

**Teaching Support Measures for Secondary Vocational Teachers
Teaching Mentally Retarded Students in Taiwan, Republic of China**

by

Robert T. Y. Wu, Ph.D.

Professor

Department of Industrial Education

National Changhua University of Education

1 Jindar Road, Changhua City

Taiwan, Republic of China

Tel: +886 4 723 2105 ext. 7214

Fax: +886 4 721 1097

E-mail: robertwu@cc.ncue.edu.tw

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Abstract

According to the Special Education Act of 1984, all the citizens have equal rights of education and work, so do the disabled. Because the mainstreaming concept in special education prevails in the educational arena, educators try to put retarded students in regular classes or at least in the regular learning environments (Conn, 2001). By this way, those retarded high school students can really strengthen their personal living ability, social life ability, and occupational ability (Ministry of Education, 2000). In order to fulfill the above objective of the special vocational programs, it is imperative to meet teachers' teaching support needs first. Especially when we consider the limited learning abilities of these retarded students, to educate the students requires vocational teachers to have sufficient teaching support measures which are closely related to both teaching effectiveness and students' employability (Chen, 1993; East, 1992).

The purpose of this study was to explore the teaching support measures for secondary vocational teachers teaching mildly mental retarded students in senior vocational high schools in Taiwan, Republic of China. A questionnaire survey was employed as the primary research method. Subjects in this study included 407 teachers who taught special vocational education classes during the spring semester of 2002. Data was collected and analyzed using "the Teaching Support Measures Questionnaire". Pilot test of the instrument was conducted to yield the formal research questionnaire. Finally, data collected was analyzed using appropriate statistical methods.

The major findings were:

- (1) The results of factor analysis indicated that there were four dimensions for teaching support measures, including parent and community involvement, administration support and advising services, in-service training, and teaching equipment in a sequential order of acquisition level. In general, the acquisition levels of the current overall teaching support measures and the dimensions were considered to be just above average.
- (2) There were significant differences in teaching support measures based on sex, special education teaching year, current job, school size, area, school type and major career field. However, no significant differences in teaching support measures were found based on age, marital status, education, teaching year, and special education background.
- (3) Teachers teaching special vocational education considered teaching support measures as the most urgent need.
- (4) "Parent and community involvement" was also crucial to teaching

implementation, teaching activity, and transition from school to work services.

Keywords: vocational education, special education, teaching support measures

Introduction

According to the Special Education Act of 1984, all the citizens have equal rights of education and work, so do the disabled. Because the mainstreaming concept in special education prevails in the educational arena, educators try to put retarded students in regular classes or at least in the regular learning environments (Conn, 2001). By this way, those retarded high school students can really strengthen their personal living ability, social life ability, and occupational ability (Ministry of Education, 2000).

In 1994, based on the zero-reject and special education extension objectives of the “Five Year Special Education Development and Improvement Project”, the Ministry of Education in Taiwan, Republic of China established special education programs in senior vocational high schools for students with mildly mental retardation to increase their educational opportunities. In 2000, “The Curriculum Outlines for Special Education Programs” was approved. The outlines specified program planning, facility standards, teacher education, and student guidance, but did not mention instructional materials, teaching methods, and teaching supports. These flaws led to problem such as the lack of administrative and financial support, full-time special education teachers, and guidance for special needs students. Therefore, teaching support measures have become important in order to implement special education programs in senior vocational high schools.

Chen (1996) pointed out that teacher and student support, parent support, class scheduling, family and school environment, and principals’ support were five components of teaching support measures that had positive correlation with teachers’ teaching effectiveness. Chen’s (2000) study reported the same results. This means that the higher the level of teaching support measures, the higher the teachers’ teaching effectiveness. Hence, it is important to investigate the contents and current status of teaching support measures for special vocational teachers to ensure students’ learning achievement.

Due to the big differences in curriculum between vocational education and special education, vocational teachers must have sufficient teaching support measures in order to carry out their duties of teaching special needs students. This research

explored the contents and current status of teaching support measures for teachers teaching students with mildly mental retardation. Furthermore, some studies found that background variables and school environment variables were closely related to teaching support measures (Chen, 1996; Webb, 1992). For the purpose of improving special education programs in vocational high schools, the findings in this study serve as reference for vocational teachers and administrators for a better understanding of the contents and current status of teachers' teaching support measures.

Statement of the Problem

The purpose of this study was to explore the contents and current status of teaching support measures for secondary vocational teachers teaching students with mildly mental retardation in senior vocational high schools in Taiwan, Republic of China, and the relationships between background variables and teaching support measures. Therefore, this research attempted to provide answers to the following research questions:

1. What is the structure of the correlates of teaching support measures for secondary vocational teachers teaching students with mildly mental retardation?
2. What are the patterns of teachers' teaching support measures?
3. What are the relationships between background variables and teachers' teaching support measures?

Literature Review

Early development of special education legislation could be traced back to 1984 when the government enacted "The Special Education Law", and to 1987 when the Ministry of Interior approved "The Disabled Protection Act." According to the constitution, people do have equal rights to live, work, and be educated. It was considered the best practice to put special needs students in regular school environment to assist them in obtaining personal living skills, occupational skills, and social life skills. After determining the feasibility of establishing special education programs in senior vocational high schools, the Ministry of Education (2000) decided to set up these programs. The programs have some obvious advantages such as students' easy access to vocational schools to learn employable skills, the realization of the mainstreaming concept, and the human resource development. However, there were still some problems, including the recruitment of special needs students, limited teaching resources, varied learning abilities of students, and heavy teaching load

(Mou, 1999). From the above discussion, it could be concluded that teaching support measures for secondary vocational teachers teaching students with mildly mental retardation were crucial to teachers' teaching effectiveness.

Some empirical studies revealed the need for teachers' teaching support measures at different levels. Chen (2000) examined teaching support measures of teachers among different educational levels and found that teachers in special education schools received better support in teaching than in secondary and elementary schools. The result implies that special education schools provide better teaching supports than regular secondary and elementary schools. Therefore, vocational high schools need to focus on providing sufficient teaching supports and resources for their teachers in the special education programs.

Chen (1996) found that for special education teachers in senior vocational high schools, in addition to professional skills, teaching supports were equally important so that teachers could teach students more effectively and efficiently. Another research conducted by Chen (2001) indicated that special education teachers in senior vocational high schools expected more teaching support measures than what they could actually acquire. This result showed that some discrepancies existed between what teachers expected and what they actually acquired in schools. Among the teaching support measures, in-service training concerning special education abilities became the most urgent item. Similarly, Werts, Wolery, and Snyder (1996) investigated the need and availability of supports and resources associated with inclusive schooling for disabled students by collecting data from elementary school teachers. Supports and resources were categorized into five areas: training, material and physical resources, additional personnel, personal support, and issues related to contact and meetings. The results revealed discrepancies between need and the availability of supports and resources. Although the above studies reports that the dimensions of teaching support measures in different schools vary, the contents and current status of teachers' teaching support measures are still a fundamental issue for researchers to investigate for further studies.

Moreover, two recent studies examined the relationships between background variables and teaching support measures for secondary teachers teaching students with mental retardation. Chen (2000) found that teachers with longer teaching years, in city, and in special education schools received more teaching supports than other teachers. Chen (2001) examined the need and availability of teachers teaching support measures in senior vocational high schools, and found there was a discrepancy between them. In addition, male teachers tended to acquire more teaching supports than female teachers. Full time special education teachers and teachers with longer teaching years had better teaching supports than other teachers.

Methodology

In order to describe the methodology of this study, a questionnaire survey, in sufficient detail, this section focused on the following topics including population and sample, instrumentation, and data analysis.

Population and Sample

The population in this study included all vocational teachers who taught students with mildly mental retardation in senior vocational high schools in Taiwan. The population was identified with the assistance of Educational Statistics (Ministry of Education, 2002). There were 77 senior vocational high schools offering special vocational education at the secondary level in Taiwan. The number of such teachers varied from school to school. The approximate number of these teachers totaled around 770. Subjects in this study consisted of 407 teachers who taught special vocational education classes during the spring semester of 2002.

Instrumentation

Two kinds of variables were examined in this research: criterion variables and variates. The variates included sex, age, marital status, educational level, teaching year, special education teaching year, special educational background, current job, school size, area, school type, and major career field. The criterion variables included overall teaching support measures and the corresponding dimensions of parent and community involvement, administration support and advising services, in-service training, and teaching equipment.

Data was collected by using the Teaching Support Measures Questionnaire, composed of two sections: background information and the Teaching Support Measures Scale. In the second section, teachers were asked to rate teaching support level by indicating a rating of 1 = "never acquire" to 5 = "always acquire" on a five point Likert scale. The instrument has 41 questions asking the availability of teaching support measures for teachers teaching students with mildly mental retardation.

The research instrument was developed by the author and referred to related literature (Webb, 1992) and research conducted by Chen (1996), Chen (2000), and Chen (2001). The original dimensions for teaching support measures were in-service training, administrative support, teaching equipment, counseling services, and parent and community involvement. For the pilot test of the questionnaire, according to the results of discrimination analysis and Pearson product-moment correlation, the original question items were all reserved and formed the formal questionnaire. A

factor analysis was conducted thereafter to yield the reliability and validity of the instrument. For the reliability test, the Cronbach α values for each dimension of teaching support measures varied from .85 to .94, and for the whole scale .96. The validity was verified by the factor analysis results of the instrument. The cumulative proportion of variance accounted for the new factors reached a high of 61.88%.

Data Analysis

The data collected was analyzed using the following statistical methods: frequency, percentage, mean, standard deviation, factor analysis, reliability test, one-way MANOVA, Scheffé method, and Pearson product-moment correlation.

Findings and Discussion

A factor analysis was conducted using the original 41 items of the Teaching Support Measures Scale. In order to find the minimum number of factors necessary to account for a maximum number of variances of the variables, principal factor analysis and the eigenvalue-greater-than-one rule was applied in the selection of new factors. Furthermore, varimax method was followed to yield a group of factors, which had high loadings on most of the variables. Finally, there were four new factors and the cumulative proportion of variance accounted for by the factors reached 61.87% (see Table 1). These four factors were defined according to the common traits of the items of each factor. In a sequential order of acquisition level, these factors included parent and community involvement, administrative support and advising services, in-service training, and teaching equipment. The result is similar to those found by Werts, Wolery, and Snyder (1996) and Chen (2001). Administrators should follow the result to recognize and meet teachers' need for teaching support measures.

Table 1 Factor Analysis Results of the New Factors

Variables	Factor			
	1	2	3	4
Eigenvalue ^a	7.846	7.678	5.702	4.183
Cumulative ^b proportion	.191	.378	.517	.619
Cronbach Alpha	.941	.933	.913	.850

n=407

Note. Four factors are retained by the factor analysis procedure. The Cronbach Alpha value for overall teaching support measures was .963.

^aThe eigenvalue-greater-than-one rule was applied in the selection of new factors.

^bCumulative proportion of variables accounted for by the preceding factors.

In general, the acquisition levels of the current overall teaching support measures and the dimensions were considered to be just above average, i.e. 3.20, 3.08, 3.32, 2.89, and 2.44 (see Table 2). The average scores for the in-service training items and teaching equipment items were 2.89 and 2.44 respectively, meaning that teachers perceived these two dimensions insufficient. This result is consistent with Chen's (2001) finding. Secondary vocational teachers need to have training in special education and get enough teaching equipment.

Table 2 Means and Standard Deviations of the Variables

Variables	Item Number	Mean	SD	Mean/Item Number
Overall teaching support measures	41	131.08	24.39	3.20
Parent and community involvement	12	37.00	8.15	3.08
Administration support and advising services	13	43.20	8.96	3.32
In-service training	10	28.95	8.19	2.89
Teaching equipment	16	21.93	4.80	2.44

n=407

In fact, all the four dimensions of teachers' teaching support measures are important factors contributing to teachers' teaching effectiveness. In order to get sufficient and adequate teaching resources, parent and community involvement is crucial for teachers in attaining educational objectives. Administration support and advising services are also important because teachers need administrators' support and necessary advice to carry out their routine work. The third dimension deals with in-service training. In-service training helps teachers in gaining sufficient knowledge of special education and vocational education so that they can effectively teach students. Insufficient in-service training will result in ineffective teaching. The last dimension, teaching equipment, is also necessary for teachers' teaching. The lack of teaching equipment can adversely affect students' learning of occupational skills.

One-way MANOVA results showed that there were significant differences in teaching support measures based on teachers' sex, special education teaching year, current job, school size, area, school type, and major career field. However, no significant differences in teaching support measures were found based on teachers' age, marital status, educational level, teaching year, and special education background. Chen (2000) reported similar results. Senior vocational schools should encourage and arrange their teachers to get as many teaching support measures as possible in order to teach students with mildly mental retardation more effectively.

In detail, male teachers get more teaching supports than female teachers, especially in administration support and advising services. New teachers urgently

needed in-service training in special education. This result requires schools and governments to provide necessary training programs for those teachers. Lead teachers who were in charge of the special vocational programs tended to get more teaching support measures than other teachers in the programs. The more classes schools had the better their teachers can get sufficient teaching supports because of better financing. In general, northern school teachers got more teaching supports than southern school teachers. However, southern school teachers enjoyed better parent and community involvement than northern school teachers. Moreover, teachers in public school acquired more teaching supports than teachers in private schools. The reason is obvious because public schools had advantages in their history, establishment, finance, and quality staff. Finally, agricultural teachers got more teaching support measures than teachers in other occupational fields. Possible explanation is that schools with agricultural programs are usually abundant in their teaching supports because of early establishment, stable revenue, and better management.

Conclusions and Recommendations

Special education teachers need to have sufficient teaching support measures to carry out their teaching job. Literature has showed that these measures were closely related to teaching effectiveness and students' employability. This research explores the teaching support measures for secondary vocational teachers teaching students with mildly mental retardation in vocational high schools. Based on the findings of this study, the following conclusions were drawn:

1. The acquisition levels of the current overall teaching support measures and the dimensions needed to be reinforced, especially in in-service training and teaching equipment. Necessary administrative supports are vital to effective teaching.
2. Male teachers, teachers with longer special education teaching year and with administrative post, and teachers in public schools and schools with more classes and agricultural programs tended to acquire better teaching support measures than their counterparts. The results revealed issues that school administration should tackle immediately.
3. Teachers in special vocational education programs considered teaching support measures as the most urgent need, especially in teaching equipment and in-service training. These two issues should be the priorities for school administration.
4. Parent and community involvement can suffice the capability of schools to

provide quality education for those special needs students.

The following recommendations are made to assist administrative agencies, senior vocational high schools, secondary vocational teachers, and parents and community in creating an optimal learning environment for students with mildly mental retardation:

1. Educational administration should fully support vocational teachers by providing necessary teaching support measures, including administrative support and counseling service, parent and community participation, in-service training, and teaching equipment. Special focus should be on the in-service training for vocational teachers to gain knowledge about special education. School authorities should encourage teachers to acquire necessary teaching supports and fully support their teaching.
2. Vocational high school need to support special education teachers by providing administrative supports, counseling and guidance services, and sufficient teaching equipment.
3. In-service training for vocational teachers means an opportunity to learn all the necessary knowledge about special education so that they can better prepare themselves to teach special needs students.
4. Teacher education institutions should design a competency-based curriculum to foster competent secondary vocational teachers with special education knowledge and skills.
5. Parent and community participation should be emphasized by all the parties involved in providing necessary supports and resources such as curriculum development, community resources, students' transition from school to work, and placement.

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