KNOWLEDGE AND ATTITUDES OF SPECIAL EDUCATION TEACHERS TOWARDS STUDENTS WITH HEARING IMPAIRMENT IN THE NORTHEAST REGION

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Thesis

Entitled

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Thearnsinee Pokathrap

KNOWLEDGE AND ATTITUDES OF SPECIAL EDUCATION TEACHERS TOWARDS STUDENTS WITH HEARING IMPAIRMENT IN THE NORTHEAST REGION

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ABSTRACT

Teachers play important roles in educational rehabilitation of hearing impaired children. Therefore, they should have good knowledge in this area and should have positive attitudes towards hearing impaired children.

The objectives of this study were: 1. To find out attitudes and knowledge of teachers in deaf schools in Northeast region; 2. To compare knowledge and attitudes of the teachers according to ages, educational level, fields of study, experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children from radio, television, newspaper, training/seminar ; 3. to find relationship of knowledge to attitudes. The instrument of this study was questionnaire. Samples were 144 teachers in deaf schools in Northeast region.

The study found that teachers in deaf schools in Northeast region have knowledge about psychology of hearing impaired children and teaching methods for hearing impaired children at the medium level and have attitudes toward hearing impaired children at high level, which means they have positive attitudes toward hearing impaired children. Their knowledge about hearing-impaired children was different, with statistical significance 0.05 according to the frequency of getting information about hearing impaired children from radio, television and newspaper. Their attitudes toward hearing-impaired children are different with a statistical significance of 0.05 according to the frequency of getting information about hearing impaired children from television. Their knowledge and attitudes have a positive relationship with a statistical significance of 0.05.

Suggestions of this study are :

-There should be training for teachers in deaf schools about psychology of hearing impaired children and teaching methods for hearing impaired children.

-The curriculum for students who major in special education or teaching should include the content on psychology of hearing impaired children and teaching methods for hearing impaired children.

KEY WORDS: HEARING IMPAIRED CHILDREN/KNOWLEDGE/ATTITUDE

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ความรู้และเจตคติของครูโรงเรียนศึกษาพิเศษต่อเด็กพิการทางการได้ยินในภาคตะวันออกเฉียงเหนือ (KNOWLEDGE AND ATTITUDES OF SPECIAL EDUCATION TEACHERS TOWARDS STUDENTS WITH HEARING IMPAIRMENT IN THE NORTHEAST REGION)

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บทคัดย่อ

การฟื้นฟูสมรรถภาพเด็กพิการทางการได้ยินทางด้านการศึกษานั้นบุคคลผู้มีบทบาทสำคัญอย่างยิ่งคือครูผู้ทำหน้าที่สอนเด็กพิการทางการได้ยิน จึงควรเป็นครูที่เก่งและดี คือเป็นบุคคลที่มีความรู้ความสามารถและมีเจตคติที่ดีต่อเด็กพิการทางการได้ยิน อันจะนำไปสู่การมีความตระหนักและใส่ใจในการฟื้นฟูสมรรถภาพเด็กพิการทางการได้ยินทางด้านการศึกษาอย่างจริงจัง โดยคำนึงถึงเด็กพิการทางการได้ยินเป็นสำคัญ เพื่อให้โอกาสเด็กพิการทางการได้ยินได้รับการฟื้นฟูสมรรถภาพด้านการศึกษาให้สอดคล้องกับศักยภาพที่เด็กมีอยู่และชดเชยส่วนที่เป็นอุปสรรค(Handicap) ให้สามารถช่วยเหลือตัวเองได้ไม่เป็นภาระของครอบครัว ชุมชน และสังคม นำไปสู่การมีวิถีชีวิตอิสระ(Independent Living)

การศึกษาวิจัยในครั้งนี้มีวัตถุประสงค์ในการศึกษาความรู้และเจตคติของครูโรงเรียนศึกษาพิเศษต่อเด็กพิการทางการได้ยินในภาคตะวันออกเฉียงเหนือ และเปรียบเทียบความรู้และเจตคติตามตัวแปร อายุ ระดับการศึกษา สาขาวิชาที่สำเร็จการศึกษา ประสบการณ์สอนเด็กพิการทางการได้ยินจากวิทยุ โทรทัศน์ หนังสือพิมพ์ การอบรม/สัมมนา รวมทั้งหาความสัมพันธ์ของความรู้และเจตคติ ดำเนินการวิจัยโดยใช้แบบสอบถาม แบบทดสอบ แบบวัดเจตคติ กับครูโรงเรียนศึกษาพิเศษในภาคตะวันออกเฉียงเหนือที่จัดการเรียนการสอนเด็กพิการทางการได้ยิน จำนวน 144 คน จากการสุ่มตัวอย่างแบบง่าย

ผลการวิจัยพบว่า ครูโรงเรียนศึกษาพิเศษในภาคตะวันออกเฉียงเหนือมีความรู้ในเรื่องจิตวิทยาเด็กพิการทางการได้ยิน และการจัดการเรียนการสอนเด็กพิการทางการได้ยิน ในระดับปานกลาง มีเจตคติต่อเด็กพิการทางการได้ยินในระดับสูงหรือทิศทางบวกต่อเรื่องดังกล่าว มีความรู้เกี่ยวกับเด็กพิการทางการได้ยินแตกต่างกันตามความถี่ในการรับรู้ข้อมูลข่าวสารเกี่ยวกับเด็กพิการทางการได้ยินจากวิทยุ โทรทัศน์ และหนังสือพิมพ์ อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 ส่วนตัวแปรเจตคติที่พบว่ามีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 ความถี่ในการรับรู้ข้อ

มูลข่าวสารเกี่ยวกับเด็กพิการทางการได้ยินจากโทรทัศน์ ความรู้และเจตคติมีความสัมพันธ์กันในเชิงบวกอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 ข้อเสนอแนะจากการวิจัยคือ ควรมีการฝึกอบรมหลักสูตรความรู้ทางด้านจิตวิทยาเกี่ยวกับเด็กพิการทางการได้ยิน และการจัดการเรียนการสอนเด็กพิการทางการได้ยิน พร้อมทั้งให้บรรจุความรู้ดังกล่าวลงในหลักสูตรครุศาสตร์บัณฑิตหรือการศึกษาศาสตร์บัณฑิตในทุกวิชาเอกหรือทุกโปรแกรมการเรียน เพื่อให้บัณฑิตที่จะสำเร็จการศึกษาออกมาเป็นครูมีความรู้พื้นฐานในการฟื้นฟูสมรรถภาพทางด้านการศึกษาแก่เด็กพิการทางการได้ยิน

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CHAPTER I
INTRODUCTION

1.1 Background and significance of the study

Human resource is very important for the country development. It is the key for economic, social and political development.

In Thailand, human resource development is in high priority for the country development. For example, the Constitution of Thailand B.E. 2540, Article 43, stated that all citizens of Thailand have equal right to receive compulsory education of at least 12 years. The Economic and Social Development Plan 8 emphasized on human developments. This is concurrent with the Educational Reform Plan B.E. 2539-2550 of the Ministry of Education, which emphasized on the mental and physical development of the students (Rajabhat Suan Dusit Institute, 2002: 38-42). According to the Educational Act B.E. 2542, Article 22 stated that the education must be based on the concept that all students are able to learn and to develop themselves and the education must be student-based. Hence, children with hearing impairment also have equal rights to learn. With appropriate teaching methods, hearing-impaired children are able to learn and develop themselves. Teachers and all related persons must be well informed about teaching methods for hearing impaired children and must be able to make appropriate educational plans for them. Moreover, students need to be informed about sources of information, i.e., where and how to search for information, how to access information through media and other sources.

Educational rehabilitation of hearing impaired children is mainly based on the teachers. As they are key persons to the success or failure of their students, the teachers must be able to plan and teach hearing-impaired children so that they can fully develop themselves. The teachers must have positive attitudes towards hearing impaired children and be aware of the concept of student-based learning as well as the concept of equal rights to education of all children.

According to the information in B.E. 2544, about schools for the deaf in Northeast of Thailand, derived from the Division of Education for Disabled Persons, Ministry of Education, there is a small number of teachers compared with students. Take Surin School for the Deaf as an example. There were 340 students but only 11 teachers. In Roi Ed School for the Deaf, there were 333 students and 11 teachers (Division of Education for Disabled Persons, 2001). There were also some teachers who work as temporary employees of the government.

Teachers are key persons to support students in developing themselves and overcoming their handicap so that they can live independently in society. Therefore, teachers of hearing-impaired children should acquire knowledge, skills and information by various ways such as regular training so that they are updated with new knowledge and skills.

Table 1: Information about Schools for the Deaf in the Northeast, Division of Education for Disabled Persons, Department of General Education, in 2001

Name of School	Level of education	Number of classrooms	Number of students	Number of teachers
-Nakornratchasima School for the Deaf	kindergarten-grade 6	40	371	17
-Chaiyabhum School for the Deaf --	grade 1- grade 6	28	260	11
-Khon Kaen School for the Deaf	grade 1– grade 6	37	364	45
-Udon Thani School for the Deaf	grade 1– grade 9	34	319	13
-Roi Et School for the Deaf	grade 1– grade 9	41	333	11
-Surin School for the Deaf	kindergarten – grade 9	34	340	11
-Mukdaharn School for the Deaf	kindergarten-senior high school	23	189	10

Teachers play important roles in education of hearing impaired children. If they are fully developed, hearing impaired children is another group of human resource that can be part of the country development. Education for hearing impaired children has its own characteristics in educational philosophy, objectives, curriculum, teaching methods and teaching materials. (Phadung Arayawinyoo, 1988:26). Teachers and everybody who involve in education of hearing impaired children must bear in mind that they must administrate the education for the best interest of hearing impaired children. They must have education and skills, as well as appropriate attitudes and characteristics so that they can live equally with other people in society. Teachers are important persons in their lives as they play important roles in developing hearing impaired children to be important human resource of the country.

There are 7 schools for the deaf in the Northeast of Thailand, which is the highest number compared with other parts of the country. The number of hearing impaired children who study in these schools is also high. As stated earlier, teachers play important roles in developing hearing-impaired children. They not only educate hearing-impaired children but also support them so that the hearing impaired children have high potential and confidence and can be human power of the community and the country. Teachers must have knowledge about hearing impaired children such as psychology and educational management for hearing impaired children. They must also have positive attitudes towards hearing impaired children. Therefore, the researcher wants to study the knowledge and attitudes of teachers who teach at schools for the deaf in Northeast in order to be information for educational management and development of teachers and academic officials who work in the area of deaf education.

The study is also aimed to be part of the development of rehabilitation for hearing impaired children.

1.2 Objectives of the Study

1. To study knowledge of teachers who teach in schools for the deaf in the Northeast

2. To study attitudes of teachers who teach in schools for the deaf in the Northeast

3. To compare knowledge and attitudes of teachers who teach in schools for the deaf in the Northeast according to different variables : sex, age, fields of study, experiences in teaching hearing impaired children, knowledge about hearing impaired children from training and seminar, the information they derive from the media

4. To find correlation between knowledge and attitudes of teachers who teach in schools for the deaf in the Northeast

1.3 Questions of the study

1. What is the knowledge of teachers who teach at schools for the deaf in the Northeast?

2. What are the attitudes of teachers who teach at schools for the deaf in the Northeast?

3. Does the knowledge of teachers who teach at schools for the deaf in the Northeast differ according to the variables?

4. Does the attitude of teachers who teach at schools for the deaf in the Northeast differ according to the variables?

5. What is the correlation of knowledge and attitudes of teachers who teach at schools for the deaf in the Northeast?

1.4 Hypotheses

1. Teachers who teach at schools for the deaf in the Northeast have different level of knowledge according to the variables: sex, age, fields of study, and experiences in teaching hearing impaired children, knowledge about hearing impaired children from training and seminar, and the information they derive from the media.

2. Teachers who teach at schools for the deaf in the Northeast have different attitudes toward hearing impaired children according to the following variables: age, level of education, field of study, experiences in teaching hearing impaired children, how often they receive information about hearing impaired children from the training, seminar and from the media such as radio, television, and newspaper.

3. Knowledge and attitudes of teachers who teach at schools for the deaf in the Northeast have positive correlation.

1.5 Scope of the Study

1. The study is aimed to find out the knowledge and attitudes of teachers who teach at 7 schools for the deaf in the Northeast that are :

1. Nakorn Ratchasima School for the Deaf
2. Chaiyabhum School for the Deaf
3. Khon Kaen School for the Deaf
4. Undorn Thani School for the Deaf
5. Roi Ed School for the Deaf
6. Surin School for the Deaf
7. Mukdaharn School for the Deaf

2. The population of the study is teachers in 6 schools for the deaf in the Northeast because Roi Ed School for the Deaf was selected as the place for trying out the instrument.

1.6 Variables of the Study

1. Independent variables are age, Education level, fields of study, experiences in teaching hearing impaired children, how often they receive information about hearing impaired children from the training, seminar and from the media such as radio, television, and newspaper.

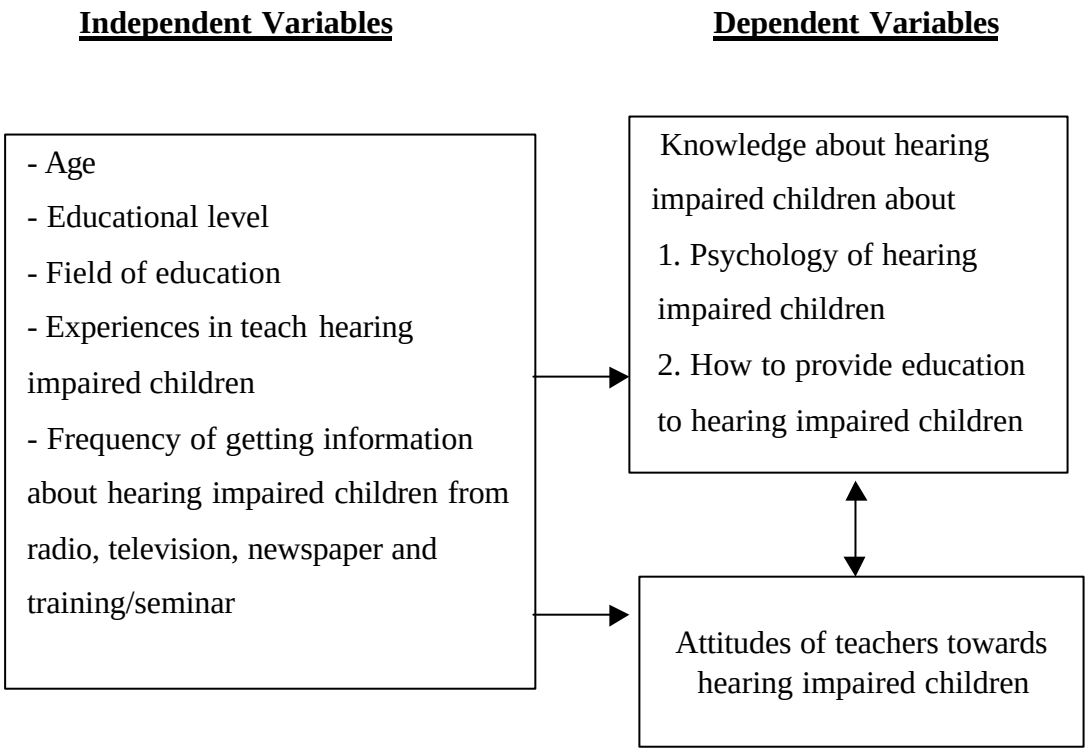
2. Dependent variables are :

1. Knowledge of teachers about psychology of hearing impaired children and how to provide education to them

2. Attitudes of teachers who teach at schools for the deaf in the Northeast

1.7 Correlation of Independent and Dependent Variables

Correlation of independent and dependent variables is shown in the following table.



1.8 Agreements

The initial agreements of this study are: knowledge and attitudes really exist in human beings. They can be figured out and explained by mathematical rules, and that characteristics of human beings can be explained in figures and can be statically analyzed.

1.9 Definitions

Knowledge means the recall or memory of facts or information about psychology of he and how to provide education for them that the teachers received from their own experiences or from the others through conversations or media.

Attitudes mean positive or negative responses of the teachers towards hc.

Teachers in schools for the deaf mean teachers who teach at schools for the deaf in the Northeast of Thailand.

Hearing impaired children mean children who have hearing loss and cannot hear the sound well or cannot hear at all.

Schools for the deaf mean schools under the Division of Education of Students with Disabilities that provide education or Education rehabilitation of hearing impaired for deaf students in the Northeast.

Level of education means the highest degree of teachers who teach at schools for the deaf in the Northeast which are: bachelor degree, master degree or Ph.D.

Field of study means the area in which they major such as education, teaching, special education, etc.

The frequency of deriving information about hearing impaired children means how often the teachers acquire information about deaf children from the media such as radio and television, and from the training or seminar. The frequency is divided into 4 levels : never get any information, get information less than once a month, get information once a month and get information more than once a month.

Educational management or educational rehabilitation of hearing impaired children means specific methods or strategies to teach hearing impaired children such as special teaching techniques, teaching materials, sign language, etc.

Psychology of hearing impaired children means behaviors, personalities and limitations of hearing impaired children.

Independent living means the ability to control one's life in the possible and acceptable ways, to minimize dependency, to make one's own decision in daily life and other activities, as well as to fully participate in the community and society.

1.10 Expected Outcome

1. To know knowledge and attitudes of teachers who teach at schools for the deaf in the Northeast as they play important roles in educational development of deaf students.

2. To provide information for officials who work in the field of deaf education as this group of people play important roles in educational management, which is part of the rehabilitation of hearing impaired children.

3. To increase positive attitudes of officials who work in the field of deaf educational management.

4. To provide information for other researchers who are interested in doing the same kind of research.

CHAPTER II
LITERATURE REVIEW

In the study, “Knowledge and Attitudes of Teachers Who Teach at Schools for the Deaf in Northeast”, the researcher has divided the literature review into 8 parts as follow :

1. Knowledge
2. Attitudes
3. Knowledge about hearing impaired children
4. Special education
5. Program for Production of Children with Hearing Disability Teachers
6. Education Management for Children with Hearing Disability
7. Roles and Responsibilities of Special Education School Teachers
8. Relevant Research

2.1 Knowledge

2.1.1 Definition

According to the Dictionary of Education by Carter V. Good (Good, 1973 : 325), knowledge means, “the fact, rules and information that human beings derived and accumulated from their experiences.”

According to the Lexicon Webster Dictionary of Smith (Smith, 1977 : 531), knowledge means, “fact, rules and structure that arise from the study or from experiences. It can also mean knowledge about places, things or persons that are derived from observation and experiences. The acquisition of knowledge needs time.”

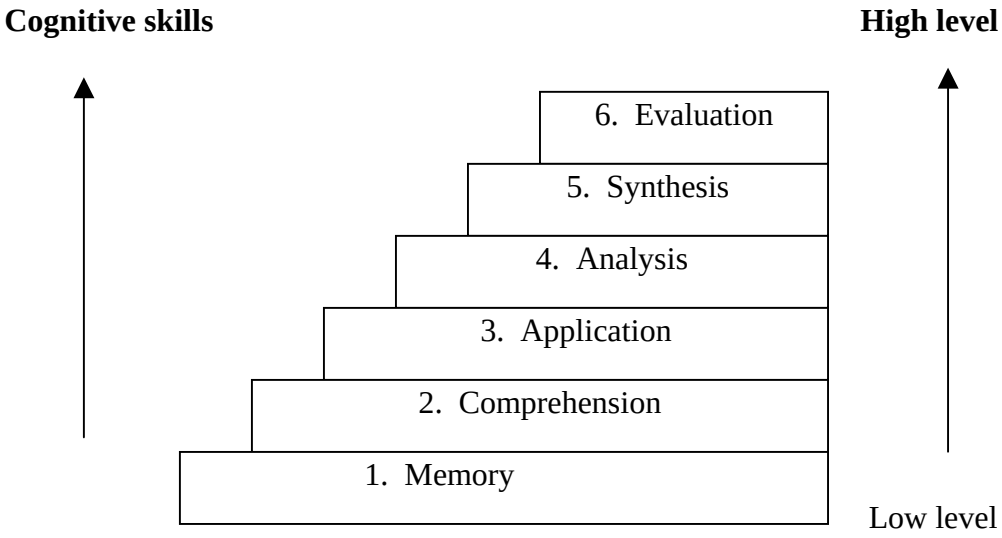
Bloom has defined knowledge as, “the recall of things which are specific or general including the process, situations, events, structure and environment. It is related to the psychological process of connection and restructuring.” (Bloom, 1977 : 271).

According to a Thai researcher, Praphaphen Suwan, “Knowledge is a fundamental behavior that is memorized by the learner. The learner may acquire knowledge by seeing, hearing or remembering. Some examples of this kind of knowledge are definition, meaning, fact, theories, rules and ways to solve problems.”

2.1.2 Level of knowledge

According to Bloom et al. (cited in Sawai Liamkaew,1998 : 12), cognitive domain of knowledge consists of 6 steps as follow

Bloom et al. (cited in Sawai Liamkaew 1998 : 12) proposed that the knowledge in the aspect of memory and thinking or cognitive domain consists of 6 levels of knowledge as shown from low to high level in the diagram below.



Graph 1 Steps of cognitive domain according to Bloom et al., (1959) (Sawai Liamkeaw, 1985 : 119)

The graph shows that memory is the first step of cognitive domain of knowledge, and comprehension is a step before application. If learners cannot understand what they have learned, they cannot use that knowledge. Bloom et al. designed these steps of knowledge for curriculum design. Learners must acquire these 6 steps in their learning process.

1. Memory

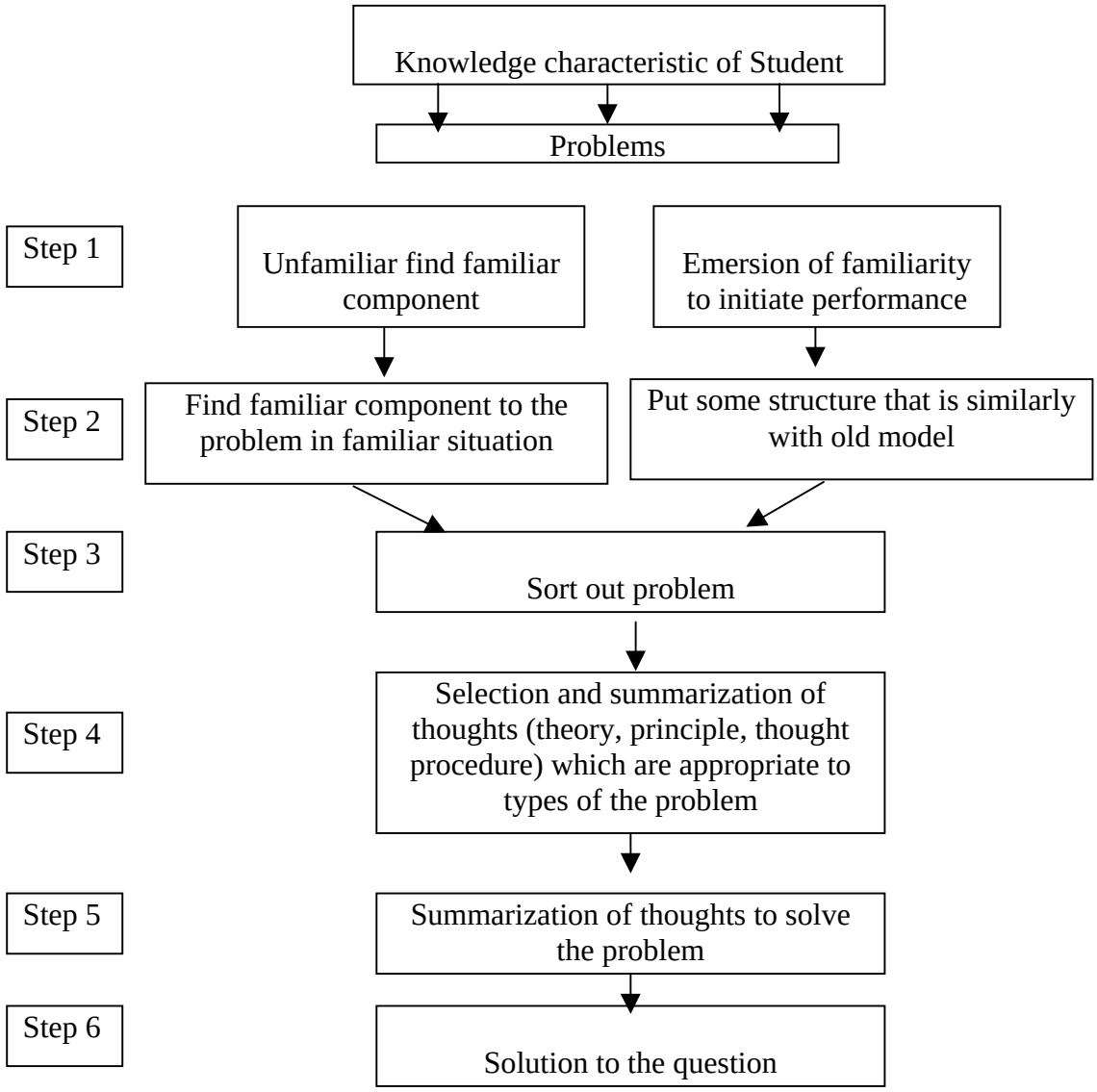
Memory is very important for cognitive process. It is important for learning process, language acquisition, problem solving, reasoning and decision making. Memory means the information that is kept in a certain period of time which can last less than one second or a life time (Lachman & Butterfield, 1979 cited in Yothin Sansonyuth et al., 1990 : 99).

2. Comprehension

Comprehension is a cognitive ability to expand memory in a reasonable way.

3. Application

Application means the ability of the learners to apply knowledge and comprehension that they acquired to the new situations or problems. The application process is shown in Graph 2.



Graph 2 The process of "Application"
(Tawutchai Chaijirachaikul, 1984 : 50)

4. Analysis

Analysis is a more advanced ability and skill than comprehension and application. It comprises breaking down the content into relative parts as well as finding relationship between parts of the whole. It is a tool to enhance true understanding of various things and can also be an introduction to evaluation.

5. Synthesis

Synthesis is the ability to put various things together as a whole. It is the process of putting together the content and substance to create a new pattern of structure. This process requires creativity within the provided scope.

6. Evaluation

Evaluation is the ability to make judgment over the values, thoughts, performances, methods, and contents to serve a specific purpose. Evaluation includes determining the criteria as the basis for making judgment. It is the highest level of cognitive domain and requires the combination of knowledge, comprehension, application, analysis, and synthesis.

2.2 Attitude

2.2.1 Definitions

Attitude is rooted from “Aptus” which means fitness or adapted ness. Attitude is a preparation behavior of the brain to act. It indicates the function of complex mental or emotional conditions before a person makes a certain decision to a problem-solution. In general, it depends on attitude to maintain what one has experienced to find out what the right and wrong intentions are according to one’s belief or feelings towards something. Obviously, attitudes are man’s internal abstract behaviors (Sak Sunthornsenee, 1988 : 1).

Thurstone (cited in Krittaya Boonthong, 1992 : 14) “Attitude is a summary of man concerning his feelings, prejudice, thought, fear for something, and verbal expression of attitudes. Attitudes, therefore, can be measured through a person’s opinion about things. They are an intensity of positive and negative feelings towards a psychological object, which can be anything such as object, person, article, organization, thought, and etc. with which a person who feels it can tell whether he/she agrees.”

Gilford (cited in Sawas Sukontharangsi, 1974 : 231) “Attitude is mental tendency to like-dislike, agree-disagree, support-not support some actions in the society”.

Sutho Charoensuk (1976 : 30) “Attitude is one’s feeling towards surrounding things focusing on things that one likes-dislikes and agrees-disagrees”.

Chalong Piromrat (cited in Krittaya Boonthong,1992 : 15) “ Attitude refers to readiness of a person to respond to something as planned”.

Prapapen Suwan (1983 : 14) “Attitude is an emotional opinion. It is a part that is ready to show specific reactions to external situations”.

Sak Sunthornsenee (1988 : 2-3) defines attitude as

1. Attitude is a complexity of feelings, desire, fear, confidence, biasness or prejudice of a person to be ready to do something according to his/her experiences.

2. Attitude is a tendency to positively react to something or oppose the approaching situation in one way or the other.

3. As human behavior, attitude is a readiness to respond. It is

3.1 An expression of an internal response of a person, which does not occur suddenly and can be seen from an external behavior. It can be either consciously or unconsciously, by words or internal stimuli. Each individual expression is part of an attitudinal response and other inclinations inside a person.

3.2 An external or internal responsive expression that shows one’s attitude triggered by speech or other methods.

3.3 All responses are a result of lifestyle. Value-related drive leads to a response to an image of person according to his/her habit.

According to the above definitions, attitude is an internal behavior that can be either noticeable or unnoticeable. It is a person’s positive or negative expression of ideas and feelings triggered by stimuli.

In this study, attitude is defined as “The response of teachers in the northeastern schools response to stimuli as positive or negative ideas.”

2.2.2 What Causes Attitudes?

Attitudes are caused by experiences and knowledge of a person. All port suggests 4 factors causing a person’s attitudes towards something (Sak Sunthornsenee, 1985 : 4)

1. An accumulated and integrated learning process of a response to ideas e.g. attitudes from a family, school, teachers, teaching/learning, and etc.

2. Personal experiences depend on each person's different experiences. Not only do they accumulate over time, they also have a unique pattern. Some attitudes, therefore, are very personal and relate to one's development and growth.

3. Imitation. Sometimes people imitate attitudes of a person they like such as parents, teachers, siblings, and etc.

4. Social group influence. People shall have the same attitudes as other people in their society and surroundings, for example, attitude towards religion, institutes, and etc.

According to Vinai Veerawattananont and Banchuen Sipongpan (1996 : 124), procedures of attitude are as followed.

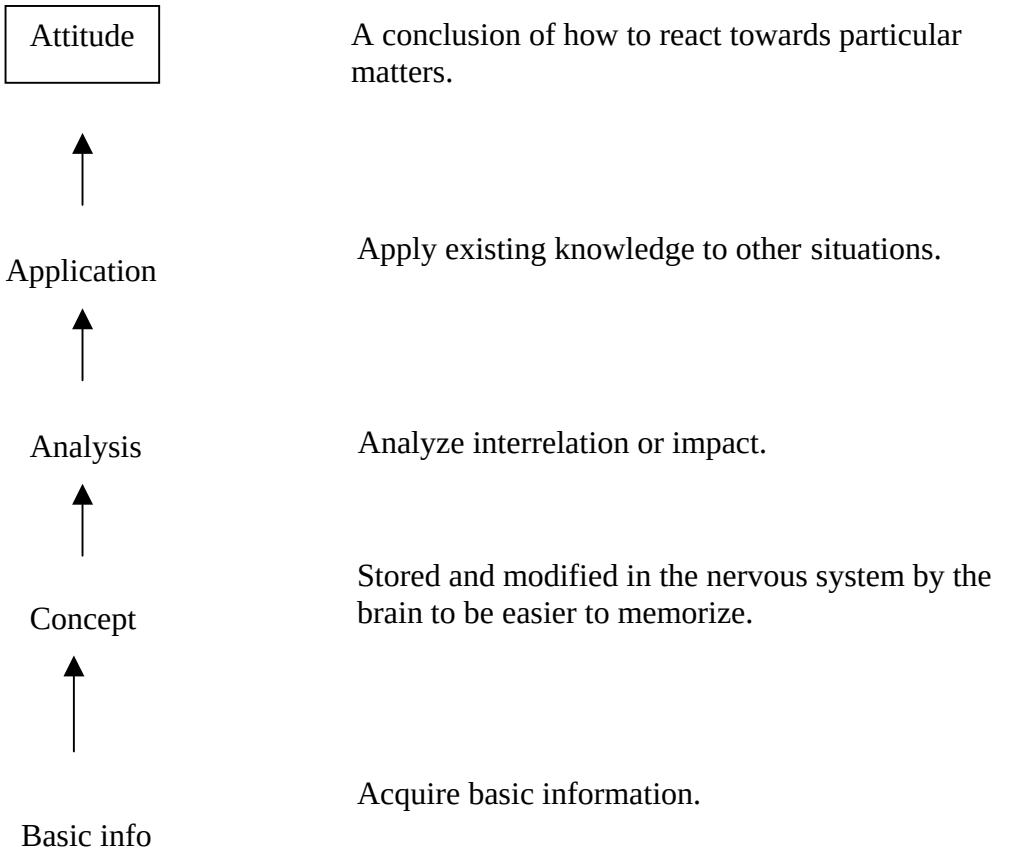


Figure 3 What causes attitudes?
(Vinai Veerawattananont and Banchuen Sipongpan,1996 : 124)

1. Basic information. Examples of basic information are experiences about surroundings, family, society, community, learning knowledge, and etc.

2. Concept. Basic information is stored in the nervous system by the brain and modified to make it easier to remember.

3. Analysis is a process of breaking down a subject to examine the interrelation or impact.

4. Application is a process of applying existing knowledge to other situations.

5. Attitude is a conclusion of how to react towards particular matters.

2.2.3 Attitude Components

An attitude is, according to Sak Sunthornsenee (1988 : 4-5), a stable system composing of the followings.

1. Cognitive Component is a person's cognition of something which can be an object, article, person or incidents, and how he/she obtains it, in a positive or negative way. This is how attitudes develop. When a person has good cognition, his/her attitude is positive, on the contrary, when he/she has bad cognition, his/her attitude becomes negative. Without cognition, there is no attitude.

2. Affective Component or Feeling Component concerns emotions, feelings aroused by affective component. When a person perceives something, he/she has a positive or negative feeling about it and can like or dislike it.

3. Action Tendency Component or Behavioral Component is a readiness to respond to a certain thing in a certain way. It is a readiness to support, encourage, assist, obstruct, struggle, etc.

Attitude is an internal behavior not an action. An action is driven by a positive or negative evaluation of the attitude and serves as a framework of an attitude measurement of this research.

2.2.4 Changes of Attitude

Attitude is caused by direct and indirect experiences. If additional experiences are different from existing experiences, attitude may change. There are two types of attitude changes (Preeyaporn Wonganuroj, 1991 : 220-224)

1. Congruent change is when existing attitude is positive, new attitude will be positive too and vice versa.

2. Incongruent change when existing attitude is positive and new attitude is negative.

2.2.5 Attitude Measurement

Attitude measurement shows the total result of human's feelings, preferences, thought, fear, threat, prejudice, and belief in specific subject. Attitude is not judged by higher or lower score but preferences (Sak Sunthornsenee, 1985 : 18).

Since attitude is a conceptual thing existed in human cognition, it is a convert behavior that cannot be measured or observed directly but by a person's tendency shown through language, action, speech, and facial expression or by an interview of his/her feelings. At present, there are 3 methods of attitude measurement (Prasit Leerapan, 1991 : 157).

1. Observation is a mean of measurement using optical and auditory nerves to study a person's behavior for something and its result is used as an assumption of his/her attitude.

2. Projective Technique is commonly used in the profound individual measurement using stimulus to arouse his/her opinion or reaction. The result is examined and summarized as his/her attitude.

3. Self – Report is prepared in the form of likes and dislikes and the intensity of it is specified into 4 scales following methods below.

3.1 Thurstone Scale or Appearing Intervals

3.2 Likert Scale or Summated Rating Scale

3.3 Guttman Scale or Cumulative Scale

3.4 Semantic Differential

The 4 scales of attitude measurement are based on a preliminary agreement that a person's attitude can be measured into quantity shown by a figure or character and the respondents have the same understanding of questions asked. The scores must show the same level of feeling. Attitudes can be measured in two ways.

Positive attitude is satisfaction and approval of something that makes a person want to move toward it.

Negative attitude is dissatisfaction, disapproval and hatred for something from which a person tries to stay away.

2.2.6 Attitude Theory

Attitude is not hereditary. It takes place later in life possibly via learning (Sak Sunthornsenee 1988 : 8-15). The attitude theory, therefore, can be classified into 3 major types as

1. Conditioning and Reinforcement Theories

They concern conditioning and reinforcement learning approach. To influence good attitude of a person to something, it must be made a condition or associated with his/her preference or positive attitude. He/she will associate these two things and will like this condition as well.

The above theories belong to Pavlov (2849) and are called Pavlov Respondent Conditioning Theory or Classical Conditioning Theory which is substitution learning. According to these theories, attitude can be created by

1.1 Association is to associate at least two stimuli. This kind of learning is frequently found in our daily lives, e.g. advertising, trading, and etc.

Sometimes our conditions are defined by nature and we unintentionally respond to them leaving us good and bad attitudes towards something which is different from those of normal people, for example, a refusal to eat noodle thinking that it contains parasites, to have a sexual desire for ladies' underwear.

1.2 Reinforcement following Skinner's principle to trigger a person's attitude by means of rewards, compliments so that he/she maintains the existing attitude.

1.3 Initiation model is to have the same attitude as other people, parents, friends, and teachers.

2. Incentive Theories

Incentives influence our attitudes towards something in a particular way. We have good attitudes towards things when they are regarded as useful or satisfactory. According to this theory, attitudes can be divided into

2.1 Instrumental and Adjective Function. When something allows us to reach our goal, we have good attitudes to it and, likewise, when something obstructs us,

bad attitudes will take place. Similarly, an adjustment depends on past and present perception benefited from an attitudinal object of the individual. We usually adjust to what's perceived as useful.

2.2 Self – Defensive Function. Some attitudes can defend us. For example, to belief in something that makes us feel better to maintain our image, to realize the good thing in us, to be free from worry and be able to solve our problems.

2.3 Self – Expressive Function. A person's belief, value and thought are related to his/her attitudes in order to behave accordingly.

2.4 Knowledge Function. It enables us to predict something and solve problems.

3. Cognitive Consistency Approach

It is a thought or perception of something that brings about different cognition or is composed of cognitive elements. When a person has more positive cognition than negative cognition, there will be consistency leading to a good attitude towards something. On the contrary, when there is more negative than positive cognition, inconsistency will take place together with a bad attitude or hatred. When positive and negative cognition is equal, a conflict called cognitive dissonance will occur. Therefore, good cognition is necessary for good attitude. It can be said that when the cognitive element is more positive than negative, the followings will occur in our thoughts. They are :

-Consistency
-Balance
-Consonance
-Congruity

On the other hand, when the cognitive element is more negative than positive, the followings will occur:

-Inconsistency
-Imbalance
-Dissonance
-Incongruity

Cognition and attitude are interrelated. Good attitudes, good emotions, and good feelings encourage more learning as well as a positive behavior for a certain thing.

When a person has good attitude to something, he/she tends to learn and study it more quickly and more accurate. At the same time, he/she can remember it for a long time and can put it into good use when needed (Tawatchai Chaijirachayakul, 1984 : 39)

In conclusion, cognition obtained differently relates to attitude. A person with good cognition of something has a tendency to move toward it. In preparing education for children with hearing disability, if every teacher in the special education schools has good knowledge about the psychology of children with hearing disability and how to teach them and possesses positive attitudes towards what's been mentioned above, it means cooperation, collaboration, and assistance for the improvement of education and rehabilitation of children with hearing disability.

2.3 Knowledge about Hearing Impaired Children

According to Article 4 of the Disabled Rehabilitation Act B.E. 2534 (Department of Public Welfare, 1994 : 14), a disabled person refers to an individual with physical, intellectual, mental impairment and can be classified as

1. Visual impairment
2. Hearing or communication disability
3. Physical and mobility disability
4. Mental or behavioral disability
5. Intellectual and learning disability

2.3.1 Children with Hearing Disability Definitions

According to Article 4 of the Rehabilitation of Disabled Persons Act B.E. 2534 (Department of Public Welfare, 1994 : 15), a person with hearing or communication disability refers to a person with hearing frequency of 500 hertz, 1000 hertz or 2000 hertz in the better ear with the average volume below

(1) Above 40 decibels until no sound can be heard for children below 7 years old

(2) Above 55 decibels for normal people or people with communication disability

Sriya Niyomtham (1998 : 25) “Hearing disability is usually judged by the severity of hearing loss and the time when it happens”. In education and society, a deaf person is one with congenital hearing loss or has lost his/her hearing during the stage of language development leaving him/her unable to learn, understand, and make linguistic expression. A person with milder loss of hearing is classified as hyperdulia and has a difficulty hearing so the linguistic development becomes impossible during that stage.

In conclusion, children with hearing disability are those who have no ability to hear clearly or any ability to hear at all and can not communicate with other people.

2.3.2 Causes of Disability

There are 3 major causes for disability (Sriya Niyomtham, 1998 : 17).

1. Heredity
2. Biological causes from the life processes of the body
3. Environment such as human, place, experience, learning, nurture, upbringing, and etc.

Disability occurs in 2 stages, before birth which are heredity and biological components, and after birth. Factors affecting disability after birth are environments that lead to the disability incident and unexpected accidents for children.

2.3.3 People’s Attitudes towards the Disabled

It has only been 10 years when the disabled were allowed to participate in social activities. This is a new idea that has just been accepted. When we take a look at history, the disabled were separated into their specific society and were forgotten. Society attitude or idea about the disabled can be divided into 3 stages (Sriya Niyomtham ,1998 : 33-34).

Stage 1 – Forgetting and Hiding

In the past, people tried to forget everything about disabled children and they hardly saw them because they were hidden in the back room or attic. Parents were told to send them to the nursery while the mother was advised not to see her child.

Stage 2 - Separation of Children

In this stage, children with disability and retarded children were sorted out in stead of being hidden. Parents were advised to feel less ashamed of their disabled children and were more acceptable that they are normal. This is the stage that special education played a role in providing schools for children with different types of disability. Children were tested and sorted according to their disabilities - deaf, hyperdulia, blindness, retardation, and then sent to special education schools specially provided for them or to special classes. The idea was to separate them from normal children.

Stage 3 – Sorting and Assisting

After 20-25 years of separating disabled children from normal children, there were some new changes, a sorting and assisting where those with enough potential were put into the same class as normal children. They were allowed to participate in social and communal activities and had as equal right as other people in the society. They also were recruited into many working places. This was the stage of opportunities for the disabled.

Over time, social attitudes or ideology concerning the disabled have constantly developed from the time when they were forgotten and hidden under negative belief and attitude that this was a matter of sin and the mother was not supposed to see her child to the sorting stage where disabled children were separated from normal children. Another level of development is the establishment of the special education schools. Now is the stage of sorting and assisting combined with rehabilitation of the disabled to enable their independence and not to be a burden to their family, community and society. As a member of the society, they are entitled to improve their society as same as other members.

2.4 Special Education

2.4.1 Definitions

Varee Thirajitr (1998 : 1) “Special education is to provide a learning and teaching for children with deficiencies such as retardation, physical and health disability, visual impairment and hearing disability, children with emotional and social problems, genius children to fulfill their missing knowledge and reduce unnecessary one”.

Based on the National Education Plan B.E. 2535, special education focuses on giving suitable education to those with physical, intellectual, mental, and emotional deficiency and to encourage those with special ability and high intelligence to fully improve their skill and genius. Special education can be provided in the form of specific school or in normal schools from the elementary to higher education levels.

The main idea of special education is to arrange the teaching/learning situation in such a way that it allows everyone full benefits until he/she can maximize his/her potential.

2.4.2 Special Education in Thailand

In the past, Thai disabled were in the same position as the disabled in other countries who had limited right to education; as seen from their exclusion from schools according to the Elementary Act B.E. 2475. Later, the special educationists had tried to provide disabled children with special education. In the beginning, it was given to the blind, the deaf, the retarded, and the handicapped (Varee Thirajitr, 1998 : 6). Nowadays, inclusive education is available for disabled children to develop their social skills together with other skills.

2.4.3 Special Education in Other Countries

Special education for children with special needs such as children with different types of disability should start with a survey of a number of children with learning problem and what kind of problem they have. Teachers may help classifying them or send them to a test to be used as important data for preparing an individual education plan or IEP (Padung Arayavinyu, 1999 : 43). Teachers shall follow that plan and perform an evaluation according to it. In case of inappropriate objectives, the plan can be modified to be consistent with children’s needs.

Special Education in USA

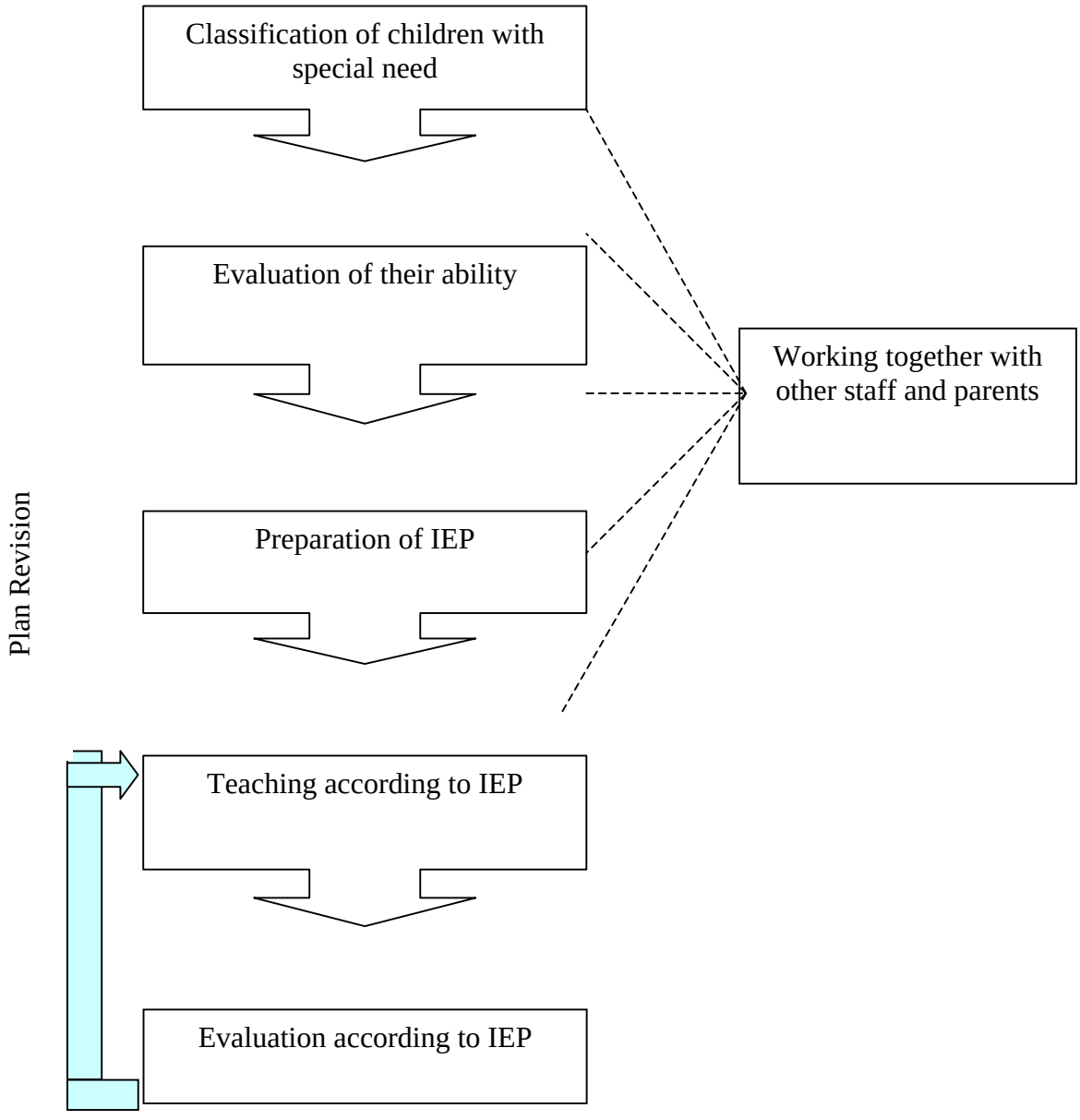


Figure 4 Procedures of Special Education in USA
(Padung Arayavinyu,1999 : 43)

Special Education in England

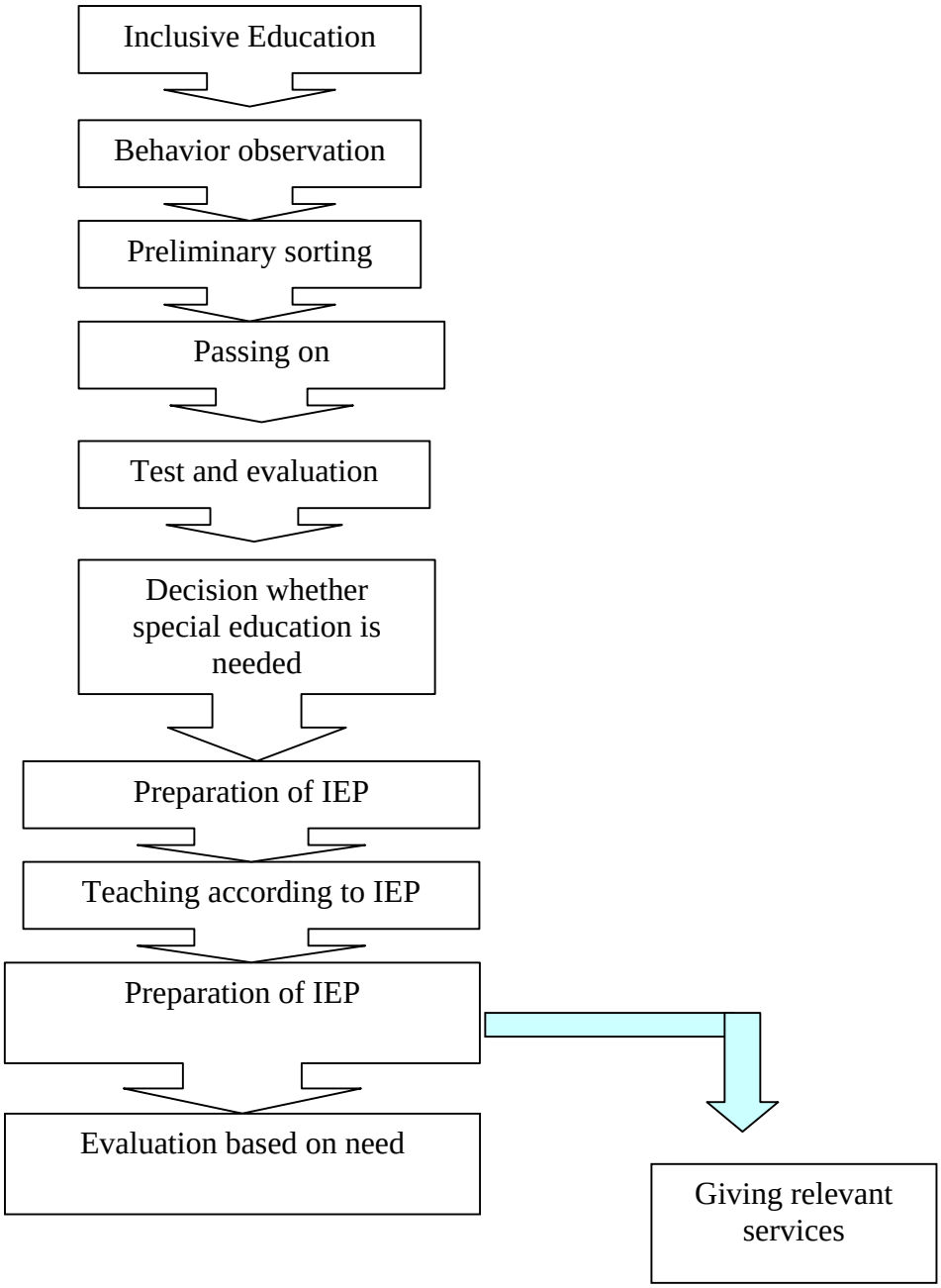


Figure 5 Procedures of Special Education in England
(Padung Arayavinyu,1999 : 44)

2.5 Program for Production of Children with Hearing Disability Teachers

Rajabhat Institutes offer a Special Education program at undergraduate level to produce teachers for social services. It has also developed a teaching method for this program, which is part of the education quality assurance, in pursuant with the National Education Act B.E. 2542, Section 6 concerning Standard and Quality Assurance of Education. It is mentioned clearly in Article 48 that "The original affiliations and educational institutes are to arrange for a quality assurance of education in their institutes and regard it as part of the education management process to be carried out continually. Annual reports must be submitted to the original affiliations, relevant agencies, and made known to public as a way to development of education quality and standard and a support for external quality assurance.

Rajabhat Institutes have improved their Special Education program to meet with the standard to qualify as an organization in charged of producing skillful special education teachers of each field to enhance the teaching/learning of children with special need.

Courses offered at the Rajabhat Institutes in 2000 (Rajabhat Institute Suan Dusit, 2001) for students majoring in Education Management for Children with Hearing Disability, undergraduate level, of which the requirement of credit hours must not be below 138 are detailed as follows.

First academic year, 1st Semester

General Education	9 credit
Specialized Courses -Compulsory -	6 credit
-Selective - Sign Language1	1(0-2) credit
-(Major) Introduction to Special Education	3(3-0) credits
Total	***19 credits***

2nd Semester

General Education	9 credits
Specialized Courses -Compulsory	2 credits

-Major are Psychology of	
Children with Special Need	2(2-0) credits
-Virtue and Ethics for	
Special Education Teachers	2(2-0) credits
-Music, Arts, Physical Education, and Recreation	
for Children with Special Need	2(1-2) credits.
Selective course	1 credit
Senior Scout Basic Unit Leader Training Course	1(0-2) credit
Total	***18 credits***

Second Academic Year, 1st Semester

General Education	9 credits
Specialized Courses -Compulsory	3 credits
-Major	2 credits
Which is Teaching Technique for	
Children with Special Need	2(2-0) credits
-Minor	4 credits
Selective courses	2 credits
Senior Scout Advanced Unit Leader Training Course	2(1-2) credits
Total	***22 credits***

2nd Semester

General Education	6 credits
Specialized Courses -Compulsory	3 credits
-Field Experience in the	
Teaching Profession	1 credit
Observation Study and Participation 2	1(6-0) credit
-Major Language Development and Problem	
of Children with Special Need	3(3-0) credits
Audio logy	3(3-0) credits
-Minor	5 credits
Total	***21 credits***

Third Academic Year, 1st Semester

Specialized Subjects	
–Compulsory for Minor program	2-3 credits
-Selective	3 credits
Behavior Management of Children with Special Need	3(3-0) credits
-Field Experience in the Teaching Profession	3 credits
Teaching Behavior for Children with Special Need	3(2-2) credits
-Major Early Stage Assistance	3(2-2) credits
Language Teaching for Children with Hearing Impairment	2(2-0) credits
Communication for Children with Hearing Impairment	2(2-0) credits
-Minor	5 credits
Total	***20-21 credits***

2nd Semester

Specialized Courses -Compulsory	2 credits
-Teaching Profession only for Minor Program	2-3 credits
-Field Experience	4 credits
Teaching Children With Special Need	1(6-0) credit
- Minor Teaching Behavior	3 credits
-Major Inspection of Children with Special Need	2(2-0) credits
Basic Courses Teaching Technique for Children with Hearing Impairment	2(2-0) credits
Sign Language 2	2(1-2) credits
-Minor	3 credits
Total	***18-19 credits***

Fourth Academic Year, 1 Semester

Field Experience	3 credits
Complete Field Experience of Teaching Profession 3	5(450) credits
Selective course	1 credit
Inspection Practice of Children with Special Need	1(0-3) credits
Total	***6 credits***

2nd Semester

Specialized Courses -Selective	3 credits
Inclusive Education Management and Supporting Services	3(3-0) credits
-Major Seminar on Special Education	1(0-2) credits
Speech, Auditory Training and Speech Therapy for Children with Hearing Impairment	3(2-2) credits
Educational Media and Technology for Children with Hearing Impairment	2(1-2) credits
-Minor	4 credits
Total	***11-13 credits***

(Faculty of Education, Rajabhat Institute Suan Dusit, 2001)

2.6 Education Management for Children with Hearing Disability

The first experimental school for children with hearing disability was established by the Ministry of Education on 10 December 1951, the day of the anniversary of UN International Declaration on Human Rights. This experimental school was located at the Municipality 17 School (Wat Sommanusviharn School today), Bangkok. M.R.V Sermsri Kasemsri was the creator and first school headmaster. Later on, the number of students with hearing disability increased, the Ministry of Education, therefore, opened the Suan Dusit Deaf School, Bangkok, in 1975 and had its name changed to Sethasathain School. In the following years, more deaf schools were opened in Tak, Khon Kaen, Songkhla, Chiang Mai, Chon Buri, Nonthaburi, and Chumphon. In 1978, the Ministry of Education had given a new name to the deaf school and called it "โสตศึกษา" (Varee Thirajitr, 1998 : 1-2)

Education for children with hypacusia started in 1969 at La-or Uthit School. Later, they were included in normal children classes at Phayathai School and in 1976 inclusive education was encouraged in many normal schools inside Bangkok.

2.6.1 Models of Education Management for Children with Hearing Disability

The Education Management program for children with hearing disability should cover listening practice, eyesight practice, oral skill practice, and language skill practice. They should be done in steps of difficulty. Subject contents should be similar to those for normal children but teaching methods and necessary equipment may differ to answer their special needs. (Padung Arayavinyu, 1999 : 25-26)

Currently, there are two types of education for children with hearing disability.

1. Education management in the special education schools or specialized schools is mostly for children with severe hearing disability or the “deaf” group. Sign language and total communication are practiced.

2. Inclusive education management in regular schools for children with mild, medium, and severe hearing disability who still have some hearing left. Hearing aids can be utilized in learning and communicating by listening, speaking, and lip reading (Ministry of Education, 1998 : 34)

2.6.2 Teaching Methods for Children with Hearing Disability

According to the Disabled Education Division (1999 : 59), teaching methods for children with hearing disability are divided into

1. Manual Method
2. Oral Method

Robert & Sanderson (Ministry of Education, 1999 : 60) on Definition of methodology in Education of Deaf classifies the methods into

1. Oral Method by means of oral skill and lip reading
2. Combined Method includes speaking, lip reading, sign language and hearing aids.
3. Simultaneous Method is the use of verbal communication, sign language, finger spelling, and hearing aids while teaching
4. Combined System
5. Total Communication includes auditory training, speech reading, reading, writing, sign language, finger spelling, and gestures.

Sriya Niyomtham (1998 : 187) on education management for children with hearing disability “Children with severe hyperdulia have many deficiencies such as language development with delayed and abnormal verbal communication. They usually have a troubled behavior as they are alone and are frustrated not to know what is going to happen or who is doing what. As a result, they are abandoned. Although many of them have normal intellect, they are seen as retarded since they can not communicate correctly with other people due to their deafness”

Some of them do have hearing remained. This hearing must be stimulated and practiced or it will become dysfunctional. Hearing aids can help them but they must have their hearing tested and wear proper aids as soon as possible.

2.6.3 Communication Methods for Children with Hearing Disability

Communication methods of education management for children with hearing disability are

1. Speaking

Children with hearing disability can learn to speak. How clearly they can speak depends on the level of their hearing loss. The higher the loss, the less clarity of their speech to the level that is incommunicable. It also depends on the age when their loss occurs.

2. Finger Spelling

Finger spelling is to use fingers instead alphabets. Each alphabet represents different finger symbols. By combining each of them, words are formed into sentences.

3. Lip Reading

Speech reading or lip reading or mouth reading is the same process. Children learn to read what other people say by observing the movements of their lips, tongue, throat, and facial expression.

4. Sign Language

It is a language used by people with hearing disability to communicate and convey their emotions in stead of speech accompanied by facial expressions and gestures. It is a way to get the message from hand and body movements, to know what the speakers

think and ask. There are many kinds of sign language. The majority of people with hearing disability use sign language to communicate and it's been agreed and certified a standard language.

5. Total Communication

It combines speech, finger spelling, sign language, and lip reading. Teachers are ones who can communicate more with children with hearing disability than children with other types of disability because the first do not isolate them like the latter do. What the teachers of children with hearing disability should keep in mind is that children must see their faces and mouths when they speak in the class. They must point, touch, or hold up things for their students to see.

2.7 Roles and Responsibilities of Special Education School Teachers

Persons in charged of education management or rehabilitation of children with hearing disability are special education teachers. Apart from teaching and assisting their students, special education teachers should provide information, such as information about children with hearing disability, how to treat them, concepts and philosophy of education management for children with hearing disability, for those concerned and other staff in the school (Padung Arayavinyu , 1999 : 64).

Sriya Niyomtham (1998) says "It is a direct responsibility for special education teachers to encourage and rehabilitate disabled children." Details of their responsibilities are

1. To sort out children's disability or conditions indicating their disability. Pre-school teachers are a key to seek and provide data and separate them for further assistance.

2. To systemically observe their students, collect data regarding their behavior, and examine the report on their developments. Students may be advised to see suitable persons for their further evaluation and diagnosis.

3. To make the observation notes when other personnel's assistances are needed as information to send their students to the right place. This information also proves useful for planning and early assistance program for them.

4. To prepare and exercise the IEP on their students. Parents and guardians should take part in it whenever necessary. They also have to coordinate and work together with other personnel e.g. a speech therapist and physical therapist in assisting them.

The process of IEP starts with an evaluation of students' capability. This allows teachers to have some basic knowledge about their students. The evaluation should take place regularly to check their advancement. It also gives idea of what level they are in, what skills and helps they need. Finally, the efficiency of IEP adopted can also be realized.

Teachers are required to possess good skills and attitudes which are the most important thing in education management for disabled children.

Teaching children with hearing disability differs from teaching normal children. It is not easy to make them learn completely. Teachers, thus, need to understand that children with this problem are emotionally unstable and are incapable of adjusting themselves like normal children. Teachers should play a role in initiating techniques and methods for effective education management in favor of the problem solution, self-learning process management, moral and ethics. Teaching/learning provision should focus on an individual with different abilities and skills so that each of them can achieve it to their full potential.

2.8 Relevant Research

Wardani's (1988) survey on "Attitudes of Special Education Teachers and Normal Education Teachers in Bali, Indonesia towards Children with Special Need and Inclusive Education" shows that special education teachers have more positive attitudes towards children with special need than normal teachers. Those with over 3 years of teaching experiences have more positive attitudes towards children with special need than those with 1-2 years of experiences. Teachers whom children with special need are part of their family members have more positive attitudes than those whose family does not have children with special need. Male teachers have more positive attitudes towards children with special need than female teachers. In general, teachers in Bali have positive attitudes towards children with special need and inclusive education between children with special need and normal children (Padung Arayavinyu, 1995).

The study of Mata (1988) on "Knowledge and Understanding of Educational Personnel Regarding Attitudes towards Inclusive Education in Guam" indicates that the educational personnel, in this study they are special education teacher, advisor, counselor, psychologist, school administrator, and normal education teacher, have good understanding and knowledge about children with special need. It also shows that special education teachers and counseling teachers have more positive attitudes than normal education teachers and school administrators. The key variables influencing attitude towards inclusive education of educational personnel are their special education teaching experiences, training, age, and direct experiences with children with special need. Teachers and administrators who have taught or possessed some understanding of children with special need have more positive attitudes to them than those who have not.

Blackman (1990) found that attitudes of teachers in the rural areas, suburban areas, and inner-city areas towards children with special need were similar. Teachers with over 5 years of teaching experiences have more positive attitudes than those with under 5-year experiences. It also indicates that teachers who participated in the inclusive education program need information and understanding of children with special need. Therefore, the pre-training is necessary.

Srisamorn Kasiwat (1975) conducted a comparative study on Attitudes towards Disabled Children in Thailand of 3 groups of Thai people who belong to the same sampling group as

1st group consists of 26 teachers and officers, 5 men and 21 women, in the disabled homes and เรียนศรีสังวาลย์

2nd and 3rd groups consist of 73 Thai students at 4 universities in USA University of Kansas, Central Missouri State University, Oklahoma University, and

Central State University of which

2nd group contains 33 education students, 13 men and 20 women.

3rd group contains 40 students of other branches, 22 men and 18 women.

The Attitudes toward Disabled Person Scale (ATDP) was utilized in this study.

The results are attitudes of teachers and officers towards disabled children are more positive that those of 2 groups of student. Attitudes of 2 groups of student statistical significantly differ at 95 percent of confidence level. Gender, age, level of education, and acquaintance with disabled children do not affect different attitudes.

Janja Suwannatas's (1977) study on "Attitudes of Disabled Children towards Disabled Children and Attitudes of Disabled Children towards Teachers and Vice Versa" found that teachers in general had positive attitudes towards disabled children in their conduct, physical and mental health, and personal matters. There were no differences between attitudes of teachers when classified into age and years of teaching experience. It was also found that children with each type of disability had good attitudes towards their teachers both in teaching and governing. Disabled teachers had good attitudes towards children with the same disability and had better attitudes than normal teachers who teach disabled children. Children with different disabilities had the same need as normal children, for example, they want to be accepted by friends and society, they want to be successful, they want to have friends either disabled or normal, they want to be independent, to express what they want, to have a career, to live in the society and be part of the normal society.

Sumalee Deejongkij's (1998) survey on Knowledge and Attitudes of Teachers towards the Disabled shows that the level of experiences related to the disabled and teaching experiences affects knowledge and attitude towards the disabled. In other words, knowledge and attitude towards the disabled increases as teachers have more teaching experiences with disabled. Their attitudes are more positive once they learn more about disability.

CHAPTER III
METHODOLOGY

This is a survey research which is aimed to study knowledge and attitudes of teachers of deaf schools in Northeastern Region. The instrument was the questionnaire that tested knowledge and attitudes of the teachers.

1. Population and samples
2. Instruments, reliability and validity testing
3. Data collection
4. Data analysis

3.1 Population and Samples

3.1.1 Population

Population of the study was teachers in deaf schools in Northeastern Region which were under the Education of Disabled Persons Division, Department of General Education, and Ministry of Education. The data about the teachers in these schools were derived from the Annual Plan for the year 2003 of these schools. Roi Ed School for the Deaf was used for the instrument tryout, and the 225 teachers in the other 6 schools for the deaf were the population of this study.

3.1.2 Samples and Sampling Method

Sample size was calculated by the formula of Yamane (cited in Buntham Kitpreedaborisut, 1992 : 71-72).

$$n = \frac{N}{1+ Ne^2}$$

n = sample size

N = population

e = error

Reliability level was 95 % and the error was 0.05 therefore,

$$n = \frac{225}{1 + (225)(0.05)^2}$$

$$= 144$$

From the calculation according to the above formula, sample size was 144. Then, the Simple Random Sampling method was used for calculating sample size of each school using the method, Sampling with probability proportional to size (Chalermsuk Bunthai, 1999 : 278).

$$n_h = \{ \frac{N_h}{N} \} \times n_0$$

n_h = samples in each school
N_h = population of each school
N = the whole population
n_0 = sample size

According to the following formula, sample size for each school is shown in the following table.

Table 2: Sample Size of Each School

Schools for the Deaf in Northeast Region	Population	Samples
1. Nakornratchasima School for the Deaf	37	24
2. Chaiyabhum School for the Deaf	36	23
3. Khon Kaen School for the Deaf	41	26
4. Udorn Thani School for the Deaf	41	26
5. Surin School for the Deaf	41	26
6. Mukdaharn School for the Deaf	29	19
Total	**225**	**144**

3.2 Instrument

3.2.1 Instrument

The instrument of this study was the questionnaire that tested knowledge and attitudes of teachers who taught at schools for the deaf in Northeastern Region. The questionnaire was developed by the researcher and consisted of 3 parts.

Part 1 : General Information

This part of the questionnaire consists of questions about ages, educational levels, fields of study, and experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children from radio, television, newspaper and seminar/training.

Part 2 : Knowledge about Hearing Impaired Children

2.1. Questions about frequency of getting information about hearing impaired children which was divided into 4 levels : never, less than once a month, once a month, and once a week or more

2.2. Questions with 4 choices for each : There are 30 questions in this part of the questionnaire. The sample would get1 score for each correct answer and would get 0 score for each wrong answer.

Part 3 : Attitudes of Samples toward Hearing Impaired Children

This part consisted of 15 questions and each question had 5 score. So total score for this part was 75. It consisted of 8 questions with positive meaning and 7 questions with negative meaning. The score was given according to 5 levels of Likert Scale which were : totally agree, agree, not sure, disagree and totally disagree with the score of 5, 4, 3, 2,1 respectively. For the questions with negative meaning, the score was given to the answer of each question in the opposite way. That is, 1 score for totally agree, 2 for agree, 3 for not sure, 4 for disagree, and 5 for totally disagree.

3.2.2 How the Instrument was developed

1. Before developing the instrument, the researcher had reviewed literature related to the measurement of knowledge and attitudes of hearing impaired children, and

finally scoped the content of the knowledge and attitudes in the areas psychology of hearing impaired children and how to provide education for them.

2.The content was weighted according to the questions in each part of the content as explained in Tables 2, 3 and 4

Table 3: Weighing the content about knowledge of Hearing Impaired Children

Content	**Weight of the content (%)**
1. Knowledge about hearing impaired children	46.00
2. Knowledge about how to provide education to hearing impaired children	54.00
Total	**100**

Table 4: Weighing Content about Attitudes (8 Questions with Positive Meaning and 7 Questions with Negative Meaning)

Content	**Weight of the content (%)**	**Questions with positive meaning**	**Questions with negative meaning**
Attitudes toward hearing impaired children	100	8	7
Total	**100**	**8**	**7**

Table 5 : Weight of Content Related to Knowledge about for Hearing Impaired Children

Content	Cognitive ability to be measured			Total questions
	knowledge, memory	competency	application of knowledge	
1. Knowledge about hearing impaired children	5	7	3	15
2. Attitudes toward hearing impaired children	5	7	3	15
Total	**10**	**14**	**6**	**30**

3. After the questionnaire had been developed, it was presented to the thesis advisors and the professionals in this field to test validity and to correct the content as well as the comments and suggestions about questions that were aimed to test attitudes of samples.

3.2.3 Validity Testing

The questionnaire was given to 30 teachers at Roi Ed School for the Deaf for the try out during June 1-30, 2003. Then it was presented to the thesis advisors and the professionals for final approval before being used

For Part 2 that tested knowledge of the samples about hearing impaired children, it was tested by the following methods.

1. To test difficulty level and discrimination power

This part of the questionnaire was aimed to test knowledge of the teachers about psychology of hearing impaired children and knowledge about how to provide

education for them. The questionnaires were given to the 30 teachers, taken back, checked and scored. Then the scores were compared and ranked from high score to low score for the item analysis. And the discrimination power and difficulty level were calculated using 27% technique (Buntham Kitpreedabor, 1997: 218) with the following formula :

$$\text{Difficulty level (P)} = \frac{P_H + P_L}{2n}$$

$$\text{Discrimination power (r)} = \frac{P_H - P_L}{n}$$

P = difficulty level

r = discrimination power

P_H = number of respondents in the high-scored group who got the right answers

P_L = number of respondents in the low-scored group who got the right answers

n = number of all respondents

2. Reliability Testing

The questionnaire then was tested for the reliability by calculating for the internal consistency using the KR-20 formula of Kuder Richardson (Buntham Kitpreedaborisut, 1997 : 211).

$$r_{tt} = \frac{k}{k-1}\left[\frac{1-\sum pq}{s_t^2}\right]$$

Where

r_{tt} = reliability of the instrument

k = number of all questions

P = respondents who got the right answers / the whole respondents

q = respondents who got the wrong answers / the whole respondents (1- P)

S^2_t = variation of the total scores of the questionnaire

Part 3 of the questionnaire was aimed to test the attitudes of the teachers toward hearing impaired children. All the questions were in accordance with the objectives of the study and were related to the content of the study. The questions were presented to the thesis advisors and the professionals for suggestions and comments to make the instrument valid.

3.3 Data Collection

The data were collected with the following process :

1. The director of ratchasuda College issued a letter to the directors of the 6 schools for the deaf in Northeastern Region to ask for permission to collect the data.

2. Questionnaires were sent to the respondents by mail during August 1-30, 2003.

3. After sending the questionnaires to the respondents, the researcher followed up by contacting the respondents a some days before the deadline of returning the questionnaires and some days after the deadline.

4. From the 144 questionnaires that had been sent to the respondents, 133 of them were filled out and returned to the researcher. The researcher made direct contact with the schools of which the respondents did not return the questionnaires and also went to these schools to get the questionnaire by herself. She finally received all of the 144 questionnaires. Therefore, the percentage of respondents who answered the questionnaires was 100.00.

3.4 Data Analysis

After the data had been collected, it was scored, coded and analyzed using SPSS (Statistical Package for Social's Sciences), and the levels of knowledge and attitudes were determined according to the range of scores as follow

Knowledge

Range of score	*Level of knowledge*
1-10	low
11-20	medium
21-30	high

Attitudes

Range of score	*Level of attitudes*
15-34	low or negative
35-54	medium or negative
55 and higher	high or positive

Statistics Used for Data Analysis

For data analysis and hypotheses testing, the SPSS (Statistical Package for Social's Sciences for Windows) was used.

1. For Part 1 : General Information, the data was analyzed using Percentage, Standard Deviation, Frequency and Mean.

2. For Part 2 and Part 3 : Knowledge and Attitudes of the Teachers, the data was analyzed using Mean, Standard Deviation, Frequency and Percentage.

3. Compare the knowledge and attitudes of the teachers according to ages, levels of education, fields of study, positions, and experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children from radio,

television, newspaper and training/seminar, using One –Way Analysis of Variance. If there was difference with statistical significance, it would be compared, using Multiple Comparison in order to find the difference in the sub-groups using LSD (Least Significant Difference).

4. Find correlation of knowledge and attitudes using Pearson Product Moment Correlation Coefficient.

5. The statistical significance of this study was set at 0.05.

CHAPTER IV
RESULT OF THE STUDY

In the study of knowledge and attitudes of special education teachers towards students with hearing impairment in the Northeast Region, the questionnaires were given to 144 teachers who taught at 6 schools for the deaf in Northeast region during August 1 to 30, 2003. Then the data were analyzed by statistical programs.
The result of the study is shown in the following categories

1. General Information of the Teachers in 6 Schools for the Deaf in Northeast Region

2. Knowledge of the Teachers in 6 Schools for the Deaf in Northeast Region about Psychology of Hearing Impaired Children and How to Provide Education to Them

3. Attitudes of the Teachers in 6 Schools for the Deaf in Northeast Region towards Haring Impaired Children

4. Correlation of Knowledge and Attitudes of the Teachers in 6 Schools for the Deaf in Northeast Region towards Hearing Impaired Children

5. Description of the Study Result

4.1 General Information

General Information of the Teachers in 6 Schools for the Deaf in Northeast Region such as sex, age, level of education, fields of study, experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children.

This part of information is presented in the form of percentage.

Table 6 : Percentage of the Teachers in 6 Schools for the Deaf in Northeast Region such as sex, age, level of education, experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children

General Information	Number	%
Total	**144**	**100.00**
1. Sex		
Male	32	22.2
Female	112	77.8
2. Age		
20 – 25	18	12.5
26 – 30	72	20.2
31 – 35	22	15.3
36 – 40	13	9.0
41 – 45	15	10.4
46 - 60	4	2.8
3. Educational level		
Bachelor	136	94.4
Master	8	5.6
Ph.D.	-	-

Table 6 : Percentage of the Teachers in 6 Schools for the Deaf in Northeast Region such as sex, age, level of education, experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children (Continued)

General Information	Number	%
Total	**144**	**100.00**
4. Field of study		
Teaching / education		
Special education	26	18.1
Primary education	16	11.1
Primary school education	17	11.8
Agriculture	5	3.5
Science	10	6.9
Nutrition	4	2.8
Educational technology	1	0.7
Music	1	0.7
Classical performance	1	0
Industry	4	2.8
Psychology and guidance	2	1.4
Computer	3	2.1
Health	2	1.4
Social science	8	5.6
Library study	2	1.4
Mathematics	4	2.8
Thai	9	6.2
English	5	3.5
Arts	2	1.4

Table 6 : Percentage of the Teachers in 6 Schools for the Deaf in Northeast Region such as sex, age, level of education, experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children (Continued)

General Information	Number	%
Total	**144**	**100.00**
4. Field of study		
Educational psychology	2	1.4
Educational administration	3	2.1
Business administration	7	4.9
Community development	4	2.8
Political science	1	0.7
Economics	1	0.7
Sport Science	2	1.3
Communication	1	0.7
Music science	1	0.7
5. Position		
Government official	65	45.1
Temporary employees	79	54.9
6. Experiences in teaching hearing impaired children		
1 – 5 years	99	68.8
6 – 10 years	27	18.8
11 – 15 years	4	2.8
16 years or more	14	9.7

Table 7 : Knowledge about hearing impaired children Source of knowledge and frequency of getting information

Frequency of getting information	Number	%
Total	**144**	**100.00**
Frequency of getting information		
Never	42	29.2
Once a month or less	36	25.0
Once a month	31	21.5
Once a week or more	35	24.3
Frequency of getting information from television		
Never	6	4.2
Once a month or less	30	20.8
Once a month	35	24.3
Once a week or more	73	50.7
Frequency of getting information from newspaper		
Never	10	6.9
Once a month or less	27	18.8
Once a month	43	29.9
Once a week or more	64	44.4
Frequency of getting information from training, seminar		
Never	10	6.9
Once a month or less	79	54.9
Once a month	31	21.5
Once a week or more	24	16.7

From Table 7, it can conclude that most samples received information about hearing impaired children from radio, television and newspaper once a week or more, and most of them receive information about hearing impaired children from the training and seminar less than once a month (54.9%), never attended any seminar or training (6.9%), and never received information about hearing impaired children from radio (29.2%).

4.2 Knowledge of the teachers about hearing impaired children

This part of the questionnaire consists of 30 questions. The samples were given one mark for each correct question. The result is as follows

4.2.1 Score of the samples in the part, "Knowledge about psychology of hearing impaired children and how to provide education to them"

The knowledge of the teachers was divided into 3 levels high, medium and low

Table 8 : Number and Percentage of the Teachers in Each Level of Knowledge about hearing impaired children

Level of knowledge		Number	%
High	(score 21-30)	58	40.3
Medium	(score 11-20)	71	49.3
Low	(score 1-10)	15	10.4
Mean =18.37	Standard Deviation = 4.94	Max = 26	Min = 5
Total		**144**	**100.00**

Table 8 shows that 40.3% of the samples have high level of knowledge about hearing impaired children, while 49.3% have medium level about knowledge of hearing impaired children and 10.4% have low level of knowledge about hearing impaired children.

4.2.2 Score of samples in 2 categories of knowledge about hearing impaired children knowledge about psychology of hearing impaired children and how to provide education to them

Table 9 : Score of Samples in 2 categories of knowledge about hearing impaired children; knowledge about psychology of hearing impaired children and how to provide education to them

Category	Number of questions	Mean	SD	Percentage of score (%)
Psychology of hearing impaired children how to provide	15	8.6	1.78	57.3
Education to hearing impaired children	15	9.8	3.16	65.2
Total	**30**			

Table 9 shows that samples have knowledge about the provision of education to hearing impaired children at the percentage of 65.2 and have knowledge about psychology of hearing impaired children at the percentage of 57.33.

4.2.3 Score of Samples in Each Question

Table 10 : Number of Samples who got correct answer for each question and its percentage

Knowledge about psychology of hearing impaired children knowledge about the provision of education for hearing impaired children		Number of samples who got correct answer	%
1.	Type of hearing impaired persons	98	73.7
2.	Causes of hearing impairment (prenatal)	114	85.7
3.	Characteristics of hearing impairment	112	84.2
4.	Definition of hearing impaired persons according to Rehabilitation of Disabled Persons Act 1991	120	90.2
5.	Definition of rehabilitation of hearing impaired persons	116	87.2
6.	Reasons that hearing impaired children have slower development than other children	63	47.4
7.	Cognitive and language development of hearing impaired children	85	63.9
8.	Communication with hearing impaired children	94	70.7
9.	Ability of hearing impaired children to have overall concepts of something	54	40.6
10.	Social skills of hearing impaired children	46	34.6
11.	Ability to view things as a whole picture (not only in pieces)	43	32.3
12.	Personalities of hearing impaired children	33	24.8
13.	Guidelines for practice when communicating with hearing impaired children using sign language	62	46.6

Table 10 : Number of Samples who got correct answer for each question and its percentage (Continued)

Knowledge about psychology of hearing impaired children knowledge about the provision of education for hearing impaired children	Number of samples who got correct answer	%
14. Guidelines about how to treat hearing impaired children	46	34.6
15. Mean of communication for children with severe hearing loss	113	84.9
16. Reasons that hearing impaired children cannot speak clearly or cannot speak at all	73	54.9
17. Things to consider when providing inclusive education for hearing impaired children	101	75.9
18. History of schools for the deaf	76	57.1
19. Guidelines for teachers of hearing impaired children	86	64.7
20. Requirements of teachers of hearing impaired children	110	82.7
21. Important factors in providing education for hearing impaired children	109	81.9
22. The best method to teach hearing impaired children	74	55.6
23. Early intervention for hearing impaired children	109	81.9
24. Rehabilitation of children who partially lose hearing ability	101	75.9
25. How to help hearing impaired children improve their Thai grammar	75	56.4
26. Curriculum for hearing impaired children	50	37.6

Table 10 : Number of Samples who got correct answer for each question and its percentage (Continued)

Knowledge about psychology of hearing impaired children knowledge about the provision of education for hearing impaired children	Number of samples who got correct answer	%
27. Provision of education for hearing impaired children	104	78.2
28. How to prepare hearing impaired children for school	122	91.7
29. How to improve hearing ability of children who partially lose hearing ability	100	75.2
30. Things to be included in the curriculum for hearing impaired children	79	59.4

According to Table 10, the five highest scores of knowledge about hearing impaired children were

- How to prepare hearing impaired children for school (91.7%),
- Definition of hearing impaired persons according to Rehabilitation of Disabled Persons Act 1991 (90.2%),
- Definition of rehabilitation of hearing impaired persons (87.2%),
- Causes of hearing impairment (prenatal) (85.7%),
- Mean of communication for children with severe hearing loss (84.9%)
- The five lowest scores of knowledge about hearing impaired children are
- Ability of hearing impaired children to have overall concepts of something (40.6%),
- Curriculum for hearing impaired children (37.6%),
- Social skills of hearing impaired children (34.6%),
- Guidelines about how to treat hearing impaired children (34.6%)
- Ability to view things as a whole picture (not only in pieces) (32.3%)
- Personalities of hearing impaired children (24.8%)

4.2.4 Comparisons of knowledge about hearing impaired children by ages, educational level, field of study, experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children from different sources (radio, television, newspaper, training and seminar)

Ages

Table 11 : Knowledge of samples about psychology of hearing impaired children and how to provide education to them compared by age

Age range	Number	Mean	SD
20 – 25	18	17.16	3.53
26 – 30	72	19.28	4.68
31 – 35	22	18.50	5.90
36 – 40	13	21.25	3.36
41 – 45	15	20.31	2.46
46 and more	4	19.25	2.63

Table 11 shows that samples with age range of 36-40 have the highest score on knowledge about hearing impaired children (mean = 21.25)

When we analyzed one way analysis of variance of scores according to ages, we found that there was no difference, with statistical significance of 0.05, between knowledge of samples that had different age ranges. This is not in accordance with the hypothesis that samples with different ages have different level of knowledge about hearing impaired children.

Table 12 : One way analysis of variance of scores of samples on knowledge about hearing impaired children according to ages

Source of variance	DF	SS	MS	F	P
Between groups	5	112.431	22.486	1.119	.353
Within groups	138	2551.343	20.089		
Total	**143**	**2663.774**			

NS P > 0.05

Educational level

Table 13 : Knowledge of samples about hearing impaired children according to educational level

Educational level	Number	Mean	SD
Bachelor degree	136	19.16	4.51
Master degree	8	22.29	2.81
Ph.D.	-	-	-

According to Table 13, mean score of knowledge about hearing impaired children of samples who had master degrees was 2.29, which is higher than that of samples that had bachelor degrees.

When we analyzed one way analysis of variance of scores of samples according to educational level, we found that there was no difference, with statistical significance of 0.05, between knowledge of samples that had different educational level. This is not in accordance with the hypothesis that samples with different educational level have different level of knowledge about hearing impaired children.

Table 14 : One way analysis of variance of scores of samples on knowledge about hearing impaired children according to educational level

Source of variance	DF	SS	MS	F	P
Between groups	3	68.854	68.854	3.476	.065
Within groups	140	2594.921	19.809		
Total	**143**	**2663.775**			

NS P >0.05

Field of Study

Table 15 : Knowledge of samples about hearing impaired children according to field of study

Field of Study	Number	Mean	SD
Special education	26	19.88	4.48
Teaching	90	18.53	4.82
Others	28	18.71	5.47

According to Table 15, mean score of knowledge about hearing impaired children of samples who majored in special education was 19.88, which is higher than those of samples who had different majors.

When we analyzed one way analysis of variance of scores of samples according to field of study, we found that there was no difference, with statistical significance of 0.05, between knowledge of samples who had different field of study. This is not in accordance with the hypothesis that samples with different field of study have different level of knowledge about hearing impaired children.

Table 16 : One way analysis of variance of scores of samples according to field of study

Source of variance	DF	SS	MS	F	P
Between groups	2	374.16	18.58	.776	.462
Within groups	141	3378.76	23.96		
Total	**143**	**3415.92**			

NS P >0.05

Experiences in teaching hearing impaired children

Table 17 : Knowledge of samples about hearing impaired children according to experiences in teaching hearing impaired children

Experiences in teaching hearing impaired children (years)	Number	Mean	SD
5 years or less	99	18.84	.49
6 – 10 years	27	20.88	3.66
10 years and more	18	19.17	2.59

According to Table 17, mean score of knowledge about hearing impaired children of samples who had experiences in teaching hearing impaired children for 6-10 years was 20.88, which is higher than those of samples who had experiences in teaching hearing impaired children for 5 years or less, and ten years or more.

When we analyzed one way analysis of variance of scores of samples according to experiences in teaching hearing impaired children, we found that there was no difference, with statistical significance of 0.05, between knowledge of samples that had different

experiences in teaching hearing impaired children. This is not in accordance with the hypothesis that samples with different experiences in teaching hearing impaired children have different level of knowledge about hearing impaired children.

Table 18 : One way analysis of variance of scores of knowledge about hearing impaired children of samples according to experiences in teaching hearing impaired children

Source of variance	DF	SS	MS	F	P
Between groups	3	80.122	40.061	2.016	.137
Within groups	140	2583.652	19.874		
Total	**143**	**2663.774**			

NS P >0.05

Frequency of getting information about hearing impaired children from radios

Table 19 : Knowledge of samples about hearing impaired children according to the frequency of getting information about hearing impaired children from radios

Frequency of getting information	Number	Mean	SD
≥1/week	35	17.19	5.05
1/month	31	19.70	4.54
<1/month	36	18.00	5.43
never get information	42	18.11	4.78

According to Table 19, mean score of knowledge about hearing impaired children of samples who got information from radios about hearing impaired children once a month is19.70, which is higher than those of samples who got information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to frequency of getting information from radios about hearing impaired children, we found that there was difference, with statistical significance of 0.05, between knowledge of samples that got information from radios about hearing impaired children at different frequency. This is in accordance with the hypothesis that samples that got information from radios about hearing impaired children at different frequency have different level of knowledge about hearing impaired children.

Table 20 : One way analysis of variance of scores of knowledge about hearing impaired children of samples according to the frequency of getting information about hearing impaired children from radios

Source of variance	DF	SS	MS	F	P
Between groups	3	158.086	52.695	20.264	.020
Within groups	140	3257.852	23.270		
Total	**143**	**3415.937**			

*s $p < 0.05$

The researcher also compared the difference of knowledge of samples according to each pair of frequency in getting information by Multiple Comparison, using LSD (Least Significant Difference) method and found that, samples who get information from radio once a week or more has higher score than those who get information from radio once a month with statistical significance 0.05 as shown in Table 21.

Table 21 : Comparisons of knowledge of samples about hearing impaired children according to frequency of getting information from radios using LSD

Frequency of getting information		**³1/week**	**1/month**	**<1/month**	**never**
Mean		**17.19**	**19.70**	**18.00**	**18.11**
17.19	≥1/week		*		
19.70	1/month				
18.00	<1/month				
18.11	never				

*s p < 0.05

Frequency of getting information about hearing impaired children from television

Table 22 : Knowledge of samples about hearing impaired children according to the frequency of getting information about hearing impaired children from television

Frequency of getting information	Number	Mean	SD
≥1/week	73	20.29	3.70
1/month	35	17.61	5.37
<1/month	30	17.11	6.03
never	6	20.05	4.11

According to Table 22, mean score of knowledge about hearing impaired children of samples who got information from television about hearing impaired children once a week or more is 20.29 which is higher than those of samples who got information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to the frequency of getting information from television about hearing impaired children, we found that there was difference, with statistical significance of 0.05, between knowledge of samples that got information from television about hearing impaired children at different frequency. This is in accordance with the hypothesis that teachers who got information from television about hearing impaired children at different frequency have different level of knowledge about hearing impaired children.

Table 23 : One way analysis of variance of scores of knowledge about hearing impaired children of samples according to the frequency of getting information about hearing impaired children from television

Source of variance	DF	SS	MS	F	P
Between groups	3	258.271	86.090	3.817	.01
Within groups	140	3157.666	22.555		
Total	**143**	**3415.937**			

* S p < 0.05

The researcher also compared the difference of knowledge of samples according to each pair of frequency in getting information by Multiple Comparison, using LSD (Least Significant Difference) method and found that, samples who get information from television once a month has higher score than those who never get information from television with statistical significance 0.05 as shown in Table 24.

Table 24 : Comparisons of knowledge about hearing impaired children of samples according to frequency of getting information from television using LSD

Frequency of getting information		**≥1/week**	**1/month**	**<1/month**	**never**
Mean		**20.29**	**17.61**	**17.11**	**20.05**
20.29	≥1/week	*			
17.61	1/month				*
17.11	<1/month				
20.05	never				

* S P< 0.05

Frequency of getting information about hearing impaired children from newspaper

Table 25 : Knowledge of samples about hearing impaired children according to the frequency of getting information about hearing impaired children from newspaper

Frequency of getting information	Number	Mean	SD
≥1/week	64	20.02	3.82
1/month	43	17.23	5.15
<1/month	27	18.75	6.43
never	10	18.62	4.78

According to Table 25, mean score of knowledge about hearing impaired children of samples who got information from newspaper about hearing impaired children once a week or more is 20.02, which is higher than those of samples who got information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to frequency of getting information from newspaper about hearing impaired children, we found that there was difference, with statistical significance of 0.05, between knowledge of samples that got information from newspaper about hearing impaired children at different frequency. This is in accordance with the hypothesis that, teachers who got information from newspaper about hearing impaired children at different frequency have different level of knowledge about hearing impaired children.

Table 26 : One way analysis of variance of scores of knowledge about hearing impaired children of samples according to the frequency of getting information about hearing impaired children from newspaper

Source of variance	DF	SS	MS	F	P
Between groups	3	169.603	56.534	56.534	.008
Within groups	140	3246.334	56.534		
Total	**143**	**3415.937**			

∗ S P < 0.05

The researcher also compared the difference of knowledge of samples according to each pair of frequency in getting information by Multiple Comparison, using LSD (Least Significant Difference) method and found that, samples who get information from newspaper once a week or more has higher score than those who get information from newspaper once a month with statistical significance 0.05 as shown in Table 27.

Table 27 : Comparisons of knowledge about hearing impaired children of samples according to frequency of getting information from newspaper using LSD

Frequency of getting information		**³ 1/week**	**1/month**	**<1/month**	**never**
Mean		**20.02**	**17.23**	**18.75**	**18.62**
20.20	≥1/week		∗		
17.23	1/month				
18.75	<1/month				
18.62	never				

∗ S P< 0.05

Frequency of getting information about hearing impaired children from training/seminar

Table 28 : Knowledge of samples about hearing impaired children according to the frequency of getting information about hearing impaired children from training/seminar

Frequency of getting information	Number	Mean	SD
≥1/week	24	18.13	5.24
1/month	31	19.13	5.52
<1/month	79	19.66	4.04
never	10	18.31	4.52

According to Table 28, mean score of knowledge about hearing impaired children of samples who got information from training/seminar about hearing impaired children less than once a month is 19.66,which is higher than those of samples who got information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to frequency of getting information from training/seminar about hearing impaired children, we found that there was no difference, with statistical significance of 0.05, between knowledge of samples that got information from training/seminar about hearing impaired children at different frequency. This is not in accordance with the hypothesis that, teachers who got information from training/seminar about hearing impaired children at different frequency have different level of knowledge about hearing impaired children.

Table 29 : One way analysis of variance of scores of knowledge of samples about hearing impaired children according to the frequency of getting information about hearing impaired children from training/seminar

Source of variance	DF	SS	MS	F	P
Between groups	3	54.476	18.159	.756	.520
Within groups	140	3361.462	24.010		
Total	**143**	**3415.938**			

NS P> 0.05

4.3 Attitudes of the Teachers in Schools for the Deaf in Northern Region

This part of questionnaire consists of 15 questions. Score for each question ranges from 1 to 5. Hence, the possible total score of 15 questions range from 15 to 75.

4.3.1 Scores of samples about their attitudes towards Hearing Impaired Children

Scores are divided into 3 levels high, medium and low. Table 30 shows number and percentage of samples with different range of scores. Table 31 shows number and percentage of samples that chose each the answer of each question.

Table 30 : Number and percentage of samples with different range of scores

Level of attitudes	Number	%
High (score 55-75)	107	74.8
Medium (score 35-54)	27	20.6
Low (score15-34)	6	4.6

Mean = 56.47 SD = 12.77 Max = 71 Min = 0

Total	**144**	**100.00**

Table 30 shows that most samples (74.8 %) have high scores, while 20.6% have medium scores and 4.6% have low scores.

4.3.2 Scores of Attitudes of the Teachers for the Answer of Each Question

Table 31 : Number and percentage of samples who chose each the answer of each question (The figure in parenthesis is percentage of samples who chose the answer, and the figure above the parenthesis is number of samples who chose the answer.)

Question	Number (%)				
	Strongly agree	**Agree**	**Not sure**	**Disagree**	**Strongly disagree**
1. Hearing impaired children have ability if they receive appropriate rehabilitation	98 (68.1)	37 (25.7)	5 (3.5)	3 (2.1)	1 (.7)
2. Hearing impaired children are honest and obey the teacher	3 (2.1)	44 (30.6)	72 (50.0)	21 (14.6)	4 (2.8)
3. Hearing impaired children are clean and dress neatly	18 (12.5)	73 (5.07)	42 (29.2)	11 (7.6)	- -
4. Hearing impaired children have workability if they are provided appropriate type of work	38 (26.4)	95 (66.0)	6 (4.2)	5 (3.5)	- -

Table 31 : Number and percentage of samples who chose each the answer of each question (The figure in parenthesis is percentage of samples who chose the answer, and the figure above the parenthesis is number of samples who chose the answer.) (Continued)

Question	Number (%)				
	Strongly agree	**Agree**	**Not sure**	**Disagree**	**Strongly disagree**
5. Hearing impaired children are not different from other children. They only cannot speak.	47 (32.6)	79 (54.9)	11 (7.6)	5 (3.5)	- -
6. Hearing impaired children can be successful.	57 (39.6)	77 (53.5)	9 (2.8)	1 (.7)	- -
7. Hearing impaired children can develop themselves	81 (56.3)	56 (38.9)	4 (2.8)	1 (.7)	- -
8. Hearing impaired children can have equal development to other children in every aspect.	36 (25.0)	72 (50.30)	19 (13.2)	17 (11.8)	- -
9. Hearing impaired children cannot improve their inappropriate behavior	6 (4.2)	11 (7.6)	23 (16.0)	74 (51.4)	30 (20.8)
10. Hearing impaired children tend to have problems.	3 (2.1)	14 (9.7)	31 (21.5)	72 (50.0)	24 * (16.7)

Table 31 : Number and percentage of samples who chose each the answer of each question (The figure in parenthesis is percentage of samples who chose the answer, and the figure above the parenthesis is number of samples who chose the answer.) (Continued)

Question	Number (%)				
	Strongly agree	**Agree**	**Not sure**	**Disagree**	**Strongly disagree**
11. Hearing impaired children did something bad their previous lives.	4 (2.8)	10 (6.9)	35 (24.3)	39 (27.1)	56 * (38.9)
12. Hearing impaired children have slow development in language.	4 (2.8)	22 (15.3)	23 (16.7)	84 (60.4)	11 * (7.6)
13. Hearing impaired children are unlikely to be successful.	3 (2.1)	5 (3.5)	24 (16.7)	87 (60.4)	25 * (17.4)
14. Hearing impaired children have low social skills, which make it difficult for them to get along with other people in society.	2 (1.4)	13 (9.0)	19 (13.2)	89 (61.8)	21 (14.6)
15. Hearing impaired children are bad tempered, shy, and do not trust the others.	6 (4.2)	20 (13.9)	24 (16.7)	84 (58.3)	10 * (6.9)

* means question with negative attitude

Table 31 shows that samples have positive attitudes toward hearing impaired children in most questions except the question, “Hearing impaired children are honest and obey the teachers”.

4.3.3 Comparisons of attitudes toward hearing impaired children by ages, educational level, field of study, position, experiences in teaching hearing impaired children, frequency of getting information about hearing impaired children from different sources (radio, television, newspaper, training/seminar)

Ages

Table 32 : Attitudes of samples toward hearing impaired children compared by age

Age range	Number	Mean	SD
20 – 25	18	48.67	13.05
26 – 30	72	48.57	12.06
31 – 35	22	48.89	12.08
36 – 40	13	46.38	14.44
41 – 45	15	47.38	11.49
46 and more	4	48.25	10.05

Table 32 shows that mean score of samples with age range 31-35 is 48.89, which is higher than those of other age ranges.

When we analyzed one way analysis of variance of scores of samples according to ages, we found that there was no difference, with statistical significance of 0.05, between attitudes of samples who had different age ranges. This is not in accordance with the hypothesis that samples with different ages have different attitudes toward hearing impaired children.

Table 33 : One way analysis of variance of score of attitudes of samples towards hearing impaired children according to age

Source of variance	DF	SS	MS	F	P
Between groups	3	72.342	14.466	1.681	0.73
Within groups	140	1475.537	10.694		
Total	**143**	**1547.879**			

NS P > 0.05

Educational level

Table 34 : Attitudes of samples toward hearing impaired children according to educational level

Educational level	Number	Mean	SD
Bachelor degree	136	56.04	12.93
Master degree	8	64.29	5.06
Ph.D.	-	-	-

According to Table 34, mean score of samples who had master degrees is 64.29, which is higher than that of samples that had bachelor degrees.

When we analyzed one way analysis of variance of scores of samples according to educational level, we found that there was no difference, with statistical significance of 0.05, between attitudes of samples that had different educational levels. This is not in accordance with the hypothesis that samples with different educational level have different attitudes toward hearing impaired children.

Table 35 : One way analysis of variance of score of attitudes of samples towards hearing impaired children according to educational level

Source of variance	DF	SS	MS	F	P
Between groups	3	450.928	450.928	2.804	.096
Within groups	140	21068.230	160.826		
Total	**143**	**21519.158**			

NS P> 0.05

Field of Study

Table 36 : Attitudes of samples toward hearing impaired children according to fields of study

Field of Study	Number	Mean	SD
Special education	26	59.31	5.94
Teaching	90	57.51	7.65
Others	28	55.68	13.32

According to Table 36, mean score of samples who majored in special education is 59.31, which is higher than those of samples with other majors.

When we analyzed one way analysis of variance of scores of samples according to field of study, we found that there was no difference, with statistical significance of 0.05, between attitudes of samples that had different field of study. This is not in accordance with the hypothesis that samples with different field of study have different attitudes toward hearing impaired children.

Table 37 : One Way Analysis of Variance of Score of Attitudes of Samples towards Hearing Impaired Children According to Field of Study Level

Source of variance	DF	SS	MS	F	P
Between groups	2	177.80	88.90	1.152	.319
Within groups	141	10878.13	77.15		
Total	**143**	**11055.93**			

NS P> 0.05

Experiences in teaching hearing impaired children

Table 38 : Attitudes of samples toward hearing impaired children according to experiences in teaching hearing impaired children

Experiences in teaching hearing impaired children (years)	Number	Mean	SD
Less than 5 years	101	56.02	13.28
6 – 10 years	27	59.04	4.94
10 years and more	16	55.00	18.62

According to Table 38, mean score of samples who had 6-10 years of experiences in teaching hearing impaired children is 59.04, which is higher than those of samples who had less than 5 years of experiences in teaching hearing impaired children and more than ten years of experiences in teaching hearing impaired children.

When we analyzed one way analysis of variance of scores of samples according to experiences in teaching hearing impaired children, we found that there was no difference, with statistical significance of 0.05, between attitudes of samples who had years of experiences in teaching hearing impaired children. This is not in accordance with the hypothesis that samples with different experiences in teaching hearing impaired children have different attitudes toward hearing impaired children.

Table 39 : One way analysis of variance of score of attitudes of samples towards hearing impaired children according to experiences in teaching hearing impaired children

Source of variance	DF	SS	MS	F	P
Between groups	3	204.241	102.120	.623	.538
Within groups	140	21314.914	163.961		
Total	**143**	**21519.155**			

NS P> 0.05

Frequency of getting information about hearing impaired children from radio

Table 40 : Attitudes of samples toward hearing impaired children according to frequency of getting information from radio

Frequency of getting information	Number	Mean	SD
≥1/week	35	58.89	7.59
1/month	31	58.02	9.74
<1/month	36	56.07	6.62
never get information	42	52.56	7.73

According to Table 40, mean score of samples who get information about hearing impaired children from radio once a week or more is 58.89, which is higher than those of samples who get information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to the frequency of getting information about hearing impaired children from radio, we found that there was no difference, with statistical significance of 0.05, between attitudes of samples that get information from radio about hearing impaired children at different frequency. This is not in accordance with the hypothesis that samples that get information from radio about hearing impaired children at different frequency have different attitudes toward hearing impaired children.

Table 41 : One way analysis of variance of score of attitudes of samples towards hearing impaired children according to frequency of getting information about hearing impaired children from radio

Source of variance	DF	SS	MS	F	P
Between groups	3	349.246	116.415	1.522	.211
Within groups	140	10706.691	76.476		
Total	**143**	**11055.937**			

NS P> 0.05

Frequency of getting information about hearing impaired children from television

Table 42 : Attitudes of samples toward hearing impaired children according to frequency of getting information from television

Frequency of getting information	Number	Mean	SD
≥1/week	73	59.56	7.05
1/month	35	56.12	10.10
<1/month	30	55.56	6.23
never get information	6	57.90	8.28

According to Table 42, mean score of samples who get information about hearing impaired children from television once a week or more is 59.56, which is higher than those of samples who get information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to the frequency of getting information about hearing impaired children from television, we found that there was difference, with statistical significance of 0.05, between attitudes of samples that get information about hearing impaired children from television at different frequency. This is in accordance with the hypothesis that samples that get information from television about hearing impaired children at different frequency have different attitudes toward hearing impaired children.

Table 43 : One way analysis of variance of score of attitudes of samples towards hearing impaired children according to frequency of getting information about hearing impaired children from television

Source of variance	DF	SS	MS	F	P
Between groups	3	369.058	123.019	1.612	.039
Within groups	140	10686.879	76.335		
Total	**143**	**11055.938**			

∗S P > 0.05

The researcher also compared the difference of attitudes of samples according to each pair of frequency in getting information by Multiple Comparison, using LSD (Least Significant Difference) method and found that, samples who get information from television once a week or more has higher score than those who get information from television less than once a month with statistical significance 0.05 as shown in Table 44.

Table 44 : Attitudes of samples toward hearing impaired children according to the frequency of getting information from television using LSD

Frequency of getting information		**³1/week**	**1/month**	**<1/month**	**never**
Mean		**59.56**	**56.12**	**55.56**	**57.90**
59.56	≥1/week			∗	
56.12	1/month				
55.56	<1/month				
57.90	never				

∗S P< 0.05

Frequency of getting information about hearing impaired children from newspaper

Table 45 : Attitudes of samples according frequency of getting information about hearing impaired children from newspaper

Frequency of getting information	Number	Mean	SD
≥1/week	64	57.56	11.10
1/month	43	57.33	7.42
<1/month	27	58.75	7.06
never	10	56.66	6.70

According to Table 45, mean score of samples who get information about hearing impaired children from newspaper less than once a month is 58.75, which is higher than those of samples who get information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to the frequency of getting information about hearing impaired children from newspaper, we found that there was no difference, with statistical significance of 0.05, between attitudes of samples that get information about hearing impaired children from newspaper at different frequency. This is not in accordance with the hypothesis that samples that get information about hearing impaired children from newspaper at different frequency have different attitudes toward hearing impaired children.

Table 46 : One way analysis of variance of score of attitudes of samples towards hearing impaired children according to frequency of getting information about hearing impaired children from newspaper

Source of variance	DF	SS	MS	F	P
Between groups	3	53.334	17.778	.226	.878
Within groups	140	11002.604	78.590		
Total	**143**	**11055.937**			

NS P > 0.05

Frequency of getting information about hearing impaired children from the training/seminar

Table 47 : Attitudes of samples toward hearing impaired children according to the frequency of getting information about hearing impaired children from the training/seminar

Frequency of getting information	Number	Mean	SD
≥1/week	24	57.26	6.87
1/month	31	58.18	8.39
<1/month	79	55.97	12.17
never	10	18.31	6.87

According to Table 47, mean score of samples who get information about hearing impaired children from the training/seminar once a month is 58.18, which is higher than those of samples who get information at different frequency.

When we analyzed one way analysis of variance of scores of samples according to the frequency of getting information about hearing impaired children from the training/seminar, we found that there was no difference, with statistical significance of 0.05, between attitudes of samples that get information about hearing impaired children from the training/seminar at different frequency. This is not in accordance with the hypothesis that samples that get information about hearing impaired children from the training/seminar at different frequency have different attitudes toward hearing impaired children.

Table 48 : One way analysis of variance of score of attitudes of samples towards hearing impaired children according to frequency of getting information about hearing impaired children from training/seminar

Source of variance	DF	SS	MS	F	P
Between groups	3	135.885	17.778	.226	.878
Within groups	140	10920.052	78.590		
Total	**143**	**11055.937**			

NS P > 0.05

4.4 Correlation of knowledge and attitudes of teachers of schools for the deaf in Northeastern Region toward hearing impaired children

Table 49 : Correlation coefficient of knowledge and attitudes of the teachers in schools for the deaf in Northeastern

	Mean	SD	Knowledge	Attitude
Knowledge	19.23	4.49	1.00	.517*
Attitude	56.47	12.77	.517*	1.00

*Statistical significance 0.01

According to Table 49, knowledge and attitudes of the teachers of schools for the deaf in Northeastern region has positive correlation with statistical significance 0.05.

4.5 Summary of the Study Result

The knowledge and attitudes of teachers in deaf schools in Northeastern Region can be summarized as follow

4.5.1 Knowledge and attitudes of teachers in deaf schools in Northeastern Region toward hearing impaired children

1. Knowledge

The teachers in deaf schools in Northeastern Region have knowledge about hearing impaired children at the medium level. Their knowledge in the areas of psychology of hearing impaired children and how to provide education to hearing impaired children is at the medium level. This can be the reason why the educational rehabilitation of hearing impaired children is not as successful as it should be**.** The teachers in deaf schools should have knowledge about hearing impaired children at the high level especially in the areas of psychology of hearing impaired children and how to provide education to them. Teachers in

deaf schools need to have knowledge about educational rehabilitation of hearing impaired children at the high level and should also have knowledge in the areas of medical, vocational and social rehabilitation at the basic level so that they can refer the children for other professionals according to the needs of each child and for the best interest of the child. Therefore, the knowledge about psychology of hearing impaired children and how to provide education to them is very important. However, there are a few teachers in deaf schools in Northeastern Region who majored in special education. Most of them graduated in the fields of teaching and education with major in teaching children in general, not special education or teaching hearing impaired children. So the researcher would like to make suggestion that the subjects about psychology of hearing impaired children, how to provide education to them and how to prepare them for integrated schools should be included in the curriculum of the universities that provide education for students who major in education and/or teaching so that they have basic knowledge about rehabilitation of children with hearing impairment. Moreover, those who do not major in teaching or education should not teach in deaf schools.

2. Attitudes

This study found that the teachers in deaf schools in Northeastern Region have positive attitudes toward hearing impaired children. This is in accordance with the study of Sumalee Deejongkit (2541) that studied the attitudes of the lecturers of Mahidol University toward persons with disabilities and found that the lecturers have more positive attitudes toward persons with disabilities after they have more knowledge about persons with disabilities and have more experiences in teaching students with disabilities.

Positive attitudes of teachers in deaf schools in Northeastern Region imply that they are willing to develop and cooperate in rehabilitation of hearing impaired children. Hearing impaired children are also part of our society. If they receive appropriate rehabilitation, they can live independently and can be productive members of their families, communities and country.

4.5.2 Comparisons of knowledge and attitudes according to age, educational level, field of study, experiences in teaching hearing impaired children, and the frequency of getting information about hearing impaired children from radio, television, newspaper and training/seminar

1. Comparison of knowledge of teachers in deaf schools in Northeastern Region

1.1 Teachers in deaf schools in Northeastern Region who have different ages do not have different knowledge about hearing impaired children.

1.2 Teachers in deaf schools in Northeastern Region who have different level of education do not have different knowledge about hearing impaired children. This is because the universities from which the samples graduated did not have subjects about hearing impaired children in the curriculum. As a result, they did not have knowledge about hearing impaired children no matter what level of education they had. Moreover, they did not have opportunities to study about hearing impaired children by themselves due to limited sources of information.

1.3 Teachers in deaf schools in Northeastern Region who graduated with different majors do not have different knowledge about hearing impaired children because for these samples, no matter what they majored in, they did not have knowledge in psychology of hearing impaired children and how to provide education for them, which are basic knowledge for the teachers of hearing impaired children and all academic professionals who work with hearing impaired children so that they understand the nature of hearing impaired children and can play important role in educational rehabilitation of hearing impaired children.

1.4 Teachers in deaf schools in Northeastern Region who have different educational level do not have different knowledge about hearing impaired children. This is because the universities from which the samples graduated did not have subjects about hearing impaired children in the curriculum. As a result, they did not have knowledge about hearing impaired children no matter what level of education they had. Moreover, they did not have opportunities to study about hearing impaired children by themselves due to limited sources of information.

1.5 Teachers in deaf schools in Northeastern Region who have different years of experiences in teaching hearing impaired children do not have different knowledge about hearing impaired children. The reason may be the same as that of number 2.1.3. And most of them had been teaching hearing impaired children for only a few years. So their experiences in teaching hearing impaired children were not different. Moreover, some teachers did not major in teaching or education. They, therefore, did not have much knowledge about hearing impaired children even though they had been teaching hearing impaired children for several years.

1.6 Teachers in deaf schools in Northeastern Region who receive information from radio, television, newspaper and training/seminar at different frequency do not have different knowledge about hearing impaired children. The reason is that the teachers who teach hearing impaired children regularly do not have many opportunities to attend the training or seminars. Those who can attend are usually the executives of the schools who do not have much time to teach. Moreover, most of the training or seminars were not related to psychology of hearing impaired children and not related to the strategies to provide education for hearing impaired children.

Teachers in deaf schools in Northeastern Region who receive information from radio, television and newspaper at different frequency have different knowledge about hearing impaired children. It can be explained that the teachers who receive information from the media more often are those who are willing and eager to know more about hearing impaired children. And the information conveyed by these three types of media is more critical and analytical. Therefore, teachers who receive information more often have more knowledge about hearing impaired children.

2. Attitudes of Teachers in Deaf Schools in Northeastern Region toward Hearing Impaired Children

2.1 Teachers in deaf schools in Northeastern Region who have different ages do not have different attitudes toward hearing impaired children.

2.2 Teachers in deaf schools in Northeastern Region who have different levels of education do not have different attitudes toward hearing impaired children. This is in accordance with the study of Somkiat Kaewyoo cited in Jareerat Kitsalee (1998105) which was aimed to study the attitudes of the trainees in the Military Human Resource Development training Program provided by the Department of Military Human Resource and found that the educational level of the trainees in this program did not affect their attitudes.

2.3 Teachers in deaf schools in Northeastern Region who graduated with different majors do not have different attitudes toward hearing impaired children because most of them majored in education, teaching or special education. These majors are all related to education. Therefore, their attitudes are not different.

2.4 Teachers in deaf schools in Northeastern Region who have different years of experiences in teaching hearing impaired children do not have different

attitudes toward hearing impaired children. Most of their attitudes are positive and at high level.

2.5 Teachers in deaf schools in Northeastern Region who receive information from radio, television, newspaper and training/seminar at different frequency do not have different attitudes toward hearing impaired children. However, those who received information from television at different frequency have different attitudes toward hearing impaired children. It can be explained that television is the media that can be heard and visualized at the same time. So it is more influential than other types of media. And most programs related to persons with disabilities are aimed to educate the audience. Some programs also provide sign language. This can make the audience feel acquainted with persons with disabilities and have more positive attitudes toward them.

3. Correlation of Knowledge and Attitudes of Teachers in Deaf Schools in Northeastern Region

The correlation of knowledge and attitudes of teachers in Northeastern Region was a Positive Linear Correlation. This is in accordance with the study of Sumalee Deejongkit (1998) which found that the attitudes of lecturers in Mahidol University toward persons with disabilities was more positive after they had been more educated about persons with disabilities.

CHAPTER V
SUMMARY AND SUGGESTIONS

The teachers in deaf schools play important roles in educational rehabilitation of hearing impaired children. They need to know the psychology of hearing impaired children and how to provide education for these children. This kind of knowledge is an important tool to provide education for hearing impaired children with the learner-based concept. Positive attitudes of the teachers are also important as it can lead to the interest and devotion to their hearing impaired students. In order to educate students in deaf schools about educational rehabilitation of hearing impaired children, the curriculum of teaching or educational programs should include subjects related to rehabilitation of hearing impaired children. If the teachers in deaf schools and the personnel in the field of rehabilitation have good knowledge and appropriate attitudes toward hearing impaired children, it can decrease the handicap of hearing impaired children and can lead to their independent living. Therefore, the researcher is interested in studying about the knowledge and attitudes of teachers in deaf schools in Northeastern Region, which is aimed to study and compare knowledge and attitudes of the teachers according to ages, educational level, fields of study, experiences in teaching hearing impaired children, and the frequency of getting information about hearing impaired children from radio, television, newspaper, training/seminar. Another objective is to find correlation of knowledge and attitudes of the teachers in deaf schools in Northeastern Region. It is a survey research. The samples are 144 teachers, both government officials and temporary employees, in deaf schools in Northeastern Region of Thailand.

The instrument used in this study was a questionnaire which consisted of 3 parts: general information about the variables, test of knowledge about hearing impaired children and test of attitudes toward hearing impaired children. All the 144 questionnaires (100.00%) were sent back to the researcher.

The data were analyzed by SPSS/FW. For general information, the statistics used were frequency and percentage. For knowledge and attitudes, the statistics used were mean, standard deviation (SD), frequency and percentage. For the comparison of knowledge and attitudes according to the independent variables, the statistics used were one way analysis of variance. For the correlation of knowledge and attitudes, statistics used were Pearson Product Moment Correlation Coefficient.

5.1 Summary of the Study

5.1.1 General Information

Among the 144 samples of the study, most of them (50.0%) were 26-30 years old and 94.4% of them had bachelor degrees. 18.1% majored in special education and 68.80% had experiences in teaching hearing impaired children for 1-5 years. And most of them (54.9%) were temporary employees.

For the frequency of getting information about hearing impaired children, most samples received information about hearing impaired children once a week or more, and most of them received it from television (50.7%) and 44.40% received it from newspapers while 24.3% received it from newspapers. 6.9% of the samples never attended training or seminar.

5.1.2 Knowledge about hearing impaired children

1. According to the study, most teachers (49.3%) had knowledge about hearing impaired children at the medium level (mean score 18.37). From the full score of 30, the maximum score of the samples was 26 and the minimum score was 5.

2. There were 2 parts of knowledge of the samples about hearing impaired children, psychology of hearing impaired children and how to provide education to them. The study found that the samples had less knowledge about psychology of hearing impaired children than how to provide education to them.

The top 5 areas of knowledge that the samples knew the most were: the preparation for education of children with mild hearing impairment, definition of people

with hearing impairment according to the Rehabilitation of Disabled Persons Act B.E. 2534, definition of rehabilitation of people with hearing impairment, pre-natal causes of hearing impairment, and communication mean for children with severe hearing impairment.

The top 5 areas of knowledge that the samples knew the least were : ability of hearing impaired children to have overall concepts of something, curriculum for hearing impaired children, social skills of hearing impaired children, guidelines about how to treat hearing impaired children, ability to view things as a whole picture and personalities of hearing impaired children.

3. Comparison of knowledge of samples about hearing impaired children according to the independent variables

3.1 Teachers in deaf schools in Northeastern Region who have different ages do not have different knowledge about hearing impaired children with statistical significance 0.05.

3.2 Teachers in deaf schools in Northeastern Region who have different level of education do not have different knowledge about hearing impaired children with statistical significance 0.05.

3.3 Teachers in deaf schools in Northeastern Region who graduated with different majors do not have different knowledge about hearing impaired children with statistical significance 0.05.

3.4 Teachers in deaf schools in Northeastern Region who have different years of experiences in teaching hearing impaired children do not have different knowledge about hearing impaired children with statistical significance 0.05.

3.5 Teachers in deaf schools in Northeastern Region who receive information about hearing impaired children from radio at different frequency have different knowledge about hearing impaired children with statistical significance 0.05

3.6 Teachers in deaf schools in Northeastern Region who receive information about hearing impaired children from television at different frequency have different knowledge about hearing impaired children with statistical significance 0.05.

3.7 Teachers in deaf schools in Northeastern Region who receive information about hearing impaired children from newspaper at different frequency have different knowledge about hearing impaired children with statistical significance 0.05.

3.8 Teachers in deaf schools in Northeastern Region who receive information about hearing impaired children from the training/seminar at different frequency do not have different knowledge about hearing impaired children with statistical significance 0.05.

5.1.3 Attitudes of Samples toward Hearing Impaired Children

1. Most samples (74.8%) had high score of attitudes. The mean score was 56.47 (from full score of 75). The maximum score was 71 and the minimum score was 0. Judging from the high mean score, we can conclude that the teachers in deaf schools Northeastern Region had positive attitudes toward hearing impaired children.

2. Analyzing each question, the researcher found that samples had positive attitudes in almost all questions, except for the question, "Do you think hearing impaired children are honest and obey the teachers?". For this question, the scores of most samples were ranked at the medium level, which means they had negative attitudes. Analyzing questions with positive meaning, the researcher found that most samples (68.1%) got highest score for the question, "Hearing impaired children have efficiency if they receive appropriate rehabilitation". For questions with negative meaning, the researcher found that most samples (61.8%) got highest score for the question, "Hearing impaired children have low social skills and find it difficult to adjust themselves to the society".

3. Comparisons of Attitudes according to Independent Variables

3.1 Teachers in deaf schools in Northeastern Region who have different ages do not have different attitudes toward hearing impaired children with statistical significance 0.05.

3.2 Teachers in deaf schools in Northeastern Region who have different levels of education do not have different attitudes toward hearing impaired children with statistical significance 0.05.

. 3.3 Teachers in deaf schools in Northeastern Region who graduated with different majors do not have different attitudes toward hearing impaired children with statistical significance 0.05. .

3.4 Teachers in deaf schools in Northeastern Region who have different years of experiences in teaching hearing impaired children do not have different attitudes toward hearing impaired children with statistical significance 0.05.

3.5 Teachers in deaf schools in Northeastern Region who receive information from radio, newspaper and training/seminar at different frequency do not have different attitudes toward hearing impaired children with statistical significance 0.05.

3.6 Teachers in deaf schools in Northeastern Region who received information from the television at different frequency have different attitudes toward hearing impaired children with statistical significance 0.05.

4. Correlation of Knowledge and Attitudes of Teachers in Deaf Schools in Northeastern Region

The correlation of knowledge and attitudes of teachers in Northeastern Region was a Positive Linear Correlation with statistical significance 0.05.

5.2 Suggestions

1. According to the study, most teachers in deaf schools in Northeastern Region had medium level of attitudes toward hearing impaired children. They need to be more educated about hearing impaired children, especially in the area of educational rehabilitation so that they know how to provide education to hearing impaired children according to their special needs. The main objective is to let hearing impaired children fully develop their potential and minimize the handicaps, which can lead to their independent living.

2. The schools or government bodies in charge of this matter should provide training to the teachers and the academic officials in deaf schools all over the country so that they know more about education and rehabilitation of hearing impaired children. The content of the training should emphasize on basic knowledge about educational, medical, vocational and social rehabilitation of hearing impaired children.

3. As most teachers in deaf schools in Northeastern Region have positive attitudes toward hearing impaired children, the schools should have activities that promote even more positive attitudes.

4. The government offices in charge of educational rehabilitation of hearing impaired children should issue a manual or documents to be disseminated to the parents of hearing impaired children, personnel who work in the area of educational rehabilitation of hearing impaired children, and those who are interested in order to promote appropriate attitudes of the public toward hearing impaired children.

5.3 Suggested Future Research

1. Survey knowledge and attitudes of teachers in deaf schools all over the country and the effect on educational rehabilitation of hearing impaired children.

2. Study roles of teachers in deaf schools in educational rehabilitation of hearing impaired children.

3. Study roles of teachers in deaf schools in systematic educational development.

4. Develop curriculum about educational rehabilitation of hearing impaired children for the training of teachers in deaf schools.

5. Study concepts and visions of the administrators in the government offices that are in charge of educational rehabilitation of hearing impaired children.

6. Promote the profession of rehabilitation counselors.

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APPENDIX

APPENDIX A
QUESTIONNAIRE

แบบสอบถามหมายเลข | | | |

แบบสอบถามประกอบการวิจัย
เรื่อง
ความรู้และเจตคติของครูในโรงเรียนศึกษาพิเศษต่อเด็กพิการทางการได้ยิน
ในภาคตะวันออกเฉียงเหนือ

คำชี้แจง

1. แบบสอบถามนี้เป็นแบบสอบถามประกอบการวิจัย เรื่อง ความรู้และเจตคติของครูโรงเรียนศึกษาพิเศษต่อเด็กพิการทางการได้ยินในภาคตะวันออกเฉียงเหนือ ประกอบด้วย 3 ส่วน ดังนี้
   - ส่วนที่ 1 แบบสอบถามเกี่ยวกับข้อมูลทั่วไป
   - ส่วนที่ 2 แบบทดสอบความรู้เกี่ยวกับเด็กพิการทางการได้ยิน
   - ส่วนที่ 3 แบบวัดเจตคติเกี่ยวกับเด็กพิการทางการได้ยิน

2. ขอความร่วมมือมายังท่านผู้กรอกแบบสอบถาม โปรดตอบคำถามให้ตรงกับความเป็นจริงและความคิดเห็นของท่านให้มากที่สุด ข้อมูลทั้งหมดจะถูกเก็บไว้เป็นความลับและใช้ประกอบการศึกษาเท่านั้น

ขอขอบคุณในความร่วมมือเป็นอย่างดีในครั้งนี้

เธียรสินี โภคทรัพย์

นักศึกษาปริญญาโท
สาขางานบริการฟื้นฟูสมรรถภาพคนพิการ
แขนงวิชาการให้คำปรึกษาและแนะแนวคนพิการ
วิทยาลัยราชสุดา มหาวิทยาลัยมหิดล

ส่วนที่ 1 แบบสอบถามข้อมูลทั่วไป

โปรดทำเครื่องหมาย √ ลงใน ( ) และเติมข้อความให้ชัดเจน

1. เพศ ( ) ชาย ( ) หญิง

2. อายุ ( ) 20-25 ปี ( ) 26-30 ปี ( ) 31-35 ปี
( ) 36-40 ปี ( ) 41-45 ปี ( ) 46 ปีขึ้นไป

3. ระดับการศึกษา
( ) ปริญญาตรี สาขา.....
( ) ปริญญาโท สาขา.....
( ) ปริญญาเอก สาขา.....

4. ปัจจุบันดำรงตำแหน่ง
( ) ครูประจำการ ระดับ.....
ระยะเวลาการทำงานในโรงเรียนศึกษาพิเศษ.....ปี
( ) ครูอัตราจ้าง ระยะเวลาการทำงานในโรงเรียนศึกษาพิเศษ.....ปี

ส่วนที่ 2 แบบทดสอบความรู้เกี่ยวกับเด็กพิการทางการได้ยิน

ท่านได้รับความรู้เกี่ยวกับเด็กพิการทางการได้ยินจากแหล่งความรู้ต่าง ๆ ต่อไปนี้มากน้อยเพียงใด โปรดตอบทุกข้อและทำเครื่องหมาย √ ลงในช่องของความถี่

แหล่งความรู้	ความถี่ในการรับรู้			
	1 ครั้ง/สัปดาห์หรือมากกว่า	1 ครั้ง/เดือน	น้อยกว่า 1 ครั้ง/เดือน	ไม่เคย
1. วิทยุ				
2. โทรทัศน์				
3. หนังสือพิมพ์				
4. การอบรม/สัมมนา				

แบบทดสอบความรู้เกี่ยวกับเด็กพิการทางการได้ยิน

คำชี้แจง โปรดวงกลมล้อมรอบข้อความที่ถูกที่สุดเพียงคำตอบเดียว

1. เด็กพิการทางการได้ยินมีกี่ประเภท
   ก. มี 2 ประเภท
   ข. มี 3 ประเภท
   ค. มี 4 ประเภท
   ง. มี 5 ประเภท

2. ข้อใดต่อไปนี้เป็นสาเหตุของความพิการทางการได้ยินก่อนคลอด
   ก. แม่ขาดโปรตีนระหว่างตั้งครรภ์
   ข. แม่ได้รับเชื้อหัดเยอรมันระหว่างตั้งครรภ์
   ค. แม่เป็นเบาหวานระหว่างตั้งครรภ์
   ง. ทารกเป็นโรคไข้สมองอักเสบ

3. ข้อใดต่อไปนี้เป็นลักษณะเด่นของเด็กพิการทางการได้ยิน
   ก. พัฒนาการทางภาษาล่าช้าเนื่องจากเด็กไม่ได้ยินเสียง
   ข. พัฒนาการทางสติปัญญาล่าช้าเนื่องจากเด็กไม่ได้ยินเสียง
   ค. พัฒนาการทางสังคมล่าช้าเนื่องจากเด็กไม่ได้ยินเสียง
   ง. พัฒนาการทางภาษา สติปัญญา และสังคมล่าช้า

4. คนพิการทางการได้ยินตามพระราชบัญญัติการฟื้นฟูสมรรถภาพคนพิการได้แก่บุคคลในข้อใดต่อไปนี้
   ก. คนที่มีความผิดปกติหรือบกพร่องในการรับรู้อารมณ์ความคิด
   ข. คนที่มีความผิดปกติหรือบกพร่องในการเข้าใจภาษาพูด
   ค. คนที่มีความผิดปกติหรือบกพร่องทางสมองจนไม่สามารถเรียนรู้ได้
   ง. คนที่มีความผิดปกติหรือบกพร่องร่างกายหรือประสาทอ่อนแรง

5. ข้อใดต่อไปนี้เป็นการฟื้นฟูสมรรถภาพคนพิการทางการได้ยิน
   ก. ควรฝึกอาชีพ
   ข. การฝึกทักษะทางสังคม
   ค. การจัดการศึกษา
   ง. ทุกข้อที่กล่าวมา

6. เหตุใดเด็กพิการทางการได้ยินจึงมีพัฒนาการพูดช้าและต่ำกว่าเด็กปกติทั่วไป
   ก. เด็กไม่ได้ยินเสียงซึ่งเป็นข้อมูลย้อนกลับอันเป็นแรงเสริมและแบบอย่าง
   ข. เด็กไม่สามารถสื่อเป็นคำพูดได้ทำให้สื่อความหมายไม่เข้าใจ
   ค. เด็กไม่สามารถฟังผู้อื่นพูดได้ทำให้ไม่เข้าใจในสิ่งที่สื่อมา
   ง. เด็กไม่สามารถสื่อความหมายให้บุคคลรอบข้างรับทราบและเข้าใจ

7. ข้อใดต่อไปนี้เป็นคำกล่าวที่ถูกต้อง
   ก. เด็กพิการทางการได้ยินไม่จำเป็นต้องพัฒนาการได้ยิน
   ข. ระดับสติปัญญาเด็กพิการทางการได้ยินต่ำกว่าเด็กปกติ
   ค. พัฒนาการทางสติปัญญาและทางภาษาเกิดขึ้นควบคู่กัน
   ง. เด็กพิการทางการได้ยินมีบุคลิกภาพเก็บตัวไม่กล้าแสดงออก

8. ความสามารถของเด็กพิการทางการได้ยินขึ้นอยู่กับปัจจัยใดต่อไปนี้
   ก. ประสบการณ์และการเรียนรู้
   ข. การอบรมเลี้ยงดูจากพ่อแม่
   ค. การสอนของครู
   ง. การดูแลรักษาจากครอบครัว

9. เด็กพิการทางการได้ยินขาดความคิดรวบยอดบางอย่างมาจากสาเหตุใดในหัวข้อต่อไปนี้
   ก. เด็กขาดประสบการณ์ที่ดี
   ข. เด็กขาดการเรียนรู้ที่ดี
   ค. เด็กได้รับคำชี้แจงไม่ชัดเจน
   ง. เด็กขาดการอบรมสั่งสอนที่ดี

10. พัฒนาการทางสังคมและบุคลิกภาพของเด็กพิการทางการได้ยินมีลักษณะใดในข้อต่อไปนี้
    ก. เด็กมีปฏิสัมพันธ์ทางสังคมสูง
    ข. เด็กมีปฏิสัมพันธ์ทางสังคมต่ำ
    ค. เด็กมีปฏิสัมพันธ์ทางสังคมเหมือนเด็กปกติ
    ง. มีบุคลิกภาพเก็บตัวไม่กล้าแสดงออก

11. ความคิดรวบยอดของเด็กพิการทางการได้ยินมองภาพมีลักษณะตามข้อใดต่อไปนี้
    ก. มองจากจุดสำคัญออกไปในมุมกว้าง
    ข. มองจากแนวตั้งมาแนวนอน
    ค. มองจากมุมกว้างออกไป
    ง. มองภาพจากวงกวางเข้าหาจุดสำคัญ

12. บุคลิกภาพของเด็กพิการทางการได้ยินมีลักษณะตามข้อใดต่อไปนี้
    ก. สนใจสิ่งรอบข้าง ยิ้มง่าย ทักทายด้วยภาษามือ
    ข. มีพฤติกรรมเช่นเดียวกับบุคคลทั่วไปแตกต่างเพียงไม่ได้ยิน
    ค. ไม่สนใจสิ่งรอบข้างจะสนใจเฉพาะสิ่งที่อยู่ตรงหน้า
    ง. บุคลิกภาพสุภาพ อ่อนโยน แต่งตัวสะอาดเรียบร้อย

13. การที่จะสื่อสารกับเด็กพิการทางการได้ยินโดยใช้ภาษามือผู้สื่อสารควรปฏิบัติเช่นไร
    ก. ควรแต่งกายด้วยเสื้อผ้าสีเข้มไม่สวมเครื่องประดับที่นิ้วหรือข้อมือ
    ข. ควรแต่งกายสุภาพถูกกาลเทศะไม่สวมเครื่องประดับ
    ค. ควรแต่งกายด้วยเสื้อผ้าสีสว่างสดใสไม่สวมเครื่องประดับ
    ง. ควรแต่งกายแบบเฉพาะของล่ามภาษามือไม่สวมเครื่องประดับ

14. การปฏิบัติต่อเด็กพิการทางการได้ยินที่ถูกต้องคือข้อใด
    ก. พูดเสียงดังฟังชัดเพื่อเด็กจะได้อ่านริมฝีปากได้ชัดเจน
    ข. แตะที่ข้อศอกแล้วออกเดินนำหน้าเมื่อต้องการบอกทาง
    ค. แตะที่ข้อมือหรือหัวไหล่เมื่อต้องการพูดกับเด็กพิการทางการได้ยิน
    ง. ใช้มือสะกิดบ่อย ๆ เนื่องจากเด็กไม่ได้ยิน

15. เด็กพิการทางการได้ยินขั้นรุนแรงการสื่อสารที่จำเป็นที่สุดคือ
    ก. เครื่องช่วยฟังระบบ FM หรือ IR
    ข. เครื่องช่วยการได้ยินระบบ ALDs
    ค. เครื่องช่วยการได้ยินระบบสาย (hard-wire system)
    ง. ภาษามือและล่ามภาษามือ

16. ข้อใดต่อไปนี้เป็นวิธีสอนเด็กพิการทางการได้ยินในโรงเรียนศึกษาพิเศษ
    ก. สอนเขียนและพูดด้วยภาษามือ
    ข. สอนพูดด้วยภาษามือ
    ค. สอนพูดด้วยภาษาพูด
    ง. ใช้ภาษามือแทนความหมายภาษา

17. การจัดให้เด็กพิการทางการได้ยินเรียนร่วมกับเด็กปกติพิจารณาจากข้อใดต่อไปนี้
    ก. ศักยภาพของตัวเด็ก
    ข. กิริยามารยาทของเด็ก
    ค. ผลสัมฤทธิ์ทางการเรียนของเด็ก
    ง. ความพร้อมของครอบครัวของเด็ก

18. ในโรงเรียนศึกษาพิเศษสำหรับเด็กพิการทางการได้ยินจัดขึ้นสำหรับเหตุผลในข้อใดต่อไปนี้
    ก. สำหรับเด็กพิการทางการได้ยินทุกคน
    ข. สำหรับเด็กพิการทางการได้ยินที่ต้องการฝึกทักษะทางสังคม
    ค. สำหรับเด็กพิการทางการได้ยินในระดับรุนแรงมากหรือหูหนวก
    ง. สำหรับเด็กพิการทางการได้ยินในระดับที่มีการได้ยินหลงเหลืออยู่

19. วิธีการสอนเด็กพิการทางการได้ยินท่านควรปฏิบัติตามข้อใดต่อไปนี้
    ก. ควรพูดให้เสียงดังที่สุดเพื่อเด็กจะได้สนใจ
    ข. สอนเด็กให้ทำงานจากซ้ายไปขวา
    ค. เมื่อพูดถึงสิ่งของในห้องเรียนควรชี้หรือแตะ
    ง. เมื่อเด็กมีกิริยาไม่เหมาะสมควรพูดอบรมสั่งสอน

20. ท่านคิดว่าข้อใดที่เหมาะสมที่สุดสำหรับครูสอนเด็กพิการได้ยิน
    ก. ทักษะการสอนและทัศนคติที่ดี
    ข. การศึกษาสูงความรู้ดี
    ค. จบการศึกษาพิเศษ
    ง. มีตำแหน่งงานที่เกี่ยวข้องโดยตรง

21. เทคนิควิธีการสอนเด็กพิการทางการได้ยินผู้สอนควรดำเนินการอย่างไรในข้อต่อไปนี้
    ก. การจัดทำโปรแกรมฟื้นฟูสมรรถภาพรายบุคคล
    ข. การให้คำปรึกษาแบบครอบครัว
    ค. การจัดทำแผนการศึกษารายกลุ่ม
    ง. การจัดทำโปรแกรมการศึกษารายบุคคล

22. การจัดการศึกษสำหรับเด็กพิการทางการได้ยินที่ดีและเหมาะสมควรดำเนินการตามข้อใด
    ก. ครูตั้งใจปฏิบัติงานสอนอย่างเคร่งครัดและระมัดระวัง
    ข. ดำเนินงานเป็นทีมประกอบด้วยหลายฝ่าย เช่น ครู ผู้ปกครอง นักบำบัด
    ค. ให้ข้อมูลข่าวสารสม่ำเสมอและนำมาปฏิบัติ
    ง. เพิ่มทักษะ ความรู้ แก่บุคลากรผู้ปฏิบัติงาน

23. การช่วยเหลือเด็กพิการทางการได้ยินที่ดีครูควรดำเนินการอย่างไร
    ก. ส่งต่อผู้เชี่ยวชาญเมื่อเด็กมีความต้องการ
    ข. การจัดการเรียนการสอนให้ครบตามหลักสูตร
    ค. สอนเสริมเมื่อเด็กเรียนอ่อน
    ง. บันทึกข้อมูลพัฒนาการของเด็กอย่างต่อเนื่องเพื่อประเมิน

24. ข้อใดกล่าวถูกต้องเกี่ยวกับเด็กพิการทางการได้ยิน
    ก. เด็กพิการทางการได้ยินมักมีระดับสติปัญญาต่ำ
    ข. เด็กพิการทางการได้ยินขั้นรุนแรงสามารถฝึกพูดได้
    ค. เวลาครูสอนควรแสดงสีหน้าท่าทางให้มากที่สุด
    ง. การได้ยินที่เหลืออยู่จำเป็นต้องได้รับการกระตุ้นหรือฝึก

25. เด็กพิการทางการได้ยินมักจะเรียงคำเป็นประโยคผิดหลักภาษาท่านมีวิธีการแก้ไขอย่างไร
    ก. ใช้ภาพสอนและอธิบายเรียงคำเป็นประโยคที่ถูกต้อง
    ข. ให้ฝึกเขียนเรียงคำในประโยคที่ถูกต้องใหม่
    ค. ให้ฝึกเขียนและอ่านให้ถูกต้อง
    ง. สอนและอธิบายความหมายใหม่

26. หลักสูตรที่ใช้สอนเด็กพิการทางการได้ยินควรมีลักษณะในข้อใดต่อไปนี้
    ก. ควรมีลักษณะเช่นเดียวกันกับเด็กปกติ
    ข. ควรมีลักษณะใกล้เคียงกับเด็กปกติแต่วิธีการอาจแตกต่าง
    ค. ควรมีลักษณะและวิธีสอนเช่นเดียวกับเด็กปกติ
    ง. ควรมีลักษณะยืดหยุ่นได้ตามสภาพการณ์

27. การจัดการศึกษาสำหรับเด็กพิการทางการได้ยินที่ไม่รุนแรงควรมุ่งเน้นด้านใด
    ก. ควรมุ่งเตรียมความพร้อมให้เรียนในโรงเรียนศึกษาพิเศษ
    ข. ควรมุ่งเตรียมความพร้อมให้เรียนในระดับที่สูงขึ้น
    ค. ควรมุ่งเตรียมความพร้อมเพื่อการเรียนร่วม
    ง. ควรมุ่งเตรียมความพร้อมให้ได้ฝึกทักษะทางสังคม

28. เด็กพิการทางการได้ยินที่ไม่รุนแรงหลักสูตรควรเน้นด้านใด
    ก. ควรเน้นทักษะทางภาษามือ
    ข. ควรเน้นทักษะทางภาษาเขียน
    ค. ควรเน้นทักษะการเรียงประโยค
    ง. ควรเน้นทักษะฝึกฟังและแก้ไขการพูด

29. วิธีการกระตุ้นการฝึกฟังการได้ยินที่หลงเหลืออยู่ควรเป็นวิธีใด
    ก. กิจกรรมเข้าจังหวะที่มีเสียงกลอง
    ข. กิจกรรมนันทนาการฟ้อนรำ
    ค. กิจกรรมนันทนาการแสดงท่าทางประกอบ
    ง. กิจกรรมนันทนาการร้องเพลง

30. ในการจัดการเรียนการสอนเด็กพิการทางการได้ยินสิ่งที่ควรกำหนดไว้ในหลักสูตรคือ

ก. การฝึกทักษะสังคม

ข. การฝึกอาชีพ

ค. การฝึกทักษะชีวิต

ง. การฝึกทักษะการดูแลตนเอง

ส่วนที่ 3 แบบวัดเจตคติต่อกับเด็กพิการทางการได้ยิน

โปรดทำเครื่องหมาย √ ลงในช่องว่างที่ตรงกับความคิดเห็นของท่านให้มากที่สุด

ข้อความ	ระดับความคิดเห็น				
	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1. เด็กพิการทางการได้ยินทุกคนมีศักยภาพหากได้รับการฟื้นฟูสมรรถภาพโดยวิธีการที่เหมาะสม					
2. เด็กพิการทางการได้ยินเป็นคนซื่อสัตย์เชื่อฟังคำสั่งของครู					
3. เด็กพิการทางการได้ยินบุคลิกภาพดีแต่งตัวสะอาด ดังสโลแกนที่ว่า “หนวกแต่เนี้ยบ”					
4. เด็กพิการทางการได้ยินมีศักยภาพในการทำงานหากเป็นงานที่เหมาะสมกับความสามารถ					
5. เด็กพิการทางการได้ยินไม่แตกต่างจากเด็กทั่วไปเพียงแต่ว่าไม่สามารถพูดได้เท่านั้นเอง					
6. ความพิการของเด็กพิการทางการได้ยินมีลักษณะเช่นเดียวกันกับความแตกต่างระหว่างบุคคล					
7. เด็กพิการทางการได้ยินสามารถพัฒนาได้					

ข้อความ	ระดับความคิดเห็น				
	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
8. เด็กพิการทางการได้ยินสามารถมีพัฒนาการในด้านต่าง ๆ ได้ดีเท่ากับเด็กทั่วไป					
9. เด็กพิการทางการได้ยินไม่สามารถปรับเปลี่ยนพฤติกรรมไปในทางที่ดีได้					
10. เด็กพิการทางการได้ยินเป็นเด็กมีปัญหา					
11. เด็กพิการทางการได้ยินเป็นคนมีกรรมแต่ชาติปางก่อน					
12. เด็กพิการทางการได้ยินมีพัฒนาการทางภาษาล่าช้ายากแก่การฟื้นฟูสมรรถภาพ					
13. เด็กพิการทางการได้ยินยากที่จะประสบความสำเร็จในชีวิต					
14. เด็กพิการทางการได้ยินมีทักษะทางสังคมต่ำยากต่อการปรับตัวเข้ากับสังคม					
15. เด็กพิการทางการได้ยินเป็นคนเจ้าอารมณ์หวาดระแวง ไม่กล้าแสดงออก					

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คำตอบที่ถูกต้องของส่วนที่ 2 แบบทดสอบความรู้เกี่ยวกับเด็กพิการทางการได้ยิน

1. ก	2. ข	3. ก	4. ข	5. ง	6. ก
7. ค	8. ข	9. ค	10. ข	11. ง	12. ค
13. ก	14. ค	15. ง	16. ง	17. ก	18. ค
19. ค	20. ก	21. ง	22. ข	23. ง	24. ง
25. ก	26. ข	27. ค	28. ง	29. ก	30. ข

APPENDIX B
THE SCORE TABLE OF THE EACH SAMPLE IN THIS RESEARCH

Table 50 : Difficulty Level and Discrimination Power in Each Question

No.	Number of respondents that got		Difficulty Level	Discrimination	Meaning
	Low Group	High Group	$P_H + P_L$ / 2n	$P_H - P_L$ / n	
1.	2	4	.37	.25	Fine
2.	3	6	.56	.37	Fine
3.	0	7	.43	.80	Fine
4.	4	7	.68	.37	Fine
5.	5	8	.81	.37	Fine
6.	5	8	.81	.37	Fine
7.	5	8	.81	.37	Fine
8.	1	5	.37	.50	Fine
9.	3	6	.56	.37	Fine
10.	4	6	.75	.25	Fine
11.	3	1	.25	.25	Need to be improved
12.	6	8	.87	.25	Need to be improved
13.	7	8	.93	.12	Need to be improved
14.	5	7	.75	.25	Fine
15.	5	7	.75	.25	Fine
16.	2	2	.25	0	Need to be improved
17.	4	8	.68	.62	Fine
18.	3	8	.68	.62	Fine
19.	6	5	.68	-.12	Need to be improved
20.	3	6	.56	.37	Fine
21.	0	6	.37	.75	Fine

Table 50 : Difficulty Level and Discrimination Power in Each Question (Continued)

No.	Number of respondents that got		Difficulty Level	Discrimination	Meaning
	Low Group	High Group	$\frac{P_H + P_L}{2n}$	$\frac{P_H - P_L}{n}$	
22.	4	6	.75	.25	Fine
23.	5	8	.81	.37	Fine
24.	0	6	.37	.75	Fine
25.	2	8	.62	.75	Fine
26.	4	8	.75	.50	Fine
27.	1	4	.31	-.37	Need to be improved
28.	3	7	.62	.30	Fine
29.	3	8	.68	.62	Fine
30.	4	5	.56	.12	Need to be improved

Item that are approved 23 Item

Item that need to be revised 7 Item

Table 51 : Reliability Testing

No.	Total scores who get the right answers in each question (X)	X^2	p	q	pq
1.	6	36	.37	.62	.23
2.	9	81	.56	.43	.24
3.	7	49	.43	.56	.24
4.	11	121	.69	.31	.21
5.	13	169	.81	.18	.15
6.	13	169	.81	.18	.15
7.	13	169	.81	.18	.15

Table 51 : Reliability Testing (Continued)

No.	Total scores who get the right answers in each question (X)	X^2	p	q	pq
8.	6	36	.37	.62	.23
9.	9	81	.56	.43	.24
10.	10	100	.62	.38	.23
11.	4	16	.25	.75	.18
12.	14	196	.87	.12	.10
13.	15	225	.93	.06	.06
14.	12	144	.75	.25	.18
15.	12	144	.75	.25	.18
16.	4	16	.25	.75	.18
17.	12	144	.75	.25	.18
18.	11	121	.69	.31	.21
19.	11	121	.69	.31	.21
20.	9	82	.56	.43	.24
21.	6	36	.37	.62	.23
22.	10	100	.62	.38	.23
23.	13	169	.81	.18	.15
24.	6	36	.37	.62	.23
25.	10	100	.62	.38	.23
26.	12	144	.75	.25	.18
27.	5	25	.31	.68	.21
28.	10	100	.62	.38	.23
29.	11	121	.69	.31	.21
30.	9	814	.56	.43	.24
Total	293	3131	(ε pq) = 5.93		

Reliability Testing

$$r_{tt} = \frac{k}{k-1}\left[\frac{1 - \varepsilon pq}{S_t^2}\right]$$

$$S_t^2 = \frac{N \varepsilon x^2 - (\varepsilon x)^2}{N(N-1)}$$

$$= \frac{30\ (3131) - (293)^2}{30\ (30-1)}$$

$$= 9.28$$

$$\varepsilon pq = 5.93$$

$$r_{tt} = \frac{30}{29}\left[\frac{1 - 5.93}{9.28}\right]$$

$$= .55$$

The questionnaire of knowledge has reliability .55 at the satisfactory level.

BIOGRAPHY

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