Exploring Transition Education and Community-Based Instruction for High School Students with Disabilities: A Practice in Taiwan

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Abstract

Research indicates that transition education contributes to forming a long-term support to high-school students with disabilities for their adult life. Also, Community-Based Instruction (CBI) which is a preparation of vocational skills and awareness, has its positive influences improvement of self-esteem as result of higher work inclination and employment. A car-washing curriculum of a CBI practice created an “acquisition-rich” environment” with the Scaffolding Theory in one high school located in Taiwan and brought about the mutual connection between the school and a local community. The educational implementation had yielded its benefits because of the emphasis of transition education and CBI. In this case, car-washing as a CBI facilitated student-initiated learning which promoted intellectual disabled students’ vocational skills, awareness and self-efficacy and became a critical role between a school and a community.

Introduction

The notion of transition education has a central place in the accountability of each special education level in the United States (National Organization on Disability [NOD], 2000). With effortful promotion of special education, much more federal legislations clearly articulate the commitments to persons with disabilities for the provision of an individualized transition education program (NOD, 2000). The concern of transition education is a broader scope of prospects which is supposed to encompass all the levels of disabilities and considers how schooling could provide and connect appropriate educational content to students with disabilities as a result of independent adult living in this society (IDEA, 2004). On the other hand, based on the belief of this seamless transition, what it emphasizes is a long-term support service which determines successful role-transition in post-school education, household management, and community participation (Certo et al., 2008; IDEIA, 2004; Test, 2008). Those expected outcomes need more effort from school systems and other corporate organizations to provide opportunities of hands-on experiences and supported employment for transition-age youth with disabilities (Phillips et al., 2009; Sabbatino & Macrine, 2007). Community-Based Instruction (CBI) is an effective intervention in combination with transition related activities for future successful transition such as average wage, long-term employment and so forth (Chen, Liu, & Lin, 2008; Sabbatino, & Macrine, 2007). The ideas about CBI to facilitate transition services and descriptions of CBI practice in a Taiwan’s high school are exemplified by the following paragraphs:
The Connotation of Transition Education

More recently, an interest in high-school level transition education has shifted to reflect current developments of integrating career education, special education, vocational education, and vocation rehabilitation in the states (Li, Bassett, & Hutchinson, 2009; Sabbatino & Macrine, 2007). In 1997, the Individuals with Disabilities Education Act (IDEA) stated that transition services identified in student’s Individual Education Program (IEP) are necessary for each student with disabilities by age sixteen so as to provide sufficient access to experiences of a workplace. Also, NOD (2000) and IDEA (2004) legislate to inspect not only academic performance and functional achievement but also to facilitate movement from school to post-school activities. Their goal is to provide the right of education, the capability of independent living, and self-efficiency economy. In 2004, the Individuals with Disabilities Education Improvement Act (IDEIA) pointed out that real postsecondary education, employment, and independent living outcomes should be included for forming a long-term support to ensure successful transition.

Apparently, the emphasis of the transition education in recent years has increased noticeably. However, in a survey for investigating the employment gaps of individuals with disabilities and without disabilities by NOD (2000), the findings indicated that after the 24 years efforts of ADA (since 1986), the experiences of part-time or full-time jobs for persons with disabilities aged 18 to 64 years old was only 32% compared to 81% of those without disabilities. It showed a gap of 49 percentage points. After 4 years of effort, NOD (2004) investigated the same population for employment rate of the working-age range of 18-64 years. It showed that 35% of persons with disabilities in that age group were employed, in comparison to 78% of those without disabilities. From the latest survey by NOD (2010), only 21% of individuals with disabilities were employed for full or part-time job, compared to 59% of people without disabilities; namely, a gap of 38 percentage points. As a result, as time went on, the gap decreased from 49%, 43% to 38%. It remains large but narrows with growth rates gradually.

Morgan, Ames, Loosli, Feng, & Taylor, (1995) surveyed the 20-state employment providers in the priority of how to matching the job to individuals with intellectual disability (ID). The findings of the total 210 identified either direct training staff or supervisory staff demonstrated that there were six ranked training priorities which benefited the movement from school to career, as shown below: (a) matching the job to the applicants, (b) gathering information about job prospects, (c) encouraging family support, (d) marketing the student, (e) strengthening appropriate social behavior, and (f) strengthening job skills. Generally speaking, it implied two key points, the role position and the degree of functioning of human power in the process of transition services. For example, according to IDEA, the role of providing a transition service is required for students with disabilities. Furthermore, both special education teachers and transition coordinators are obligated to furnish any related vocational instructions or rehabilitation needed, those of which must be identified in each student’s IEP. In reality, a study evaluated 68 high-school IEPs and found that a small number of goals were to develop interdependent living skills, transition to employment (Shearin, Roessler, & Schriner,
1999). Only 7% of IEPs clearly stated that vocational rehabilitation was to be provided. On the other hand, special education teachers are endowed with more responsibility of providing transition services (Zhang, Ivester, Chen, & Katsiyannis, 2005).

Yet some studies showed that the lack of transition knowledge and community service was found, including the way of interagency collaboration, transition assessment and so forth (Li, Bassett, & Hutchinson, 2009; Zhang et al., 2005). The gap existing in the different role-transition and self-responsibility for special education teachers and transition coordinators impacts on the future involvement of transition services. According to, educators with dual roles have much more capabilities of providing appropriate transition services than those with either role. It indicated that both pre-service and in-service like interagency collaboration, assessment knowledge and other communication skill training is of benefit to transition services (Zhang et al., 2005). The role of special education teachers is to make students understand their strengths, to provide career development and inclusive environment, to develop interagency collaboration and to seek fitting employment for them (Phillips et al., 2009).

**As a Principle of Community-Based Instruction (CBI) for Transition Education**

To employ Community-Based Instruction (CBI) is a critical point in connection with outside resources (Chen et al., 2008; IDEA, 2004; Sabbatino, & Macrine, 2007). In the case of the Start on Success (SOS) project, after students with disabilities involved in CBI as a principle, the improvement of attendance, self-esteem, work ethic, economics, self-determination, and stable employment was found (Sabbatino, & Macrine, 2007). In addition to students’ significant development, the staff, university students, hospital employees, patients and mentors in the collaborated organizations acquired augmented understanding of how to get along with individuals with disabilities. Several studies (Benz, Lindsrrom, & Yovanoff, 2000; Carter et al., 2010) have noted that working experiences in high schools were a significant predictor of post-school employment performances due to a large extent to such prior experiences which shaped the values of vocational awareness, expectation, and related knowledge and skills (Vondracek, & Porfeli, 2003). In consequence, the use of CBI for preparation of employment for students with disabilities should be of crucial importance for creating an “acquisition-rich” environment (Carter et al., 2010). What follows here are the features of CBI (Chen et al., 2008).

1. **Progressiveness:** For transition education, this skill-oriented and result-oriented teaching material has its potential breadth of deepening inside and connecting with a community (Phillips et al., 2009). Several teaching instructions used in case of severe disability are constituted by an order; that is, community-simulated instruction, community-referenced instruction and community-based instruction. Look into the process, and it is a progressive process from classroom to community (Chen et al., 2008).

2. **Functionality:** Functionality means practicality. Skills attempting to be taught are what people could use in the natural setting (Li et al., 2009). For instance, in the
period of time between home to work, those skills such as commuting, clocking in, and greeting, should be done without assistance. In other words, practical skills could have their immediate function in their natural contexts (Li et al., 2009; Neubert, & Moon, 2006).

3. **Supportability:** Throughout CBI, the emphasis is placed on transition education planning for students with disabilities. CBI plays a salient role in the transition from a school stage to semi-independent/independent adult stage (Estrada-Hernandez, et al., 2008; Sabbatino, & Macrine, 2007). It is very supportive to vocational training in this population.

4. **Ecology:** A community-based setting highlights interaction between students and other individuals. None of these three factors such as place deciding, preparation for a course, and skill planning under a specific moment can be excluded. Hidden curriculum happened most at this point; that is, the observation-discovery method employed is very informative for an educator to gain more student-centered understanding as a customized transition (Phillips et al., 2009; Rogers, Lavin, Tran, Gantenbein, & Sharpe, 2008).

**An Education Reform of CBI: A High School’s Experience in Taiwan**

As noted previously, the importance of Community-Based Instruction (CBI) can hardly be overestimated in the United States. By the same token, such CBI is recommended to be utilized in Taiwan’s education context (Taiwan Elementary and Secondary Educator Community [TESEC], 2001). This Education reform and development are continually progressive processes. In the past, when it comes to education reform, educators had expected teaching reform, for example, energetic teaching, normalized teaching, rather than curriculum reform because teaching related reform was easier to execute at the starting point (TESEC, 2001). In 2001, Grade 1-9 Curriculum policy turned over a new leaf to the whole Taiwan Education system (TESEC, 2001). Education in Taiwan, including normal education and special education, had more emphasis on curriculum reform since 2001 and attempted to substitute curricular standards for curriculum guideline. This new trend of education reform focuses on release of authority and returns the power of curriculum planning back to schools and educators for appropriateness of learning. More specifically, the purpose of Grade 1-9 Curriculum is to offer appropriate learning courses, to help teachers to develop self-growth in career, to make administrators involved professionally, and to promote family involvement (TESEC, 2001).

In response to Grade 1-9 Curriculum, the purpose of revision in Special Education (SPED) develops another thinking based on adequate opportunities and full access to the normal education adjusted in the structure of overall SPED curriculum (Special Education Policy Taskforce [SEPT], 2007). Instead, the 12-year education replacement for students with disabilities takes place in connection with all levels and all types of special education replacement. Apparently, according to Lin (2003) and SEPT (2007), the execution of this educational policy is derived from the concept of transition education,
which highlights the last year of each school level, so as to facilitate the SPED curriculum and to guide special education teachers as a result of CBI as a major approach for transition education.

In general, according to General Principles of Special Education Curriculum (2006) of the Ministry of Education (MOE) in Taiwan, the rationales can be seen such as follows: (1) in connection of inclusive education to normal education, special needs of individuals’ curriculum which is based on normal education curriculum must be a primary consideration; (2) functional curriculum or remedial curriculum for students with special needs follows the implementation of student-based, school-based, and community-based curriculum; (3) according to special education students’ demands, area objects of curriculum are flexibly adjusted by means of increased depth, increased breadth, reforming, simplifying, reducing, breakdown, or substitute; and (4) implementation of individualized educational plan to merge completely into curriculum and enhance supervisory and administrative management in curricular execution.

In a 12-year academic period, special education educators work in tandem to make transition successful to the next stage (MOE, 2006; Lin, 2003; SEPT, 2007). When students with disabilities leave school, how much effort does the schooling offer in connection to the community? No one would expect that social inclusion leads to societal exclusion (Phillips et al., 2009).

Based on successful employment in a community, individuals with disabilities can work in the competitive labor market or other sheltered environments; more than that, empowerment in self-determination was improved because of positive independent living (Estrada-Hernandez, Wadsworth, Nietupski, Warth, & Winslow, 2008). In the face of much complicated technology changes and mandated standards that students have to meet, the complexity of the commission teachers face increases further (Neubert, & Moon, 2006). Undoubtedly, CBI as a principle is vital to the functioning of the transition services (Estrada-Hernandez et al., 2008; Sabbatino, & Macrine, 2007; Test et al., 2009). Therefore, an actual practice of CBI should be available for high school students with disabilities. In order to shed light on the importance of CBI, the following are descriptions of a practice of CBI in a high school located in Taiwan: (1) curriculum design, (2) curriculum framework, and (3) the outcomes.

**Curriculum Design**

The curriculum was based on the Scaffolding Theory by Wood, Bruner, & Ross, (1976). Teachers have to employ a series of discussion and learning sheets as a scaffolding support; namely, a process of problem solving will be created in scaffolding. For example, after two stages of learning these car-washing courses, students came up with a “positive” idea so that they were willing to distribute leaflets in the nearby community as a marketing approach. Also, in a problem solving context, social-construction as cooperation learning with heterogeneous grouping boosts potential to the best of each student (Wood et al., 1976). Learning is a process of self-construction; teachers take part in a field survey before the curriculum begins. Furthermore, the field survey is regarded
as an initial ecosystem investigation. Based upon those collected domestic experiences from the field survey, to scaffold an organized instructional design and to make students follow it through would offer a macroscopic local experience and induce evocative, domestic concepts to students with special needs (Wood et al., 1976).

Moreover, Beart, Hardy, & Buchan, (2004) proposed that the concept of “learning by doing” promotes a member’s self-concept in this group. It implicates that much more meaningful knowledge is constructed and makes students explore actively so as to become a self-advocating individual. Through public participation along with the concept of self-advocacy heightens their sense of community and local identification (Li et al., 2009). Ultimately, such CBI transition education echoes the statement that sustaining disabled individuals in the comparative labor market is based on successfully public participation and community working experiences (Estrada-Hernandez et al., 2008). For these reasons, after ecological survey, the car-washing curriculum was employed for CBI practice (See: Fig.1).
Fig. 1: Car-washing curriculum flow chart

START
(1) A survey of resources in school-centered living perimeters. (perception of problems)
(2) Pre-test: basic car-washing skills, oral expression, etc.
(3) Curriculum development based on social adaptation (establishing an educational aims and goals)
(4) Discussion of collaborative teaching model in car-watching course (seeking ways to complete)
(5) Drawing up a plan for school administrative proceedings (administrative support)

Ability grouping within a class according to disability levels and current cognitive ability (longitudinal links), and all participants had learned car-washing for a year.
- High level group: advanced car-watching skills, waxing work, bookkeeping, tea-making, advanced machine operation, and vehicle guiding, etc.
- Moderate level group: basic car-watching skills, tea-making, basic machine operation
- Low level group: basic car-watching skills, tea-making

Curriculum intervention
☑ Design appropriate education content such picture hints as reviewing teaching keys according to different groups.
☑ Incorporate teaching materials in another area such as a car-watching related text and how to use a calculating machine in math courses. (cross links)
☒ Frequency: twice a week, 2-4 hours each time, 2-3 weeks a stage, totally 5 stages

Evaluation:
(1) Cooperative planning and teaching recording template is a useful reference to next class and also a solid evidence to gain proper administrative continuing support.
(2) Based on response to from students when teaching, to adjust educational content domains, teaching hours, times, and locations becomes dynamic learning process for students.
**Curriculum Framework**

The curriculum plan consists of five parts. Stage 1 is “Car-Washing is So Easy”, and the aim is to realize the current basic skills and acknowledge things such as car body structures, process of cleaning a car, and so forth. The second stage is “A Good Manner is Everything.” The service skills include how to brew up tea when guests come, how to act decently, to help customers when the guests wait for car-washing work, and to give change by using a calculator. Moreover, the third stage, “Better than the Best”, emphasizes advanced machine operation skills such as high-pressure injectors, wax-polishing machine and how to guide a car to the appointed site. The following stage, “One Dollar for One Car”, starts to market students’ operation services. The slogan “One Dollar for One Car” was functioning to attract school colleagues’ attention and made them come over to experience students’ car-washing services. In this stage, educators not only stimulate real operation models but also provide feedbacks to students and then ameliorate shortcoming in the field.

Finally, “Marketing Ourselves, and We Are the Best”, the fifth stage puts out the feelers to the nearby community. The teachers and the students distributed handbills together in the neighborhood as a demonstration of what they learned in the past several weeks. By the same token, obtaining feedbacks from outsiders such as residents is always better than the best and is considered as predominant evidence to allow the curriculum to endure. As shown in Figure 2, the five stages were comprised of different goals.
Fig. 2: Car-washing curriculum framework

<table>
<thead>
<tr>
<th>Stage &amp; Themes</th>
<th>Goals</th>
<th>Instruments &amp; Resources</th>
<th>Strategies &amp; Skills</th>
<th>Assessment</th>
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| Stage 1. Car-Washing So Easy: how to wash a car | 1. Make well use of cleaning tools. (brush for tire, sponge for car body, etc.)  
2. Realize a cleaning process (e.g., from wetting a whole car as a start and then clean a roof) | Computers, Conspicuous picture cards, real objects, practical operation, reinforcers, etc. | *MI, **DI, ***MsL, incidental teaching method                                      | Identifying, Orals, Written or operational Test, (individually dominant learning style) |
| Stage 2. A Good Manner is Everything: Service skills | 1. Tea selection and how to know water boiling.  
2. Proper Behavior when a car coming.  
3. Use a calculator to give a change. | Computers, Conspicuous picture cards, real objects, reinforcers, etc. | MI, DI, MsL, incidental teaching method (principle of flexibility)                  | the same as above (principle of flexibility)                              |
| Stage 3. Better Than The Best-- Advanced skills-- | 1. Advanced skills in waxing and machine operation  
2. How to guide a car inside  
3. Safety education  
4. realization of community needs | Computers, Conspicuous picture cards, real objects, practical operation, reinforcers (oral rewards), etc. | MI, DI, MsL, incidental teaching method (principle of flexibility)                  | the same as above (principle of flexibility)                              |
| Stage 4. A Dollar for A Car-- commercial trial, implementation of car-washing service in school | 1. Educational simulation (including risk managements)  
2. Motivational Enhancement  
3. Importance of discipline | Practical operation, reinforcers (material, oral rewards, ), etc. | MI, DI, incidental teaching method (principle of flexibility)                      | The same as above (principle of flexibility)                              |
| Stage 5.                               | 1. Motivational                                                        | real objects,                                                                          | MI, DI                                                                            | the same as                                                              |
| Marketing Ourselves We Are The Best---Community practice, implementation of car-washing service for community | Enhancement 2. Importance of discipline 3. Importance of Continuity | practical operation, reinforcers (material, oral rewards), etc. | (principle of flexibility) | above (principle of flexibility) |

* Multilevel Instruction (MI): A teaching material woven with instructional strategies fits individuals in a class. **Direct Instruction (DI): concrete steps or ways to provide teaching directly related to teaching goals. ***Multi-Sensory Learning (MsL): A focus on materials of vision, listening, motive, touching. By MsL, students absorb information from their strengths.
The Outcomes of Implementation

Careful planning, which consisted of addressing needs and resources, caused successful education implementation (Ornstien & Hunkins, 1998). In this car-washing curriculum, teachers adopted heterogeneous grouping to arrange cooperative learning because students with different intelligence can exploit their advantages to the fullest. For example, students with higher oral expression are responsible for reception of visitors; students with less oral expression but higher operational skills could do a great job in car-washing work (e.g., washing car body). So, inside a team with different scaffoldings, that was by far the best efficacy because students can learn from cooperation which leads to fulfilling a task (Wood et al., 1976). However, students sometimes complained that somebody was not serious about the class; it was a real scenario that everyone, not only intellectual disabled students, would face. In this car-washing program, there were some positive outcomes described as follows which may encourage a school developing a similar CBI program:

1. Set up access to increase the exchange of community resources
Advocate for more money for decoration such as color painting for improvement of environmental space. Such environmental space helps to tear down the wall between schools and nearby residents, make residents realize what special education did in school, and then promote the more solid bond with the community.

2. Make use of community resources
Manpower plays a large component of implementation in this case such as school volunteers, retired teachers, and parents’ association. The utilization of CBI and the introduction of human resources complemented each other. Less CBI means less human resources from the community. For example, because of news reporting, one customer drove for one hour in order to let the students with intellectual disability actually practice car-washing service with their sincere attitudes.

(a) Development of students:
After a semester of CBI, they had a large leap in cognition, operational skills and motivation participation. Surprisingly, they tried to conceive what was good for their performance such as car-washing skills and tea-making. For example, some of the feedbacks from customers mentioned that the tea tasted too sweet or too strong. Students started to reflect the practice process and asked the teacher questions about how to decrease the sweet taste and how to get weaker tea. On the other hand, peer learning appeared more conspicuous there. In the IEP meeting at the end of term, the feedback by parents all indicated that their children seemed more positive and more sensible to their performance than ever before. Additionally and interestingly, the hidden curriculum was happening during this class. Students, teachers and other staff grew together without stopping. All of them expected the class to be better than ever. From this implementation of CBI, the turning point of learning improvement did not come from insiders (e.g., students and teachers) but from the outsiders (e.g., the customers and residents). Hence,
students did more and more from their own motivation. As a teacher, offering the needed support and giving them a try to see what they could acquire afterwards is a representation of self-efficacy. Whether they succeeded or not, the teachers were always watching them focusing on the meaningful curriculum.

(b) Development of teachers:

Based upon a teacher’s curiosity and 6W (e.g., how, what, when, who, why, where), practitioners learned from the process of seeking values of CBI and narrowed down the core value of CBI toward students’ needs, as illustrated below:

- How to connect to the community? Visiting the head of a basic community unit and making leaflets to residents will contribute to promoting more residents’ understanding of special education values.
- What kind of learning goals should be emphasized? Teachers should consider appropriate domestic features which could be integrated into related challenging courses.
- When was the good timing to market special education? To create an inviting slogan with presentation of both people’s sensibilities and students’ diligence to colleagues and residents is critical to provide interaction.
- Who was our object client? To dispatch official documents to public organizations such as different school levels and to advocate the car-washing site as a good place for inclusive education where students with ID are glad to show their best performance to visitors would be a greater mutual benefit for all of them.
- Why students needed CBI curriculum? Was that a good aspect of giving living skills? Self-reflection continued for the duration of the semester, even though other teachers thought that the practitioners for car-washing curriculum were doing too much. For instance, they took students into the nearby community, and came by important administrative staff in order to gain commitment.
- Where should be an optimal place to give CBI lessons? Not a regular place but a more proper one which fits ongoing curriculum and an ecological context. For example, teachers did not merely expect their students to use the same skills in different places but also wanted them to gain overall hands-on experience from the entire course. Throughout the process of guiding students, the teachers were surprised about the motivation participation because of amazing potential by interactions between students and residents. That later influenced and re-constructed the teachers’ conception of teaching.

Discussion and Suggestions

Based upon the practice of CBI, what follows are the suggestions:

1. To appeal to vocational institutions, industrial communities, and related local associations to collaborate with school systems and make it closer to each student’s work inclination and belonging community.
2. To promote vocational and operational skills for special education teachers is necessary to provide actual competitive skills in the labor market or other sheltered environments for their students with disabilities.

3. Seldom does research focus on a specific vocational skill in CBI practice in a high school and how it relates to the future working career. A follow-up investigation is needed.

**Conclusion**

The effects of implementation of CBI may cause a series of unexpected factors because of these four screens (community, students, educational environment, & educators), so that it is not more likely to accomplish original expectations of teaching aims (Saylor, Alexander, & Lewis, 1981). Any implementation and educational measures have been impacted by educational contexts, teaching materials, educators’ characteristics and students’ current conditions. Hence, the responsibility of educators is to meet the needs of students, especially for those with disabilities. The practical process of car-washing also came about not only prospective goals but also brought surprising performances. In a feasible CBI, educators must self-reflect entry behaviors, interests, motivation, and adjust instructional approaches so as to close the gap between operational curriculum and formal curriculum.

In a nutshell, students with disabilities, who have working experiences, will foster work inclination after graduation (Rabren, Dunn, & Chambers, 2002). Indisputably, CBI is an important bridge between competitive labor work and sheltered workshops. Seeking the possibility of creating an “acquisition-rich” environment for transition-age young adults with disabilities is the priority in transition education (Carter et al., 2010). Thus, the only thing which is never changed is that all the actual educational measures have to place much more emphasis on the connection between students and the community; namely, the imperative purpose of CBI is to make students with disabilities engaged in the context for inclusion. One of the best ways to promote transition education is to put less emphasis on teacher-based thinking and to put more emphasis on the benefits of CBI toward students with disabilities. As a result, the students will have higher chances of success in their future adult life.

**References**


