

***Human Capital of Teachers and Education Personnel Affecting
Students with Learning Disabilities in Elementary Schools***

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Abstract

The study of human capital of teachers and education personnel affecting the students with learning disabilities in elementary schools aimed to study the mental health level of personnel and the effect upon the knowledge, attitude, and practice regarding the students in elementary inclusive schools. The two-stage random sampling group included 300 teachers and education personnel in the schools under the Chachoengsao Primary Educational Service Area Office 1. The mental health average score was 48.40 from the full score of 60, which was considered to be the same level as the general population. 52.67 % of the personnel had average mental health while 32.66 % had higher mental health than average. However, 14.67 % had lower mental health than the average. The personnel's score on the knowledge, attitude, and practice regarding the students was 37.82 from full score of 56, which was considered to be at moderate level. 56.67 % were at high level and 43.33 % have moderate level score. Most of the personnel had no experience of the specific training and more than half had no experience working with the students with learning disabilities. The results obtained from the multiple discriminate analysis using the correlation analysis in average of bivariate analysis showed the significant increase ($p\text{-value} = 0.05$) in the knowledge, attitude, and practice of the personnel after the training. Further counseling or professional therapy should play an important role to lay down new policy and specify development plan to improve the education in the elementary level in Thailand.

Keywords: Knowledge, attitude, practice, students with learning disabilities, mental health.

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Introduction

It has been shown that education is the key process to sustainable human development, enabling the development of the country to proceed at full capacity. As a result, humans can coexist peacefully in the society. Thailand focuses on the education of the population as a major force in driving various mechanisms within the country. According to the education budget for the fiscal year 2015, the Ministry of Education receives about 20.54 percent of the national budget, or 4.06 percent of the gross domestic product (GDP) (Ministry of Education, 2015). The education system reflects the efficiency and quality of the citizens. His Majesty the King had bestowed a royal guidance upon the school principals and the students who received the awards by the Ministry of Education on the Academic Year 1975 at Dusidalai Hall, Chitralada Villa Royal Residence on Friday July 22, 1977. "Education is a vital tool in the development of knowledge, thinking, behaviors, attitudes, values, and individual moral conduct to be a good citizen with quality and efficiency. When the nation consists of citizens with quality and efficiency, the development of the country would proceed smoothly. The obtained result would be definite and swift..." (His Majesty the King's Royal Guidance, 1997).

The important ideology of the education is to provide for lifelong education and build the Thai society as a learning society. This will lead to the creation of quality of life and social integration between intellectual, morality, and culture (Office of the Education Council, 2005). The goal of the educational management is focused on the development of Thai citizens to be "proficient, decent, and happy". The government sector is also giving priority to the education from early childhood through life by the enactment of laws and formulates plans regarding the educational management including the educational management for individuals with special needs as shown in the National Education Act 1999 and the National Constitution Amendment (No. 2) 2002, Section 10 (Constitution of the Kingdom of Thailand, 2007). It states "the educational management must provide individuals with rights and opportunities equally to the basic education of good quality no less than twelve years that the State must provide throughout the country without educational expense". And the second paragraph states that, "the educational management for individuals with disabilities, such as physical, mental, emotional, social, communication, and learning, those who are unable to care for themselves, those who cannot afford caretaker, or disadvantaged must be provided specially with rights and opportunities to basic education". The Persons with Disabilities Education Act 2008 refers to the educational management mentioned in Article 5 for the disabled individuals in which they have a right to be educated without any expense from birth or when they are disabled throughout life. They will also receive technology, facilities, media, services, and other assistance for education.

The Ministry of Education specifies nine types of disability in the notification by the Ministry of Education regarding the categories and criteria of the disabled in education by 2009 including visual impairment, hearing impairment, intellectual disabilities, physical or movement disabilities, learning disabilities, speech and language impairments, behavior or mood disabilities, autism, and individuals with overlapping disabilities. The government sector has prepared and specified the National Education Act 1999, the Amendment (No. 2), and the Persons with Disabilities Education Act 2008 to serve as a guide for the educational management of

the citizens within the country. This shows that the government sector has given priority to education to all children including the children and youth with disabilities, which are eligible to receive education without any expense with educational services of guaranteed quality. The educational management for children with disabilities is in the form of special education such as special schools, special educational centers, and schools with joint learning programs with teachers who are able to instruct the students. This ensures the development of the children in the appropriate environment in all aspects of life in today's society. This is consistent with studies of Subsandee (2014) regarding the factors of the achievement of students with learning disabilities who study in regular classes. It was found that the teachers were the key elements that affect students' learning both their academic achievement in the course or even the students per se. The statistical significance was 0.05. This might be due to the teachers who had an obligation and a duty to pass on knowledge to students as well as educate them to become decent and capable with proper development in all aspects of life in the society.

Although the government sector has recognized the importance of educational management for individuals with special needs in the past, the current course and the disciplines of the tertiary institutes have been changing according to the popularity of society. Some schools have adjusted the course of study which is essential for individuals with special needs for the students studying under the School of Education, such as the abolition of the courses related to special education or the introduction of the courses on special education combined with other subjects. This is one possible reason for the lack of educational knowledge in the field of special education. The course that indicates the basic knowledge about special education depends on each institution to determine the course name such as 'Introduction to Special Education' or 'Inclusive Education' etc. These courses aim specifically at providing such knowledge regarding the special education for students studying the Bachelor of Education programs. Since when these students graduate from higher education programs, most of them would work mainly in the pedagogical profession.

The current recruitment and designation of new officials to serve as teachers and education personnel who supervise the students with learning disabilities in the inclusive classes are giving the opportunity to individuals who did not graduate with a degree from the School of Education but hold professional teacher licenses to act in caring for individuals with special needs. This may create the potential gap in human capital regarding the various types of education and differences in education personnel. A graduate from a certain academic class of the School of Education may have completed the courses on special education. However, not all has been learning about special education. In addition, some teachers and education personnel did not graduate directly from the School of Education. Accordingly, they have not completed the special education related courses. The difference in educational contexts of the teachers and education personnel makes a variety of teachers and education personnel lack the understanding and the practice to care for the students with learning disabilities in the classroom.

Therefore, the study of human capital of teachers and education personnel affecting the students with learning disabilities in elementary schools should be essential to reflect the importance of the human capital to the educational intellect (knowledge, attitude, and practice) in the aspect of educational management regarding the teaching

of students with learning disabilities in inclusive classrooms in elementary schools. This may lead to guidelines of enhancing knowledge concerning the students with learning disabilities in inclusive classrooms for teachers and education personnel in the schools under the Chachoengsao Primary Educational Service Area Office 1.

It is recognized that the human capital, i.e., education, age, experience, and mental health, of the teachers and education personnel has influences upon the knowledge, attitude, and practice differently. Teachers and education personnel who graduated with degrees higher than an undergraduate degree should have a higher average score of the knowledge, attitude, and practice than those who have completed an undergraduate degree. Teachers and education personnel who graduated with a teacher professional degree should have a higher average score of the knowledge, attitude, and practice than those who did not graduate with a teacher professional qualification. Teachers and education personnel who are older should have a higher average score of the knowledge, attitude, and practice than those who are younger. Teachers and education personnel who have taken special education courses should have a higher average score of the knowledge, attitude, and practice than those who do not complete any of the special education courses. Teachers and education personnel who have experience in training on special education should have a higher average score of the knowledge, attitude, and practice than those who do not have. Teachers and education personnel who have experience in teaching or working with special education should have a higher average score of the knowledge, attitude, and practice than those who do not have. Teachers and education personnel with a higher level of mental health than the general population should have a higher average score of the knowledge, attitude, and practice than those who do with the same or lower level.

The main purpose of this study was to examine the mental health of teachers and education personnel and to investigate the influence of the human capital of teachers and education personnel that affects their knowledge, attitude, and practice concerning the students with learning disabilities in elementary inclusive classrooms.

The study period is a period of one year (March 2015 - March 2016).

Limitations of the study

This study examines the human capital of teachers and education personnel towards affecting the students with learning disabilities in the elementary schools under the Chachoengsao Primary Educational Service Area Office 1, which may not cover those in the other areas of primary education in the province.

Definitions

Teachers and education personnel include the school administrators and teachers of schools under the Chachoengsao Primary Educational Service Area Office 1.

Students with learning disabilities include the students with the defective basic psychological processes of learning which lead to listening, reading, speaking, writing, writing, spelling, or calculation difficulties. These are not caused by the cognitive and sensory impairments, behavioral problems, and cultural differences which affect the

students' learning ability resulting in low academic achievement. These students received medical check-up and are screened by the process of education.

Human capital refers to the combination of knowledge, skills, abilities, health, and individual features to create excellence and wisdom for themselves and the society. This leads to increased productivity and further improved quality of life.

Knowledge, attitude, and practice in education are included in the subjective measurements of the knowledge, attitude, and practice of teachers and education personnel affecting the students with learning disabilities in the elementary inclusive schools.

Methodology

The scope of this study was planned to determine and identify both independent and dependent variables that may affect the quality of human capital in the schools under the Chachoengsao Primary Educational Service Area Office 1. The independent variables include education, age, experience, and mental health of the teachers and education personnel in the schools should be determined, while the dependent variable includes subjective questions regarding the students with learning disabilities in elementary inclusive classrooms to measure the knowledge, attitude, and practice of the teachers and education personnel affecting the students with learning disabilities in the elementary inclusive classrooms would be also identified and used in this study.

Participants.

All of participants were recruited from the population of the school administrators and teachers from 142 schools from 4 districts under the Chachoengsao Primary Educational Service Area Office 1, which were included 1,672 individuals. The sample size was determined using Two-stage cluster sampling method. We calculated the size of the sampling group by using the following formula:

$$\begin{aligned} n &= \frac{N}{1+Ne^2} \\ n &= \text{Sample size} \\ N &= \text{Population} \\ e &= \text{Tolerances (e = 0.05)} \end{aligned}$$

The calculated sample size in the study is:

$$\begin{aligned} n &= \frac{1,672}{1+1,672 \times 0.05^2} \\ &= \frac{1,672}{5.18} \\ &= 322.78 \quad \text{Individuals} \end{aligned}$$

The calculated sample size above showed the minimum sample size to represent a population of 323 individuals. To uphold the integrity of the data and ensure that the results were credible, we thereby increased the sample size 25 percent from the original and rounded to a whole number to get a sample of 400 individuals. The

participants were selected as sample independently. The selection probability of school administrators and teachers sample is proportional to the size (Probability Proportional to Size: PPS) (as shown in Figure 1), which had a total of 1,672 individuals. The number of participants in each district was distributed as follows:

Capital District			
n	=	$\frac{590}{1,672} \times 400$	
	=	141	Individuals
Bang Nam Piao District			
n	=	$\frac{525}{1,672} \times 400$	
	=	126	Individuals
Bang Pakong District			
n	=	$\frac{352}{1,672} \times 400$	
	=	84	Individuals
Ban Pho District			
n	=	$\frac{205}{1,672} \times 400$	
	=	49	Individuals

Protocols were constructed using a questionnaire survey, where all participants were to complete 3 sections including 8 personal questions, 15 questions measuring the happiness of the Thai citizens, and 56 questions measuring the knowledge, attitude, and practice concerning the students with learning disabilities in the elementary inclusive classroom of the school teachers and education personnel. In the third section, the participants received 1 point for the correct answers and received 0 point for the incorrect answers.

Data Collection.

Data were collected in 2 steps. Firstly, we went directly to the schools located in the Capital District of Chachoengsao Province. Secondly, we requested the participants from the schools in the other 3 districts to return the questionnaires via post. We received the data from 300 respondents, which was 75 percent from the ideal sample size.

Data Analysis.

Data were analyzed using descriptive statistics. In the event of categorical data, the distribution percentage was calculated. In the case of numerical data, the distribution percentage was calculated, yielding average, minimum, and maximum values. The score measuring the knowledge, attitude, and practice was analyzed using the Ratio scales. The statistical correlation analysis was analyzed using the multiple classification analysis in average of bivariate analysis. The p-value = 0.05 was set and considered to be statistically significant. The Eta and Beta (the correlation after controlling the influence of other variables) showed the extent of the correlation

between the independent variables and the dependent variable with the value between 0 and 1 respectively.

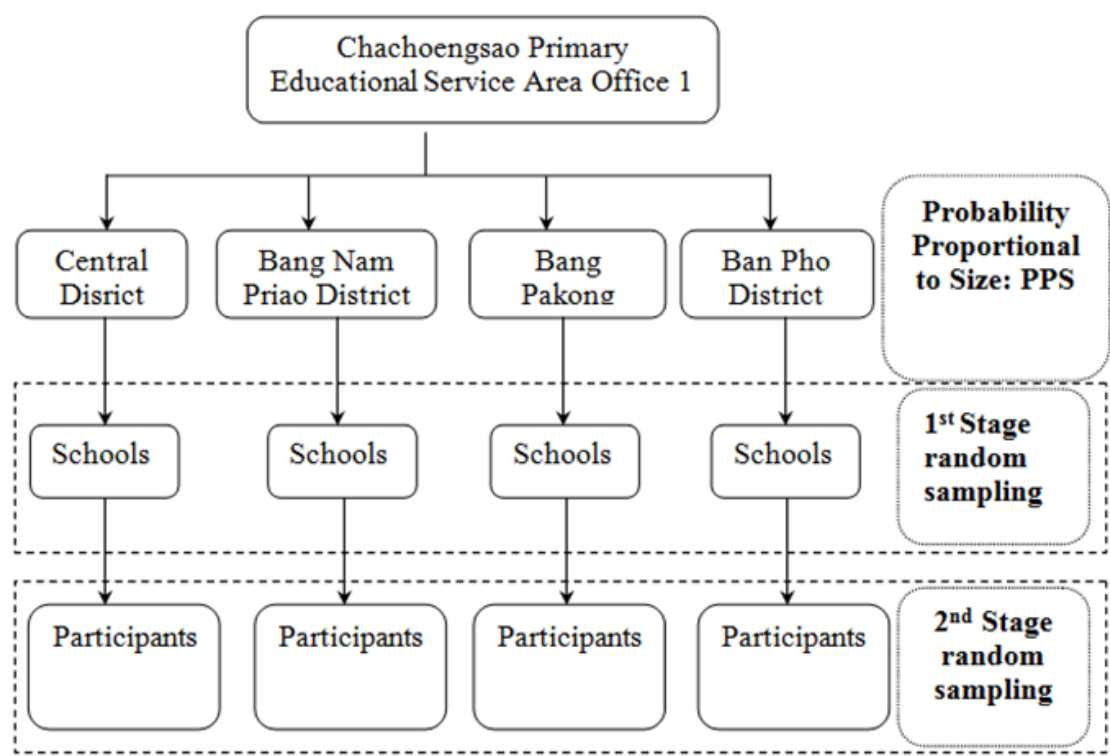


Figure 1. Diagram showing various sampling frame used in the study.

Results

It was shown that an overview of the sample was quite interesting, where the general information of the sampling group was shown according to the level of the variables. The characteristics of the sampling group included sex, the highest level of education, educational background, special education course experience, special education training experience, working with special education experience, academic position, and academic standing. The distribution percentages of the variables are shown in Table 1.

Table 1. Percentage distribution of the sampling group (n = 300).

Classification	Quality (n)	Percentage
Sex		
Male	69	23.00
Female	231	77.00
Age		
23 - 35 years	75	25.00
36 - 45 years	49	16.33
46 - 60 years	176	58.67
Highest level of education		
Undergraduate Degree	232	77.33
Graduate Certificate or Diploma	5	1.67
Graduate Degree	60	20.00
Postgraduate Certificate or Diploma	2	0.67
Postgraduate Degree	1	0.33
Educational Background		
Teaching profession (B.Ed)	248	82.67
Other professions (BBA, BA and BSc)	52	17.33
Special education course		
Experienced	101	33.67
Basic special education	41	13.67
Inclusive	57	19.00
Not specified	3	1.00
No Experience	199	66.33
Special education training		
Experienced	114	38.00
No experience	186	62.00
Working with special education		
Experienced	165	55.00
No experience	135	45.00
Academic Position		
School administrator	35	11.67
Teachers	265	88.33
Academic Standing		
Assistant teacher	46	15.33
Teacher	29	9.67
Instructor	69	23.00
Specialist	155	51.67
Expert	1	0.33

In the sampling group of 300 people, there were more female respondents than male (23.00 percent compared to 77.00 percent). The average age was 46.34 or equivalent to 46 years 4 months. The standard deviation was 11.50 or equivalent to 11 years and 6 months. The minimum age was 23 years while the maximum age was 60 years. The majority was in the age group ranged between 46 - 60 years (58.67 percent), followed by the age group of 23-35 years (25.00 percent) and 36-45 years (16.33 percent).

It was also found that 77.33 percent of the participants hold an undergraduate degree, followed by graduate degree (20.00 percent), graduate certificate or diploma (1.67 percent), postgraduate certificate or diploma (0.67 percent), and postgraduate degree (0.33 percent). Most participants hold qualifications in the teaching profession (82.67 percent), while 17.33 percent did not have qualifications in the teaching profession. Most participants had no experience taking special education course (66.33 percent) while 33.67 percent had taken courses on special education with 19 percent attended courses in inclusive education and 13.67 percent in basic special education. It demonstrated that 62.00 percent had never experienced special education training and 38.00 percent underwent on special education training. The majority had no previous experience working with special education (55.00 percent) while 45.00 percent had experienced working with special education. A total of 88.33 percent hold a position as a teacher, while 11.67 percent served as educational administrators. The academic standings of the participants included specialists, instructors, assistant teachers, teachers, and experts were 51.67, 23.00, 15.33, 9.67, and 0.33 percent, respectively.

The analysis of teachers and education personnel and their factors

Results in Table 2 showed the mental health level of the participants according to the scores revealed by the questionnaires. The teachers and education personnel had an average mental health score of 48.40 points out of 60 points, which was considered to be in the equivalent level to the general population. The findings showed their mental health level was normal (defined as equivalent to or higher than others), while slightly more than half of the participants (52.67 percent) had their mental health level equivalent to the general population, whereas 32.67 percent had higher level. However, there were 14.67 percent of participants with lower level mental health than the general population. This should consider further counseling or therapy from professionals in the future.

Table 2. Analysis of mental health of teachers and educational personnel (n = 300)

Mental Health of Teachers and Educational Personnel	Score	Percentage
Mental Health		
Lower level than general population	0-43 points	14.67
Equivalent level to general population	44-50 points	52.67
Higher level than general population	51-60 points	32.67
Average mental health	48.40 points	
Standard deviation	4.97 points	
Minimum score	31.00 points	
Maximum score	60.00 points	

The analysis of the knowledge, attitudes and practices concerning the education of students with learning disabilities in the inclusive classrooms of the elementary school teachers and education personnel is shown in Table 3. The average score of the knowledge, attitude and practice was 37.82 points out of 56, which was considered to be in the moderate level. Considering the level of knowledge, attitude, and practice, 56.67 percent had higher level of knowledge, attitude, and practice. The remaining participants had moderate level.

Table 3. Analysis on knowledge, attitude and practice (n = 300).

Level of knowledge, attitude, and practice	Score	Percentage
Low	0-18 points	-
Moderate	19-37 points	43.33
High	38-56 points	56.67
Average	37.82 points	
Standard Deviation	5.00 points	
Minimum	24.00 points	
Maximum	48.00 points	

Summary of the open-ended questions

The suggestions recommended via feedback from the open-ended questions are summarized in Table 4. The important issues were classified and composed using analytical essays. The recommendations were divided into 6 main groups suggested by 16 respondents.

Table 4. The recommendations of teachers and education personnel regarding the students with learning disabilities in elementary inclusive classrooms (n = 16).

Suggestions	Quantity
1. Schools should have qualified teachers who specialized in special education.	5
2. Schools should have plans and preparation of the readiness of children with learning disabilities from kindergarten.	3
3. Schools should provide trainings with experts in inclusive education every certain period of time.	2
4. Schools should improve the teaching quality in order to aid the students' development more effectively.	2
5. Schools should invite the parents and help them to understand and encourage them to cooperate with the school system.	2
6. Combined classrooms should be established between the specialized schools.	2

It was found that teachers and education personnel were mostly concerned about the numbers of qualified teachers available, while many suggested for the schools to create plans to prepare the students with learning disabilities prior to their entry into elementary schools. Other suggestions included the increase of training and teaching quality of the teachers and the education personnel. The participants also considered the involvement of the parents into the inclusive school system. Furthermore, there should be collaboration between different specialized schools to combine their classrooms.

Human capital affects the knowledge, attitude, and practice

The results of the multivariate analysis to identify the knowledge, attitude, and practices are summarized in Table 5. Results showed that the independent variables under the human capital (education, age, experience, and mental health) could explain the variability of the knowledge, attitude and practice at 6.9 percent ($R^2 = 0.069$). The mental health affected the variability the most, followed by experience, age, and

education where the values of R^2 were 0.040, 0.022, 0.006, and 0.003, respectively. The direction of the correlations was based on the established hypotheses.

Table 5. Multivariate analysis identifying the knowledge, attitudes and practices correlated to human capital (education, experience, age, and mental health).

Human Capital	Before variables control		After variables control		R^2
	Eta/ Coefficient	Hypothesis	Beta/ Coefficient	Hypothesis	
Education					0.003
Highest education	0.043	/-	0.027	/-	
Undergraduate degree	0.031	/-	0.046	/-	
Age					0.006
Years	0.032	/-	0.037	/-	
Special education experience					0.022
Course	0.054	/-	0.001	/-	
Training	0.142	/*	0.118	/-	
Work experience	0.102	/-	0.042	/-	
Mental Health					0.040
Mental Health	0.199	/**	0.198	/**	
Total					0.069

Remarks: / shows the accordance to the hypothesis

-has no statistical significance

*has statistical significance at 0.05

**has statistical significance at 0.01

Discussion

Teachers and education personnel who have the higher tertiary education have achieved higher knowledge, attitude, and practice scores than those who hold only undergraduate degree. This is consistent with studies of Arayawinyoo (2006), which has been shown that the differences between the knowledge and attitude of teachers with undergraduate degrees and those with higher-level degrees are statistically insignificant.

Results of an analysis of knowledge, attitude, and practice of the teachers and education personnel found that 56.67 percent were at the high level, while the remaining 43.33 percent were at the moderate level. The results show inconsistency with the study of Nopvisuttisakul (2008), which investigated the preparation of the educational management for the inclusive education of the teachers in schools under Suphanburi Educational Service Office 1, where it was found that the availability of the teachers and their understanding of the inclusive education were at the moderate level (77.14 percent).

The results of the human capital regarding the knowledge, attitude, and practice analysis in the level of two variables showed the variable training experience with special education demonstrated a significant difference (0.05) when compared to the

other variables. This may be due to the process of training that is aimed to allow the attendants to gain knowledge or skill to achieve the desired behavior (Stirayakorn, 2004). Hence, if reinforcement is introduced periodically, it would result in increasing knowledge of the educators to skillfully manage the relevant issue.

It was also found that the issue related to mental health is significantly correlated to knowledge, attitude, and practice score. Due to the level of mental health is normal (well-being), the individuals may recognize their various capacities to encounter the stress in their lives. Consequently, they can contribute to the productivity and integrity as well as their community (World Health Organization, 2014). When combined with the concept offered by Jahoda (1958), this put forward the evaluation of the population mental health considering the attitude toward themselves, psychological and emotional development, and to be more serviceable. The assimilation of personality aids the individual to avoid too much influence from the society. The awareness of the surroundings and their ability to overcome the environment are parts of the index that indicates individual wellness of the mental health. Therefore, it can be justified that those who have good mental health would have a positive attitude in life, become sustainable, learn to share, and establish strong relationship with family, friends, and community. These social skills will assist to live and manage their mind in recognition of the possibilities of the world as it actually is.

Suggestions and Conclusion

The recommendations from this study can be used as a guideline to create a policy or set a plan to strengthen the knowledge, attitude, and practice concerning the students in elementary inclusive schools.

The study shows that training experience in special education is correlated to the knowledge, attitude, and practice concerning the students in elementary inclusive schools. To increase the knowledge regarding students in elementary inclusive schools or children with special needs, the school or relevant authorities should collaborate systemically to organize workshops for the newly employed teachers and education personnel and assemble trainings annually.

The results also indicate that mental health is correlated to the knowledge, attitude, and practice concerning the students in elementary inclusive schools. Schools and relevant agencies should be trained on the skills and knowledge related to special education. The training will enhance their working skills. This is important in today's workplace. Ultimately, if the teachers and education personnel were capable to work well, the pressure from workplace would be decreased. This creates further positive mental health.

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