When Social Workers Meet Special Education Teachers: Action Research to Implement Curricular Changes in Taiwanese Special Education Systems

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Abstract Non-governmental organizations (NGOs) offering supported employment services in Taiwan recently have identified a missing link between their programs and the vocational programs students with disabilities received in secondary special education system. Sponsored by a national initiative aimed to enhance public education through crossover trials and social inclusion under the umbrella of "HighScope Taiwan", academics and mainly senior social workers devoted to supported employment for persons with intellectual disabilities started a two-way outreach program through action engagement in 2007. Action research became the common focus of the joint task forces across social work, public education systems, and academia. The article provides field-based reflections of the action research project and suggests ways in which practice of action research may increase social impact in the professional development of individuals.

Keywords Action research · Social inclusion · Intellectual disabilities · Outreach programs

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Introduction

Although school programs in the special education system have included vocational training, they may not effectively increase the likelihood of post-school employment success. The findings of our field study (Chang, Liao, Wang and Chang, 2010; Chang et al. 2011a) showed that some special education teachers had limited experiences in post-school employment programs that their students went to when graduating from the special education system. For college graduates who became teachers of secondary special education programs, pre-service teacher training did not in full assume participation in shelter or community-based employment programs.

The welfare policy in Taiwan recently has implemented supported employment programs for youths who left special education schools. According to the Developmental Disabilities Act of 1998, supported employment is employment that (a) is for persons with developmental disabilities for whom competitive employment at or above the minimum wage is unlikely and who, because of their disabilities, need intensive ongoing support to perform in a work setting; (b) is conducted in a variety of settings, particularly work sites in which persons without disabilities are employed; and (c) is supported by any activity needed to sustain paid work by persons with disabilities, including supervision, training, and transportation (Chang, Liao, Wang and Chang, 2010).

Rehabilitation institutes that work with individuals with disabilities to support them in learning new jobs and maintaining paid employment may work for weeks helping a person learn how to succeed in the workplace. Even so, the individual may at times need assistance of one form or another. As a result the majority of otherwise-employable persons with cognitive impairments remain unemployed, rarely access appropriate community services, and are socially isolated (Bond et al., 1997; Crowther et al., 2001; Bond, Drake & Becker, 2008). In the study of Keel, Mesibov, and Woods (1997), they found that the most important factor in the success of supported employment program is its emphasis on long-term support services. There is a broad range of services provided under "long-term support" which address the multitude of needs presented by a person with disabilities. The supported employment needs of individuals are not limited to the hours they are on the job site. Appropriate and predictable services that address vocational, residential, and social aspects all interact and increase the chances that a person will be successful on a job.

Based on previous collaborative experiences with non-governmental organizations (NGOs) that facilitated supported employment programs, the present study was undertaken to confirm and extend earlier action research studies to public school systems. We were specifically interested in the postschool employment status of youths with disabilities by connecting the spirits and practices of supported employment to the existing efforts of secondary special education training programs. The connection may be potentially useful because NGOs of supported employment have found a missing link between their programs and the vocational programs students with disabilities received in secondary special education. Students have to be reeducated in new programs of supported employment offered by NGOs and many occupational rehabilitation centers. Sponsored by a national initiative aimed to enhance public education through crossover trials and social inclusion under the umbrella of "HighScope Taiwan", academics and mainly social workers devoted to supported employment for persons with intellectual disabilities conceived of a two-way outreach program framed as action engagement (Rolfsen, Johnsen and Knutstad, 2007). The hypothesis of our study is that introducing community-based employment into the context of special education can increase the association between youths' postschool employment and their school training programs.

Social workers as well as academics participated in identifying the issues with public special education systems, generating workable solutions to implement changes, and making constant reflections in the continuous spiral process of inquiry, analysis and actions. In our study, initial definition of problems paved the way for subsequent action plans and interventions which informed the next iteration of problem discovery. One assumption is that iterations of the action research cycle improve the quality of participation and outcome due to the four following reasons: (1) Action engagement enhances the participants' knowledge of the local work practice through personal involvement (Rolfsen, Johnsen and Knutstad, 2007); (2) personal involvement by the participants enhances their emotional understanding of the insiders' real problems that need to be tackled; (3) through emotional understanding, the participants become self-motivated to accomplish the project to their best; the interventions they develop become their tool to solve real problems. Feeling valued in the process of intervention could be a powerful incentive, and (4) action engagement builds mutual trust between the two worlds and creates a shared sense of good intentions which could be critical for each parties' commitment to overcoming difficulties and challenges hand in hand when the project encounters obstacles on the way.

Theoretical Foundations

Action research is a research method that emphasizes creating communities of inquiry within communities of practice (Friedman, 2001). This means that both researchers and practitioners must redefine their roles and develop a set of common values, norms, terminology and procedures. Action researchers explore the experiences and difficulties the insiders have in their problems and confirm what researchers see in their field work. It helps raise the real issues behind the scene and shed light on the possible solutions. In the light of action research (Furco, 1996; Agyris, Putnam & Smith, 1985; Friere, 1970; Friedman, 2001), the framework of participatory research has been adopted that includes problem identification, intervention, and interpretation of results. This gives us an in-depth perspective when we take actions to implement changes in the field and greater society level.

When starting a new action research project, researchers as outsiders use their facilitating skills to create arenas for collective inquiry and creating common ground instead of tackling the problem issue without involving insiders. However, insiders and outsiders live in two worlds (Chang, Liao, Wang and Chang, 2010). Action researchers orientate themselves to a new situation, learn about it and prepare to make plans and implement interventions. For outsiders to take proper actions and implement changes, action engagement (Rolfsen, Johnsen and Knutstad, 2007) suggests that researchers could to their advantage use some time to involve themselves in the everyday activities in the relevant part of the insider world. It suggests a willingness to understand the insider's culture and systemic perspective of the insider's problem. Action engagement provides the researchers with stronger relational ties to the insiders and insights to local organizational practice (Rolfsen, Johnsen and Knutstad, 2007).

Methodology Combining Crossover Trials through Action Research

Setting

Since 2007, due to the connection of the second author of this paper, the HighScope Taiwan project (that aimed to enhance the K-12 public school system) has recruited social

workers and supervisors across non-profit organizations that participated in government-funded supported employment programs. Supported employment programs are staffed by employment specialists who have frequent meetings with treatment providers to integrate employment with mental health services. The crux of supported employment is having people with disabilities in real jobs for real pay. Before individuals are placed in a competitive workplace, they are often enrolled in pre-service training programs at supported employment institutes and organizations. The participating NGOs have been providing pre-service training for individuals with acquired and developmental disabilities through community-based programs for the past 10 years. These programs have helped people with disabilities counter inadequate social participation, exclusion from mainstream activities, lack of social acceptance and lack of power. The project, an initiative started by pure academics, had chances to make a difference with ten job coaches and supervisors from the social work sector.

This paper focused on public school systems that provided education for individuals with special needs such as intellectual disabilities. The first author of this paper made arrangements with two special education schools in suburban south Taiwan. The two schools joined the project immediately after thay heard about it. Members of the project were excited about the joint task forces across social work, public education systems, and academia. The project became one of the first efforts that aimed to enhance public education through crossover trials.

Identification of the Problem

The majority of otherwise-employable persons with intellectual disabilities remain unemployed, rarely access appropriate community services, and are socially isolated after they graduate from special education systems. Difficulties in performing vocational tasks hamper the quality of life of many individuals with intellectual disabilities who are otherwise physically mobile. For example, an adult with special needs may want to lead a more independent life and be capable of getting trained and retaining employment, but may experience barriers to employment. Remaining employed in workplaces may also pose a challenge. The average job retention rate for people with intellectual disabilities in Taiwan is less than 40% 3 months after landing on a paid job (CLA, 2009).

Initial Intervention

Field observations were arranged for the the participating social workers to gain understanding of special education curricula. Social workers had five one-day trips to public special education programs at two suburban sites. To further improve social workers' involvement in the action research project, the social workers were organized in teams. Each team delivered a half-day workshop, sharing vocational experiences with special education teachers on site. Workshops were ice breakers that enabled social workers as outsiders to get to know the teachers face-to-face, understand what they did, learn their languages, and build friendship and trust. The workshops were well received because of the growing friendship between social workers and teachers. In 3 months, four workshops were organized that addressed the alumni employment services, pre-service training programs in the curricula, and employer expectation and satisfaction. These were the topics special education teachers were interested in and they invested personal time over weekends in participating in the workshops.

Findings

The curricula in special education schools should be made relevant to alumni employment programs and meet the objectives of the public school system to convince teachers to devote to the curricula. Teachers recalled numerous previous experiences with academic research projects that resulted in a lot of talking or surveys, but with few actions or changes to the curricula. As opposed to their previous experiences, the collaboration within this project not only produced local knowledge but also actionable results. Social workers were impressed by the enthusiasm teachers showed in ice breaking workshops. With sharing of working experiences and proven successes in the workplace, teachers enhanced their knowledge in the gap between school pre-service programs and supported employment services.

The gap in perception discovered by teachers and social workers created opportunities for participation and encouraged inclusion of the individuals with intellectual disabilities. Being exposed to such an inconvenient truth not only played into a tipping point for the project itself but also built the momentum for change in the teachers' professional development and their ability to span student's worlds as a function of enthusiasm.

The findings from this iteration have provided insight into previously unknown dimensions that are an intrinsic part of professional development, including shared values, assumptions and beliefs. Both teachers and social workers achieved increased credibility and trust through mutual engagement in ways that enabled social workers to bring in new aspects into the special education systems. The trust and credibility between the teachers and social workers participating in the project helped new teachers communicate their ideas and thoughts to social workers.

The collaboration between special education teachers and social workers promoted practice that reflects the values and ideals of the social work profession. We as researchers found that social workers were eager to share their stories in their profession. The stories were living pictures of professional experiences that brought ideals to life. When special education teachers met social workers, the sharing of the stories was inspiring. Action research built a stage for the stories to come alive again. The diversity in identities and social positions generated perspectives on action research because the way the problem is defined is less partial and more holistic.

Identification of New Problems

After a year of action research as a bridge between two worlds, the problem behind the problem was uncovered and the problem had to be redefined. The low job acquisition and retention rates had a root in the curriculum design. To so many social workers in the NGO sector, intellectual disabilities are an everyday lived experience that pose great challenges to sustained employment of people with special needs. Although the special education teachers are well trained in colleges, most have the teaching position as their first job if not the only job in their lifetime. The teachers have very few working experiences in the workplaces their students are going to after graduation. Most admitted the linkages between school programs and workplace requirements were only weakly relevant if relevant at all. However, closing the gap seemed a great challenge. Social workers further confirmed the gap. Students after graduation experienced low motivation and confidence in work. Students have to be reeducated in new programs of supported employment offered by NGOs and occupational rehabilitation centers. The facts the teachers were not even aware of before.

In the next stage, teachers considered whether curricula should be enhanced and refocused on job acquisition and retention in workplaces for their alumni. With repeated training continued with daily practice, the individuals usually had more chances of getting a paid job. The problem is how to close the gap between school programs and supported employment services and make room for a smooth transition.

Interventions

Starting from 2007, social workers participating in this project were pioneers applying high-tech assistive technologies directly for people with intellectual disabilities in the process of social integration, i.e. workplace life community-based living, recreation and leisure pursuits, use of community services, or independent movement in and around the community. These high-tech assistive technologies that were developed through university-NGO collaboration (Chang, Liao, Wang and Chang, 2010; Chang et al. 2011a) include an accelerometer-based handheld system to reduce breaks in performance (Chang et al. 2011b), a Kinect-based system for physical rehabilitation (Chang et al. 2011c), and a location-based prompting system to move through simple occupational activities (Chang et al. 2011d).

The working experiences of social workers in assistive technology inspired special education teachers to redesign the pre-service program in the school. To implement curricular changes, the teachers laid out a 1-year plan. New modules of curricula were proposed one by one. For example, a new module was added to use technology to decrease the risk for victimization of individuals with intellectual disabilities as they increasingly participated in their communities, sought social inclusion, and increased autonomous functioning.

School teachers were not familiar with the new technology. Education, on-site assistance, and continuous technical support were critical for the teachers to carry out the change and make it happen. Although the participating social workers were frequent users of the technology, they were far too occupied already. To assist the techers with new technology, social workers worked in hand with the technology development team when implementing interventions. Social workers helped in the curriculum redesign process and provided consultation and advice to school teachers while the senior graduate students from the development team offered technical support either on site by appointment or remotely through telephone calls and e-mail.

To assist teachers with development of new training modules, a team of engineering students implemented software for a handheld device that was carried by students with intellectual disabilities. The device enabled individuals to respond to unexpected situations such as feeling lost by effectively using the handheld device to obtain environmental information, or call for assistance from the support network. The system was first used in community-based settings in 2008 and was included in the new curriculum in the fall semester of 2010. A small user study involving six students with intellectual disabilities made use of its performance design in exploratory, control, and longitudinal experiments. The results proved decrease risks for victimization. The experiment lasted for 1 year. In fact, experiments were planned to last for several years, so tasks of significant size and impact could be tackled. New students who join the collaboration team can work on existing projects over a multi-year span and benefit from the experiences previous team members share.

Another team introduced teachers to a task prompting system for individuals with intellectual disabilities to remain engaged in workplaces, recall task routines, and move

through vocational tasks in a way relying on limited cognitive capacity (Chang et al. 2011d). The prompting system was incorporated in the existing school pre-service program to provide antecedent cue regulation procedures that facilitated a shift in stimulus control from an individual to the system itself allowing the user more autonomous functioning. Picture prompts were used to facilitate user performance by sequentially introducing visual depictions of task steps. Recorded audio cues were also used as auditory prompts that facilitated user performance in completing targeted tasks. The system was implemented and tested involving eight individuals with intellectual disabilities. Experiments were arranged in a community-based coffee shop mainly operated by staff with cognitive disabilities. Three sets of task-analysis steps were performed and each task set had nine task steps to fill an order of desserts, beverages, and cookies. Intervention showed that the handheld device increased 40–50% in task correctness for participants.

Evaluation

These results significantly impacted on teachers' perception towards supported employment and assistive technology. Using action research allowed teachers more of an insider viewpoint and resulted in feeling more confident in their understanding of the problems and their implementations of the changes. We found that teachers became increasingly self-motivated and committed to the curricular change. In particular, action engagement in the pre-service programs gave teachers working insights into social workers' daily tasks and helped make sense of seemingly minor yet important details in providing services. Action engagement not only helped identify the common grounds of training requirements but also exposed creative conflicts in implementation priorities. Therefore, action engagement fostered an esprit-de-corps as well as an opportunity for creativity. Teachers learned that active participation of the curricular change process and the inclusion of their local knowledge had accounted for more relevant results and usable services.

By making embedded individual thoughts explicit through actions, teachers enhanced their competence and critical thinking skills while the assumed consensus was iteratively challenged. Teachers, as change makers, were no longer solely associated with the responsibility for identifying the problems to be solved; it was the responsibility of the teachers and the society to identify, define, clarify and thus prioritize the problems that existed. Working closely with social workers enabled the teachers to rework the curriculum without waiting for the outcome. Therefore, the change was not a linear process of requirement analysis, design, implementation and assessment but rather a continuous, boundary-blurred spiral process.

Conclusions

With the practice of action research methods and action engagement in particular, the project transcended into a social process with collective inquiry and community involvement across social work, public education systems and academia. Working with insiders in the public special education system thus facilitating a sharing atmosphere, the social workers and special education teachers were encouraged to create new meanings from their participation and increase social impact in perspective. Furthermore, participants achieved increased credibility and trust through action engagement in ways that brought in new possibilities to contribute to marginalized communities.

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