into the program. Many children with invisible disabilities who live in local area are on a waiting list to enter the SEP for receiving basic educational services. This critical situation has become a serious concern for school administrators that believe that the SEP was not prepared for the raising growth of children with invisible disabilities.

After SWOT analysis was used for evaluating and identifying the possibilities of the SEP for enhancing traditional to inclusive education, the SEP’s Action Plan was set for operation.

Table 4. SEP’s Action Plan for inclusion

Principle areas	Action Plan
1. Policy and curriculum	Revising and developing: <ul style="list-style-type: none"> <li>• Individualized Education Program (IEP)</li> <li>• Modification and accommodations</li> <li>• Alternative assessments</li> <li>• Behavioral Intervention Plan (Using Functional Behavioral Assessment)</li> <li>• Transition planning</li> </ul>
2. Human Resources	Providing and promoting: <ul style="list-style-type: none"> <li>• Teacher training in special education field</li> <li>• Teaching model</li> <li>• Building collaborative work (regular teachers and special education teachers)</li> </ul>
3. School and classroom environments	Developing: <ul style="list-style-type: none"> <li>• Physical structure classroom (work system, visual materials, and schedule)</li> <li>• Sensory room</li> </ul>
4. Budget	Promoting: <ul style="list-style-type: none"> <li>• Professional development</li> <li>• Teaching materials</li> </ul>
5. Other requirements	Supporting Parents involvement

#### 4.2. Second Phase

The result of *Action* discovered the implementation of inclusion to determine what needed to remain or what would need to be modified by evaluating five principle areas. This result described what was needed in order to achieve the SEP’s action plan and were categorized into the following five areas:

*Policy and curriculum:* the Individualized Education Programs (IEPs) and other intervention plans were dropped three years ago, because of a problem with inadequate special education teachers in this school. Thus, the SEP’s action plan decided to revise the IEPs, and compound several subjects for achieving specific objectives for students’ needs, particularly behavioral intervention plans and transition planning. Next, an IEP meeting was arranged to provide an opportunity for cooperative

work between teachers and parents agreeing on decisions together. Furthermore, accommodations and modifications were required to assist students with invisible disabilities become successful learning in academic and social settings. For example, modifying the exercise sheet by reducing the numbers and re-designing it properly for applying it to a functional situation. Additionally, alternative assessments were provided so that students in the SEP could reach their objectives and goals in the IEPs. For example, using observation for monitoring students’ progress in specific areas while they were participating in the activities rather than using written examinations.

*Human Resources:* As previously discussed, inadequate special education teachers had been a difficult situation for the SEP and school management. Two special education teachers were described as still challenged for attempting to pay

close attention to each student. Thus, the SEP's action plan decided to provide training and a teaching model from the special education field for regular teachers who were identified as Strengths using SWOT analysis matrix. Regular teachers' in the primary education level attended three full-day training seminars titled, "Teaching and Supporting Students with Disabilities in Inclusive Classroom." The goal was to provide the regular teachers better knowledge and understanding of the differences between the students' unique needs, the application of behavioral interventions, and other techniques to support the students' accomplishments when engaging in the inclusive environment. Finally, building collaborative work between regular teachers and special education teachers was a key for success. The efforts from teamwork made a difference showing significant impacts on the students' academic and social achievements within the inclusive education. However, this school employed only two special education teachers in the SEP; all other regular teachers were trained and willing to cooperate responsibly working together.

*School and classroom environments:* The students in the SEP showed loss of deliberation when working and lacked caution for self-injury. Most students with invisible disabilities, especially students with Autism Spectrum Disorders had been experiencing a difficult time functioning independently [19]. Management of the classrooms' structures was required to promote and support these students to function independently throughout the school-day routine. The goals also focused on helping students to understand their tasks, roles, responsibilities, and safety concerns within the inclusive setting. Thus, the SEP's action plan decided to apply TEACCH techniques for developing the classroom environment. The physical structure of the classroom was decided to help students improve the learning environment and prevent behavioral challenges by following:

- Reducing unnecessary objects and organizing by function to increase environmental safety.
- Dividing the classroom spaces into functional areas such as work area, bag pack area, game-play area, reading area, and relaxation area.
- Using visual materials to encourage effective communication, particularly communication board.
- Using schedule to reduce anxiety and confusion during transition.

A sensory room was also designed to support sensory integration for students in the SEP to help them remain balanced during over and under sensitive sensory processing.

*Budget:* The SEP's action plan decided that the school budget would be required to allocate for the SEP's development:

- Providing the seminar teacher training titled "Teaching and Supporting Students with Disabilities within an Inclusive Classroom."
- Promoting professional development such as teacher model and classroom action research.
- Assistive technology in the classroom.
- Teaching materials and other facility improvements.

*Other requirements:* Parents' collaboration and attitudes were discovered that were very important for building effective teamwork within the school, specifically to develop an educational system that supported their children's success. The SEP's action plan decided to develop collaboration by arranging two main activities for every school semester, including (1) the IEP meeting, and (2) the Home and School Communication meeting that provided additional knowledge for teaching and supporting their child's needs.

#### 4.3. Third Phase

*Observation* was conducted at the same time while the SEP's action plan was operating in the field. The results found possible improvements for the SEP that were:

*Policy and curriculum:* Special education teachers performed more confidently when working on students' goals and objectives following the IEPs and other intervention plans. Developing accommodations and modifications helped students in the SEP obtain more opportunities to integrate and engage in the regular classroom than the traditional SEP program. The benefit of using alternative assessments found students' experienced pleasure from academic learning during class activities. Finally, the parents in the SEP regained their trust in the SEP's educational services because of their inclusion in the IEP meeting, they felt that they were a part of supporting their child's future.

*Human resources:* After seminar teacher training, the regular teachers showed strong self-possession in teaching and managing the inclusive classroom. They applied several teaching techniques and strategies from attending this seminar such as using highlights to help students' focus on writing and reading, using short sentences in conversation, moving students to sit closer with the teacher or peer modeling. The regular teachers showed high satisfaction with the school's policy to promote an inclusive setting for the students in the SEP,



specifically for gaining social learning. These regular teachers showed strong performance of teaching and ability to assist students in the regular classroom.

*School and classroom environments:* The physical structured classroom helped students in the SEP become highly responsible and independent throughout the inclusive setting. These students showed their improvement in academically appropriate behavioral outcomes. Additionally, they acted more comfortable when releasing stress and frustration while participating in class activities and during the transition process. Organizing the classroom and reducing any visual or auditory stimulation could release distraction and behavioral problems while students were paying attention to the teacher or while being engaged in classroom activities. The beneficial peer modeling, specifically sitting students next to peers, helped these students imitate appropriate behaviors, and social interactions. Finally, social relationships were so powerful that students in the SEP wanted to be included in group work rather than be separated in the special education room.

*Budget:* After school funds provided teaching materials and equipment through the SEP, the special education teachers could produce more effective assistive technology and more quickly than before. Assistive technology such as communication boards,

schedules, and other sensory tools were produced as a result. This showed that the school could also save more budgets by withdrawing from ordering directly through the stores. Additionally, the students in the SEP received the right support tools that matched what they needed and could better control the design and implementation of the tools.

*Other requirements:* The feedback of parents in the SEP showed high satisfaction with the SEP's services that provided IEP meeting and Home and School Communication meeting. The parents also showed strong collaboration to work with teachers, and their willingness to support any SEP projects for improving educational quality. Finally, the parents felt empowered to involve themselves in their child's academic plan, safety at school, and in the hopes for their child's future.

#### 4.4. Reflection Phase

Finally, the *Reflection* phase showed the changes participants experienced beginning with providing fundamental knowledge and skills of special education until they reached beliefs and goals for students with invisible disabilities. This pyramid exhibited the results of the SEP's action plan and the reflection on the improvements.

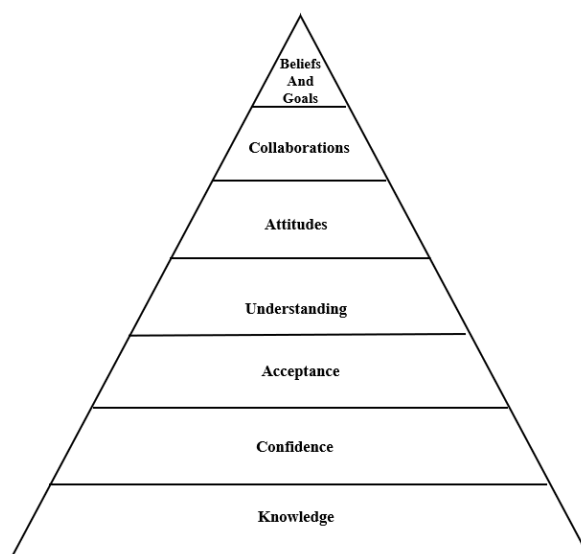


Figure 2. The SEP's Action Plan Reflection

### 5. Discussion

The discussion showed the advantages and challenges during the educational system's practical shift from a traditional program to an inclusive program. This research found that the advantages of achieving the SEP's development goals consisted of three essential components: (1) collaboration,

(2) positives attitudes, and (3) knowledge of special education and skills proficiency.

First, collaboration was a major key to achieve this research project's goal. However, the SEP employed only two special education teachers, a strong supportive team from the school administrators, and other regular teachers who had composed accomplishments for shifting the SEP toward inclusive education efficiency. Next, positive

attitudes had driven the SEP's action plan for contributing to students with invisible disabilities in successful engagements in school activities within the inclusive setting. The teachers expressed their forceful attitudes believing in equal opportunity and moral society. In meaningful statements from the regular teachers they state that the inclusive setting is the education that provides valuable knowledge that all of us could learn from, recognize unique differences in each other, help each other, and respect each other. Finally, knowledge of special education and skills proficiency were necessary elements of inclusive education. The school administrators provided and trained teachers in school as part of the teachers' professional development plans. The teachers were trained with basic knowledge from the special education field, particularly related to topics of understanding the different characteristic of disabilities, classroom management, and positive behavioral support. After they received training from the seminars, the regular teachers performed with active confidence for teaching and assisting students with invisible disabilities. These teachers became more independent and pleasant when working within the inclusive setting than before when they lacked knowledge.

The challenge of this research found that insufficient special education teachers effected a critical situation for educational development in Thailand. School administrators attempted recruiting career positions for special education teachers; however, no applications were received. This position has still not been filled, and it was still available on the official school website for over six months until recently. Inadequate special education teachers have been in significant crisis in the public educational system in Thailand while compared with the fast growth number of the number of students with invisible disabilities that continues to increase. Eventually, both regular teachers and special education teachers would have to work together to support students' educational success within inclusive environments.

## 6. Limitations

The two major limitations of this research project. First, there was a limited time of about 6 months or one semester for conducting the SEP's action plan in the field; despite this limitation this research was still processed fully within one year. Therefore, certain topics from the SEP's action plan could be difficult accomplishments for 6 months and required longer periods of time for both observing and processing. For example, students in the SEP who were low functioning, such as deficit in language and communication or sensory processing, needed longer periods of time to improve in

language and social communication skills or social behavior skills.

Second and finally, this research focused on intense investigation of the primary education level. However, the research across education levels would be compromised to understand teachers' perspectives of inclusion in a secondary education level. This school has not prepared and provided special educational services for students in the SEP at a secondary education level yet. Thus, most parents in the SEP are highly concerned about their children's educational futures after they graduate from primary education. To develop inclusive education, the study recommended continuing and expanding the SEP's action plan toward the secondary education level for long-term outcomes of institutional development.

## 7. Conclusion

The PAR (Participatory Action Research) was used to investigate institutional development and to reform the Special Education Program (SEP) at a public school in Thailand. The purpose of this research focused on evaluating and developing from a traditional to inclusive education for students with invisible disabilities to integrate in more social learning opportunities. PAR's four main procedures included planning, action, observation, and reflection. The action research and qualitative research were used in this research to explore five principle areas, including (1) policy and curriculum, (2) human resources, (3) school and classroom environments, (4) school budget, and (5) other requirements. Data collection consisted of semi-structured interviews, field notes and participant observations, and textual materials and documents. SWOT analysis was addressed for understanding and analyzing the Strengths, Weaknesses, Opportunities, and Threats of school's educational program. Thematic coding was also used to reduce a large data into major themes.

The findings of this research described three primary questions, as summarized below:

*Q1 Does this research project present the process of developing the Special Education Program to efficient inclusive education for students with invisible disabilities?*

Yes, this research project showed the effective process of developing inclusive education by using PAR procedures. First, the SEP's action plan was developed using SWOT analysis to evaluate the traditional program of the SEP and identified the Strengths, Weaknesses, Opportunities, and Threats. The results found were as follows: (1) Strength indicated regular teacher's optimism; (2) Weakness indicated that teacher's lack of knowledge and skills in the field of special education; (3) Opportunity

indicated that this school had sufficient funds and the ability to access other resources; and (4) Threat indicated high numbers of students with invisible disabilities. Second, action and observation were processed at the same time by focusing on developing five main areas, including (1) policy and curriculum, (2) human resources, (3) school and classroom environments, (4) school budget, and (5) other requirements. Finally, reflection showed the SEP's action plan effected changes to the participants within the inclusive environment beginning with knowledge, confidence, acceptance, understanding attitudes, collaboration, beliefs, and goals.

*Q2 What did the research project contribute to students with invisible disabilities progress within inclusive education?*

The research conducted shows strong contribution between students with invisible disabilities and their progression within inclusive education. First, the students in the SEP received proper Individualized Education Programs (IEPs), other interventions, and alternative assessments that matched their individual needs. Second, behavioral intervention and transition plans helped students in the SEP understand to adapt their behavior in social interaction. Next, the students in the SEP received higher expectations from the regular teachers and their peers, that presented the potential and ability to engage in the classroom activities. Fourth, the physical structure of the classroom helped students in SEP become more independent, learning without working too closely with the special education teacher in the resource classroom or the special education classroom. Fifth, students in the SEP gained more confidence participating in the social settings, and reduced emotional anxiety. Finally, the students in the SEP showed that they were more active and happier with their peers in the regular classroom than in the resource classroom.

*Q3 What are the advantages, concerns, and solutions of this research project?*

It was noted that achieving the SEP's goal development included three main components: (1) collaboration, (2) positives attitudes, and (3) knowledge of special education and skills proficiency. On the other hand, inadequate special education teachers found significant challenges for educational developments. Providing teacher training seminars for all teachers in the primary education level were appropriate solutions for this research project. The teachers performed with greater confidence while teaching, working, and assisting students with invisible disabilities within the inclusive settings.

Finally, this research discussed the limitations and expectations to expand the SEP's development in future research. Certain plans needed additional processing and approval from the administrative level on the school policy. Importantly, research of this type would be particularly beneficial to other public schools for educational development in inclusion.

## 8. References

- [1] Shevin, S. M. (1995). Why Gifted Students Belong in Inclusive School, *Educational Leadership* 52(4), pp. 64-67.
- [2] Blum, M.L. (2011). Not This Big, Huge, Racial-Type Thing, but...: Mothering Children of Color with Invisible Disabilities in the Age of Neuroscience, *Journal of Women in Culture and Society*, 36(4), pp. 941-967.
- [3] Shaw, E. M. (2012). *Invisible Disabilities: Stigma and Belonging*, Adlerian Counseling and Psychotherapy, Adler University.
- [4] Handford, P. K. (2017). Don't Be Blind to Invisible Disabilities, Chartered Management Institute; <http://www.managers.org.uk/insights/news/2017/august/dont-be-blind-to-invisible-disabilities> (13 February 2018).
- [5] National Statistical Office of Thailand. (2016). 'Statistical Data of People with Disabilities in Thailand', [http://service.nso.go.th/nso/nsopublish/citizen/news/news\\_disabled.jsp](http://service.nso.go.th/nso/nsopublish/citizen/news/news_disabled.jsp) (13 February 2018).
- [6] Sorntamart, O., and Srisuruk, P. (2016). Utilisation of Cyclic Model Movement Activities Based on the Sensory Integration: Theory to Reduce Repetitive Behaviors in a Child with Autism During Preparatory Stage, *Journal of Education Khon Kaen University*, 10(4), pp. 150-156.
- [7] Vorapanya, S., and Dunlap, D. (2014). Inclusive Education in Thailand: Practices and Challenges, *International Journal of Inclusive Education*, 18(10), pp. 1014-1028.
- [8] Kaur, A., Noman, M., and Awang-Hashim, R. (2016). 'Exploring Strategies of Teaching and Classroom Practices in Response to Challenges of Inclusion in a Thai School: A Case Study', *International Journal of Special Education*, 20(5), pp. 474-485.
- [9] Kemmis, S., and McTaggart, R. (2005). *Participatory Action Research: Communicative Action and the Public Sphere*, Sage Publications, Thousand Oaks.
- [10] Gillis, A., and Jackson, W. (2002). *Research Methods for Nurses: Methods and Interpretation*, F.A. Davis Company: Philadelphia. pp. 264.
- [11] MacDonald, C. (2012). Understanding Participatory Action Research: A Qualitative Research Methodology Option, *Canadian Journal Of Action Research*, 13(2), pp. 34-50.

[12] Burnes, B. (2004). Kurt Lewin and Complexity Theories: Back to the Future? *Journal of Change Management*, 4(4), pp. 309-325.

[13] Lewis, R. (1994). From Chaos to Complexity: Implications for Organizations, *Executive Development*, 7(4), pp. 16-17.

[14] Spencer, J. A., and Molina, S. C. (2018). Mentoring Graduate Students through the Action Research Journey Using Guiding Principles, *Educational Action Research*, 26(1), pp. 144-165.

[15] Merriam, S.B. (2009). *Qualitative Research: A Guide to Design and Implementation*, Jossey-Bass, San Francisco.

[16] Roberts, M. D., Brown, A., and Edwards, L. (2015). Participatory Action Research in Two Primary Schools in a Rural Tanzanian Village: An Exploration of Factors to Cultivate Changes in Teaching and Learning, *Educational Action Research*, 23(3), pp. 366-382.

[17] Harrison, P. J. (2010). *Strategic Planning and SWOT Analysis*, Health Administration Press.

[18] Silverman, D. (2000). *Doing Qualitative Research: A Practical Handbook*, Sage Publications, Thousand Oaks.

[19] Carnahan, R.C., Hume, K., Clarke, L., and Borders. (2009). Using Structured Work Systems to Promote Independence and Engagement for Students with Autism Spectrum Disorders, *Teaching Exceptional Children*, 41(4), pp. 6-14.