

Differences in Teaching Self-Determination between General and Special Education Teachers in Elementary Schools

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Abstract

The purpose of this study was to investigate whether there are differences in the teaching of self-determination between general and special education teachers in Taiwan. The participants were 380 teachers recruited from elementary schools nationwide in Taiwan. Among them, 128 were general education teachers, while the others were special educators providing services in either resource rooms ($n = 125$) or self-contained classrooms ($n = 127$). The Teaching Self-Determination Scale (TSDS) was used to collect data. Descriptive statistics, t tests, analyses of variance (ANOVAs) and multivariate analyses of variance (MANOVAs) were employed to analyze data. Findings showed that both general and special education teachers' level of teaching self-determination was in the range of "sometimes to often". Nevertheless, general education teachers' level in teaching psychological empowerment, self-regulation, and autonomous skills was higher than that of their special education counterparts. Additionally, general educators tended to focus the most on instructing psychological empowerment abilities, while the self-contained classroom teachers paid intense attention to the teaching of autonomous skills. Resource room teachers demonstrated a relatively balanced instruction of various skills. Findings of this study enabled us to further understand elementary school teachers' level of teaching self-determination and its characteristics as well. Suggestion and implications are provided.

Keywords: self-determination, elementary school, special education teachers, general education teachers

1. Introduction

Over the past three decades, the concept of self-determination has become an important research topic in the field of special education and rehabilitation. There are many reasons why this concept has received considerable attention worldwide, including the universal values of human rights and the essential learning skills established by education policy. With advances in medical technology, the health of people with disabilities has improved substantially, giving them greater opportunities to achieve self-determination. Indeed, as U.S. scholars have claimed, since the beginning of the third wave of the disability movement in the twenty-first century (Wehmeyer, Bersani, & Gagne, 2000), people with disabilities have transformed themselves from the role of second-class citizens to that of victims, before finally becoming individuals with self-determination who can control their own fate. Although this trend originates from the United States, it has gradually spread to other parts of the world, including countries in Europe and Asia. The results of related research can help clarify areas of confusion and solve problems. More importantly, it can help establish which areas of research are insufficient. The present study was designed based on this rationale.

Generally, in their process of growing and studying, individuals learn how to make choices and decisions, set and achieve goals, and apply self-management, self-care, and problem-solving skills under the guidance of teachers and parents (Lee, Palmer, Turnbull, & Wehmeyer, 2006). Thus, individuals continue to learn self-growth and independence toward achieving the ultimate goal of self-determination. However, for students with disabilities, because of cognitive or physiological impairment, excessive protection from parents, or social prejudice, they cannot obtain essential skills in self-determination based on the described means (Burstein, Bryan, & Chao, 2005). The results of related research have shown that the self-determination abilities of students with disabilities are generally insufficient, a situation that affects their academic performance (Fowler, Konrad, Walker, Test, & Wood, 2007), ability to adapt after leaving school (Carter, Lane, Pierson, & Stang, 2008), employment (Benz, Lindstrom, & Yovanoff, 2000), and quality of life (Wehmeyer & Schalock, 2001). Although

the self-determination abilities of many students with disabilities are insufficient, it is encouraging that empirical studies have clearly shown that self-determination ability may be an outcome of education (Rowe, Mazzotti, & Sinclair, 2015). In other words, it is a skill that “can be taught”. If teachers can design courses and teach according to the abilities and needs of students with disabilities, then students typically have the potential to acquire knowledge and skills related to self-determination. Several curricula related to self-determination, including *Putting Feet on My Dreams* (Fullerton & Coyne, 1999), *TAKE CHARGE* (Powers et al., 2001), and *the Self-Determined Learning Model of Instruction* (Palmer & Wehmeyer, 2003) show the possibilities of teaching self-determination and how teachers can provide guidance, apply teaching strategies, and offer opportunities for practice, to help students with disabilities overcome the difficulties and challenges encountered in the process of learning self-determination.

Although the learning of self-determination may be an outcome of teaching, it is also the case that the instruction provided by teachers plays a crucial role in the development of self-determination among students with disabilities. However, since the 1990s, the United Nations and major advanced countries have emphasized the importance of inclusive education, actively promoting an education philosophy that involves students with disabilities learning with students without disabilities. Under the influence of this trend, an increasing number of students with disabilities are educated in regular classes. Because teaching self-determination skills to students with disabilities is no longer confined to special education teachers, regular education teachers should also jointly provide the educational services needed by disadvantaged students in the process of learning self-determination. Although we have these expectations of regular education teachers, it is worth investigating what the actual situation is for such teachers in teaching self-determination knowledge and skills to students with disabilities.

Wehmeyer, Agran, and Hughes (2000) surveyed regular and special education middle and high school teachers, to analyze their views and specific actions in teaching self-determination to students with disabilities. The results showed that general education teachers have significantly better scores for teaching self-determination skills (including decision making, problem solving, goal setting, self-advocacy, self-management, and self-awareness) than those of resource room and self-contained classroom special education teachers. Another study on general and special education elementary school teachers in the United States determined no difference among regular classroom, resource room, and self-contained classroom teachers in the level of teaching self-determination to students with disabilities (Cho, Wehmeyer, & Kingston, 2013). Because related research is scant, it is difficult to assess the reasons for the inconsistent findings of the two cited studies. Therefore, more research are required for further investigation. A survey of special education teachers by Thoma, Nathanson, Baker, and Tamura (2002) showed that between 65% and 86% of special education teachers teach varied self-determination skills (including choice making, decision making, problem solving, goal setting and attainment, self-advocacy & leadership skills, self-management & self-regulation, and self-awareness & self-knowledge) to students with disabilities. However, it remains unclear what percentage of and to what extent general education teachers teach such skills to students with disabilities. We believe that this is an equally important issue.

In Taiwan, elementary and junior high schools are the current stages of compulsory education, and the government has an obligation to provide all students, including those with disabilities, with free education services. Elementary school is the key period when individuals gradually move from the heteronomous to the autonomous ability stage (Piaget & Inhelder, 1969). Therefore, it is a critical stage for students to develop self-determination functions. In addition, if basic self-determination skills can be acquired at the elementary school stage, then it would be conducive to students' future transition to high school education. Therefore, this study argues that the importance of elementary school teachers in teaching self-determination is even greater than that of junior high school teachers. Taiwan currently has 38,598 students with disabilities at the elementary school stage, with 79.8% of them ($n = 30,807$) receiving special education services in resource rooms. Aside from courses taught in resource rooms, the remainder of their time is spent in classes taught by regular education teachers. Therefore, the importance of instruction from general education teachers, including teaching self-determination, for students with disabilities is evident. Because there is currently very little research on general and special education teachers in Taiwan teaching self-determination skills to students with disabilities, particularly regarding the limited knowledge of self-determination teaching by elementary school teachers, this is a necessary subject for research. In particular, it is crucial to assess whether general and special education teachers have the same values with respect to teaching self-determination.

In brief, the main purpose of this study was to investigate the extent to which elementary school teachers currently teach self-determination skills to students with disabilities and whether there are differences in the teaching of self-determination between general and special education teachers in Taiwan. For special education,

we also distinguished between resource room teachers teaching students with mild disabilities and self-contained classroom teachers teaching students with moderate to severe disabilities. In addition, the present study examined whether there is a difference in the teaching mode among the three categories of teachers, meaning whether teachers emphasize different priority orders when teaching various self-determination skills.

2. Method

2.1 Participants

The participants in this study were 380 teachers recruited from public elementary schools nationwide in Taiwan using a random sampling method. Their age ranged from 23 to 55 years with a mean of 37.12 years. Among the participants, 128 were general education teachers, while the others were special education teachers providing services in either resource rooms ($n = 125$) or self-contained classrooms ($n = 127$). The majority of the teachers were female ($n = 303$), reflecting the national demographic features of teachers working in elementary education phase. The participating teachers were fairly experienced given the fact that their years of teaching ranged from 1 to 32 years, with a mean of 12.35 years. Their target subjects included students from Grade 1 to Grade 6 in elementary schools. The target subjects of general education teachers were mainly regular students, with a minority of students with mild disabilities who were receiving inclusive education. The service subjects of resource room teachers were students with mild disabilities, while self-contained classroom teachers mainly taught students with moderate to severe disabilities.

2.2 Measure

This study employed The Teaching Self-Determination Scale (TSDS) (Chao & Chou, 2016) to assess the extent to which elementary school educators teach students knowledge and skills related to self-determination. The conceptual framework of the TSDS is based on a functional model of self-determination proposed by Wehmeyer (Wehmeyer, 1999). The TSDS containing a total of 24 items is comprised of four subscales including Self-Realization (SR), Psychological Empowerment (PE), Self-Regulation (SG), and Autonomy (AT). Teachers' responses are scored on a 5-point Likert-type scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). The overall composite score (i.e., Full Scale score) for the TSDS ranges from 24 to 120. A higher score refers to a higher level/frequency of teaching self-determination knowledge and skills. More specifically, the Full Scale scores, namely 24, 48, 72, 96, and 120, can be used as the critical score to interpret the level of teaching (referring to the level of *never*, *rarely*, *sometimes*, *often*, and *always*, respectively). For example, if the Full Scale score is 80, it is in the range of *sometimes to often*; if the score is 98, it falls in the range of *often to always*. Regarding the TSDS subscales, the SR subscale includes 5 items measuring the extent to which teachers provide instruction in self-observation, self-awareness, and self-knowledge (e.g., *Teach students to identify personal interests and skills*). The PE subscale consists of 6 items assessing the degree to which teachers educate or empower students to have a positive belief regarding own ability, maintaining an internal locus of control, and expectation of success (e.g., *Teach students the notion of no gains without pain*). The SG subscale includes 5 items evaluating the extent to which teachers teach students goal setting and problem solving skills (e.g., *Teach students how to resolve arguments with classmates*). The AT subscale contains 8 items gauging the extent to which teachers provide instruction in self-management, personal care, engagement in recreation activities, and independent living skills (e.g., *Teach students how to use public transportation*). The statistical adequacy of the TSDS was computed based on 203 educators participating in a pilot study. Results showed that the internal consistency reliability coefficients (Cronbach's α) for the subscales ranged from .76 to .88, while the test-retest reliability coefficients ranged from .78 to .85. For the Full Scale, the coefficients were .93 and .89, respectively. Additionally, the construct validity of the TSDS was assessed and found to be acceptable (Chao & Chou, 2016).

2.3 Procedures

A graduate research assistant at Chung Yuan Christian University reviewed a list of public elementary schools nationwide in Taiwan and randomly selected from those schools that have resource rooms and/or self-contained classrooms. The assistant then contacted the director of academic affairs at each of the chosen schools by phone and asked for permission to participate in this study. The TSDS scale and consent forms were then mailed to the directors who agreed to participate. The directors were asked to distribute the TSDS scale to potential participating teachers who were told that their relationship with the school was unaffected by their decision regarding participating in this study or not and that all information they provide was confidential.

2.4 Data Analysis

Descriptive statistics were first used to calculate the means and standard deviations of the TSDS Full Scale and subscales. A one-sample *t* test was then conducted to examine whether each teacher group's Full Scale mean was significantly different from 72, the midpoint of the TSDS Full Scale. In addition, a series of one-way analyses of variance (ANOVAs) and multivariate analyses of variance (MANOVAs) were employed to examine differences in the TSDS scores among general education, resource room, and self-contained classroom teachers. A significant MANOVA was followed by conducting follow-up univariate tests and post hoc comparisons. Furthermore, a one-way repeated-measure ANOVA evaluating differences in means among the four subscales for each teacher type group was also conducted to examine whether there was a consistency of teachers' emphasis on instruction of varied self-determination subskills. To control for Type I errors, the Bonferroni method and Holm's sequential Bonferroni procedure were used in the MANOVAs and ANOVAs, respectively. Furthermore, to make the comparisons of within-subjects differences more understandable, rhombus graphs were created to present the relatively high and low abilities in teaching level for each of the three teacher groups instructing the four TSDS subskills.

3. Results

3.1 Level of Teaching Self-Determination

The results of this study showed that general education teachers had the highest mean TSDS Full Scale scores, followed by resource room teachers. Self-contained classroom teachers scored lowest (see Table 1). The mean values for the three groups of teachers were all higher than the midpoint of Full Scale. A *t* test analysis showed that the mean values for the three groups of teachers were all significantly higher than their midpoints. Hence, the level of teaching self-determination for the three groups of teachers was significantly higher than the medium level.

Table 1. Comparisons between means and midpoint on the TSDS Full Scale for teachers

Group	<i>n</i>	<i>M</i> (<i>SD</i>)	Midpoint	<i>t</i>	<i>d</i>
General education teachers	128	93.97 (11.84)	72	20.98**	1.86
Resource room teachers	125	86.87 (13.23)	72	12.58**	1.13
Self-contained classroom teachers	127	87.47 (14.31)	72	12.19**	1.09

Note. *d* refers to effect size; ***p* < .01.

3.2 Group Differences in the TSDS Subscales

A one-way MANOVA showed a significant difference among groups on the four subscales of the TSDS, Wilks's = .71, $F(8, 748) = 17.87$, $p < .001$, $\eta^2 = .160$. Table 2 summarizes the means and standard deviations for the three teacher groups.

ANOVAs were conducted on each subscale as follow-up tests to the MANOVA. Each ANOVA using the Bonferroni method was tested at the .0125 level (.05/4) to control for Type I errors across the four univariate ANOVAs. Results indicated that the ANOVA on each subscale was significant: Self-Realization, $F(2, 377) = 5.08$, $p = .007$, $\eta^2 = .026$, Psychological Empowerment, $F(2, 377) = 20.31$, $p < .001$, $\eta^2 = .097$, Self-Regulation, $F(2, 377) = 15.09$, $p < .001$, $\eta^2 = .074$, and Autonomy, $F(2, 377) = 12.13$, $p < .001$, $\eta^2 = .060$.

Post hoc analyses to the univariate ANOVA for each subscale consisted of pairwise comparisons to examine the mean difference among the three teacher groups. Using the Bonferroni method, each pairwise comparison was tested at the .004 level (.0125/3). Findings showed no significant outcome for Self-Realization, whereas statistical significances were found on the other three subscales. Specifically, general education teachers scored significantly higher than both resource room and self-contained classroom teachers on Psychological Empowerment ($p_s < .001$). General education teachers consistently outscored resource room and self-contained classroom teachers on Self-Regulation ($p = .004$, $< .001$, respectively). With respect to Autonomy, general and self-contained classroom teachers both demonstrated significant higher scores than their resource room counterparts ($p_s < .001$).

Table 2. Means and standard deviations on the TSDS subscales for the three teacher groups

Group	<i>n</i>	Self-Realization	Psychological Empowerment	Self-Regulation	Autonomy
		<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
(score range)		5-25	6-30	5-25	8-40
General education teachers	128	19.26 (2.95)	26.09 (3.50)	18.30 (3.01)	30.32 (4.57)
Resource room teachers	125	18.12 (3.38)	24.03 (3.93)	16.98 (3.22)	27.76 (4.81)
Self-contained classroom teachers	127	18.24 (3.06)	23.02 (4.30)	15.97 (3.89)	30.30 (4.86)

3.3 Within-Subjects Differences in the Subscales for Each Teacher Group

Prior to conducting a one-way repeated-measures ANOVA, participants' raw scores were converted to standardized z scores, because of the different score range used by the TSDS subscales. The means of the z scores and standard deviations on the four subscales for each teacher type group are presented in Table 3. In addition, this study employed rhombus graphs depicted according to z scores to more clearly present the relatively high and low abilities in teaching level for each of the three teacher groups instructing the four TSDS skills. Figure 1 shows that general education teachers demonstrate an evidently higher level of self-determination teaching compared to their special education counterparts. Furthermore, resource room teachers delivered the instruction of various self-determination skills in a balanced mode, whereas self-contained classroom teachers demonstrated a high priority of teaching autonomous skills.

The results for general education teachers showed a significant mean difference among the four subscales, Wilks's $\lambda = .86$, $F(3, 498) = 27.41$, $p < .001$, $\eta^2 = .142$. Follow-up analyses were conducted using the paired-samples *t*-test and Holm's sequential Bonferroni method to control for Type I errors across the multiple pairwise tests. Specifically, the six comparisons analyzed were ranked on the basis of their *p* values from smallest to largest and tested at the .008 (.05/6), .010, .013, .017, .025, and .05 (.05/1) level, respectively. Of the six comparisons, only one gave a significant result. General educators' z score on Psychological Empowerment was significantly higher than that on Self-Realization ($t(127) = 2.85$, $p = .005$). No significant contrast was found for resource room educators. The results for self-contained classroom educators indicated five significant comparisons. Their z score on Autonomy significantly surpassed each individual score on Self-Realization ($t(126) = 6.04$, $p < .001$), Psychological Empowerment ($t(126) = 9.33$, $p < .001$), and Self-Regulation ($t(126) = 9.79$, $p < .001$). In addition, self-contained classroom educators' z scores on Self-Realization were significantly higher than those on Psychological Empowerment ($t(126) = 3.82$, $p < .001$) and Self-Regulation ($t(126) = 4.49$, $p < .001$).

Table 3. Z Score means and standard deviations on the TSDS subscales for teachers

Subscale	General Education Teachers	Resource Room Teachers	Self-Contained Classroom Teachers
	(<i>n</i> = 128)	(<i>n</i> = 125)	(<i>n</i> = 127)
	<i>Z_M (Z_{SD})</i>	<i>Z_M (Z_{SD})</i>	<i>Z_M (Z_{SD})</i>
Self-Realization	.20 (.92)	-.16 (1.06)	-.12 (.95)
Psychological Empowerment	.41 (.90)	-.12 (1.01)	-.38 (1.10)
Self-Regulation	.23 (.89)	-.16 (.95)	-.45 (1.15)
Autonomy	.28 (.82)	-.18 (.86)	.27 (.87)

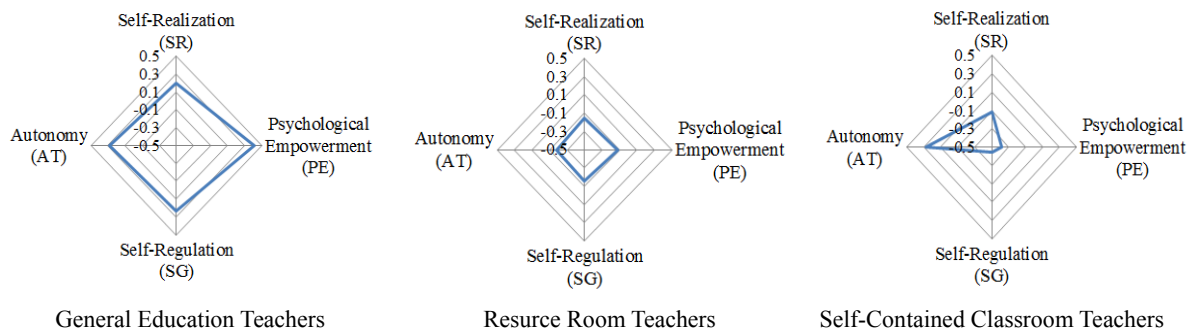


Figure 1. Rhombus graphs of TSDS subscales for the three teacher groups

4. Discussion

Regarding the teachers' level of self-determination instruction, the findings of this study showed that the three participating groups of elementary school teachers, namely general education teachers, resource room teachers, and self-contained classroom teachers, all had mean scores significantly higher than the midpoint of 72 on the TSDS Full Scale that represents a level of "sometimes". However, the scores for all three groups did not reach the higher level of 96 representing an instructional level of "often". In other words, the Full Scale scores for the three groups all fell in the range of 72-96, indicating that Taiwanese elementary educators *sometimes to often* teach students knowledge and skills related to self-determination. This result was consistent with that of the previous research conducted by Carter et al. (2008). Both results showed that the level of teaching self-determination for both general and special education teachers was above the medium level. At the macroscopic level, the results of this study conform to the global trend in special education, which emphasizes developing self-determination skills, including self-awareness, self-advocacy, self-management, and independent living, for students with disabilities (Agran, Cavin, Wehmeyer, & Palmer, 2006; Fowler et al., 2007). From the microscopic perspective, the result of this study has a special implication for Taiwan, because it not only implies that special education teachers in junior high and senior high schools were committed to teaching self-determination (Tung & Lin, 2005), but also that this teaching has in fact already started at the elementary stage. In other words, self-determination teaching has been included in teachers' curriculum and instruction from elementary education to senior high school. Currently, Taiwan is actively pursuing curriculum reform in special education, which is an opportunity to further promote self-determination teaching. The development of self-determination knowledge and skills has been listed as an educational priority in several subjects, including Social Studies (where its curriculum objective is to cultivate students' skills of self-awareness and self-actualization), Integrative Activities (which covers various themes such as self-development, daily life management, social participation, as well as self-protection), and Special Needs Curriculum (which emphasizes the development of skills such as self-management, self-reinforcement, and problem solving). We believe that if teachers can link self-determination teaching with these curriculum objectives through curriculum alignment, this teaching mode will be more conducive to the acquisition and improvement of self-determination skills for students with disabilities (Konrad, Walker, Fowler, Test, & Wood, 2008; Rowe et al., 2015).

Moreover, with respect to variation analysis on the level of teaching, the results of this study indicated that there were differences in teaching various sub-dimensional skills. Specifically, the differences among the three teacher groups in the two variables of Psychological Empowerment (PE) and Self-Regulation (SG) presented the same pattern. That is, the level for general education teachers was significantly higher than that for both resource room teachers and self-contained classroom teachers. However, there were no differences between the two groups of special education teachers. Such results are consistent with those in previous research (Wehmeyer et al., 2000). We believe that the higher levels of teaching self-determination in PE and SG for general education teachers may be attributed to the cognitive abilities of their target students. Since the learning of self-determination is closely related to the degree of individual cognition (Lipkowitz & Mithaug, 2003; Shogren et al., 2007; Wehmeyer, 2004), these abilities often involve cognitive skills such as understanding, analysis, induction, or evaluation, not taking into account choice making, decision making, goal setting, self-management, or problem solving. Therefore, the level in teaching relevant self-determination skills may get increasingly high for general education teachers when their teaching subjects are students with normal cognition. Conversely, when the teaching subjects are students with mild or severe cognitive impairments, the teaching level may drop increasingly low. Moreover, with respect to the level of Autonomy (AT) teaching, the results demonstrated that levels of teaching for both

general education teachers and self-contained classroom teachers were higher than their resource room counterparts. The fact that the level for general education teachers was higher than that for resource room teachers, which was consistent with the differences in PE and SG teaching. However, it is surprising to find that the teaching level for self-contained classroom teachers was higher than that for their resource room counterparts. This seems to reflect that when teaching students with moderate to severe disabilities, the self-contained classroom teachers in Taiwanese elementary schools pay considerable attention to the development of students' independent abilities, such as maintaining personal cleanliness and hygiene, learning self-care skills, and self-planning for their own leisure activities. Furthermore, the level of teaching Self-Realization (SR) was the only variable that presented no significant differences among the three groups of teachers. This result implies that regardless of teaching subjects' cognitive ability, teachers do not differ in their views on teaching students self-awareness, including the self-recognition of their own physical and mental characteristics, interests, or strengths and weaknesses. This may be because elementary school is a stage of development in which individuals establish their self-concept, and that self-awareness serves as the foundation for the development of self-determination abilities. Hence, the three groups of teachers share the same philosophy about teaching SR. Future studies are recommended to further verify this assumption.

From the analysis of the priority orders of teaching, this study found that different teaching modes were present among the three groups of teachers. When teaching the four sub-scale skills on TSDS, general education teachers tended to focus the most on instructing Psychological Empowerment, significantly more than on Self-Realization. We infer that among the questions covering the Psychological Empowerment dimension, many of them are related to empowerment ability in students' learning. These questions address the abilities or concepts that Taiwanese students currently need in the highly competitive environment of education. General education teachers mainly taught students with normal development of physiological and mental functions, and usually with basic self-awareness. Hence, they paid relatively less attention to teaching this skill. Conversely, resource room teachers showed no significant differences when teaching the four skills, highlighting their mode of a relatively balanced instruction of various skills. Apparently, the self-contained classroom teachers, who taught students with moderate to severe disabilities, paid intense attention to the teaching of independent and autonomous skills which, after all, are the basic skills for living. The teachers' scores on teaching this skill were significantly higher than on the other three sub-scale skills. In addition, self-contained classroom teachers also scored significantly higher on teaching Self-Realization ability than on teaching Psychological Empowerment and Self-Regulation skills. According to rhombus graphs, this might be attributed to the extremely low level of teaching PE and SG skills.

5. Conclusion

The level of teaching self-determination was above the medium level for general and special education teachers in elementary schools of Taiwan, in the range of "sometimes to often". Additionally, general education teachers' level in teaching psychological empowerment, self-regulation, and autonomous skills was higher than that of their special education counterparts. A reasonable inference from this result is that the teachers' level of instruction may be influenced by the cognitive ability of students, rather than the differences in the professional knowledge and skills of teachers. Generally, there were no considerable differences in the teaching levels between the two groups of special education teachers. However, self-contained classroom teachers particularly focused on the guidance in the self-care, independent ability of daily life when they were teaching students with moderate to severe disabilities. Moreover, completely different modes of teaching self-determination were presented among the three groups of teachers, namely general education teachers, resource room teachers, and self-contained classroom teachers. Among them, resource room teachers could teach different self-determination skills on a balanced basis, while general education teachers and self-contained classroom teachers focused the most on the instruction of psychological empowerment and autonomous skills, respectively. Among the results of this study, some of them were consistent with the findings by relevant international studies, while others illustrated the teaching characteristics of Taiwan. Particularly, the current literatures in Taiwan concerning the level for general education teachers in elementary schools teaching self-determination are very limited. Therefore, the results of this study can supplement this limitation, and enable us to further understand the general education teachers' level of teaching self-determination and its characteristics as well.

The results of this study facilitate our understanding of how general education and special education teachers teach self-determination in Taiwanese elementary schools. However, given that the TSDS was a self-reported scale, there may be discrepancies between the actual teaching level and teachers' self-assessment. Hence, caution is needed when interpreting the results. Future research studies may adopt more diverse methods, such as student or parent assessments, to evaluate the level of teachers' teaching self-determination, in order to compensate for

the shortcomings of the self-reported scale. Moreover, this study suggests further exploration of other potential factors (in addition to teachers' instructional environment) that may influence the teaching of self-determination, such as teachers' understanding of self-determination, school policies, extent of family support, students' learning motivation and decision-making opportunities, and so on. In addition, it is gratifying to discover that self-contained classroom teachers are already committed to teaching students independent living skills in a higher greater frequency. However, the situation may also imply that instruction in other relevant self-determination skills is relatively scant, particularly in psychological empowerment and self-regulation abilities. Because the learning and acquisition of comprehensive self-determination skills is conducive to improving the quality of life of students with moderate to severe disabilities, this study suggests self-contained classroom teachers to increase their teaching of self-determination abilities other than autonomous skills. In summary, because both general and special education teachers are key persons that have a great impact on the acquisition of self-determination skills for students with disabilities, it is suggested that schools offer teachers adequate administrative and instructional supports.

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