A study on effective utilization of vocational rehabilitation tools for diversifying disabilities

(Research report No. 164) Summary

【Summary】
The propose of this research is to organize challenges for promotion of effective utilization of "total package for promoting workplace adoption (hereinafter referred to as "TP")" in "comprehensive vocational rehabilitation services aimed to support the independent working life while receiving necessary supports and utilizing self-management skills" and to examine measures for effective utilizing of "TP". As a result of examination, we conducted as "TP" utilization promotion measures, (1) to develop "Propagating TP programs (trainings)" targeted "supporters can take advantage of theoretical knowledge of "TP" in practice", (2) to create practical case collections targeted for "motivating supporters to introduce "TP" tools", (3) to create learning materials that enable to learn about "TP" by referring for necessary information in compliance with the knowledge condition of learners and their role and function at affiliations. In the future, it will be expected that results of this research (1) through (3) are organically combined, "TP" utilization is promoted by spreading of knowledge and technique about "TP" among various employment support organizations, and it leads to ensure and increase the quality of employment support services.

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2. Research period

FY 2019 - 2021

3. Composition of the research report

Preamble - Background, purpose, and method

1st chapter - Fact-finding survey for utilization of total package ("TP")

2nd chapter - Design, develop, implement, evaluate of Propagating total package ("TP") programs

3rd chapter - Creation of practical case collections by utilizing total package ("TP") tools

4th chapter - General overview

Appendix

4. Background and purpose of the research

Research division of National Institute of Vocational Rehabilitation has developed "TP" for "comprehensive vocational rehabilitation services aimed to support the independent working life while receiving necessary supports and utilizing self-management skills" and promoted the spread of "TP" in employment support sites. The purpose of "TP" is to improve the work performance of support recipients, cope to deal with stress or fatigue caused by work continuation, and acquire of implementation steps and actions required for work adjustments according to individual disability situation and self-management skills (National Institute of Vocational Rehabilitation, 2004). In addition, Wisconsin Card Sorting Test, Makuhari memory note (hereinafter referred to as "M-memory note"), Makuhari work sample (hereinafter referred to as "MWS") simplified version, MWS training version, Makuhari stress and fatigue assessment sheet (hereinafter referred to as "MSFAS"), and group work are positioned as tools to assist "TP" practice (hereinafter referred to as "TP tools").

Compared to FY1999 at the time of "TP" development, with diversification of the occupational challenges of persons with disabilities and increase of the number of cases that are difficult to support by conventional methods, employment and life support centers for persons with disabilities and work transition support providers has established, and employment support organizations themselves have become diversified. Under these circumstances, it is desired to spread more of "TP" that can understand of disability characteristics that is hard to understand and provide supports according to the disability situations. Previous researches have also pointed out challenges in promoting the use of TP, such as the need to develop human resources who can utilize TP and to conduct training (National Institute of

Vocational Rehabilitation, 2013).

Therefore, the purpose of this research is to examine measures to promote the effective utilization of "TP".

5. Method

In this research, we envisioned educational programs that was one of the information methods for "TP" and aimed to develop it. Utilizing the concept of instructional design (hereinafter referred to as "ID") in educational technology, the survey was developed based on ADDIE model (Gagne et al., 2004; translated by Suzuki et al., 2007) that was a fundamental process of "ID". "ADDIE" is an acronym for the five processes of Analysis, Design, Develop, Implement, and Evaluate. The outline of each process is as follows.

1. Analysis: Analyze needs for educational themes and consider what kinds of knowledge, skills, and attitude should be acquired (goal) after taking programs for learners.
2. Design: Decide "what", "in what order", and "how" to teach learners. Also, develop evaluation plans for "how to measure" of learning outcomes.
3. Develop: Create actual teaching materials and tools, etc. based on designing.
4. Implement: Conduct programs using developed materials and tools.
5. Evaluate: Check if implemented programs achieve the expected purpose originally.

6. Summarized results of the study

(1) "Analyze" needs of Propagating TP programs.

For the purpose of collecting data to analyze needs of Propagating TP programs, questionnaire surveys targeted organizations that purchased MWS and M-memory note and interview surveys targeted the supporters who had knowledge about "TP" were conducted.

A: Questionnaire surveys targeted organizations that purchased "TP" tools

Surveys were conducted by email at 52 regional vocational centers for persons with disabilities during the period from August to September 2019, and by mail at 679 other organizations during the period from December 2019 to January 2020. When we asked what kind of information they would like to receive regarding "TP", there were relatively many requests from all organizations such as "effective operation methods of "TP" in employment support operations", "utilization cases of "TP"", and ""TP" utilization methods based on applied behavior analysis". When we also asked how they would like to be provided, there were relatively many requests from all organizations such as "homepage" and "training with "TP" experience".

B: Interview surveys targeted the supporters who had knowledge about "TP"

A survey (semi-structured interview) was conducted from August 2019 to November 2020 targeted 21 supporters with knowledge of "TP". As a result, the following three points were obtained.

1. Needs of information provision by trainings is high. In addition, it is necessary to have training tools that allows not only external instructors who are familiar with "TP" to provide trainings, but also staffs who are accustomed to using "TP" within the organization to become instructors and train other staffs.

2. While "TP" theory is described as difficult to understand, the validity is highly evaluated and should not be excluded from the target of information provision by training, etc. because of its difficulty.

3. There are needs to provide information on support methods that respond to changes in the image of the support target, such as support methods that take into account the motivational aspects of the support target.

C: Needs analysis based on the results of questionnaire and interview surveys

Since there were many requests for "training with "TP" experience" and "courses" as the format for providing information, Propagating TP programs were as to "trainings" that was developed in this research. As for the information contents, there were many requests for "effective operation methods of "TP" in employment support operations" and "utilization cases of "TP"", and ""TP" utilization methods based on applied behavior analysis", "TP" utilization methods were communicated based on effective operation methods of "TP" in employment support operations and applied behavior analysis in basic techniques of "TP". In addition, necessary information for trainings was published on the homepage for responding needs of organizations as many as possible.

Regarding ""TP" utilization cases" that were also highly requested, it was considered necessary to provide utilization cases in response to roles or functions of organizations that were information recipients, we created "practical case collections utilizing of total package tools" (hereinafter referred to as "practical case collections") by the typification of utilization cases from the perspective of roles and functions of organizations and published it on our homepage. However, it was impossible to develop both trainings and "practical case collections" based on "ADDIE" model with limited research period and personnel. Therefore, based on "ADDIE" models, we chose to develop Propagating TP programs that had never been developed on this research developed. (Refer to Chapter 3 of this research report for details on creating "practical case collections")

(2) "Design", "develop", "implement", and "evaluate" of Propagating TP programs

A: "Design" of Propagating TP programs

a. Setting learning goals

Learning goals were set to achieve "supporters can take advantage of theoretical knowledge of "TP" in practice" of purposes (goals) for Propagating TP programs based on needs analyzed from questionnaire and interview surveys. Specifically, research staffs extracted "TP" points indicated in National Institute of Vocational Rehabilitation (2004) and reworded them as "supportive behavior based on theoretical knowledge of "TP"" (25 items in 5 areas).

b. Curriculum determination according to learning goals

The difference in contents that should be learned by "TP" practical situation was considered, three trainings of "1st assessment", "2nd training", and "3rd self-management" were set by each practical situation, learning contents and learning goals (expected "supportive behavior based on theoretical knowledge of "TP"") were organized to correspond to each session, and contents of each session were as follows.

- "1st assessment": consists of points required for "TP" practice mainly in assessment situations of initial supports
- "2nd training": consists of points required for "TP" in medium- and long-term training situations
- "3rd self-management": consist of point required in trainings for support recipients to work autonomously and voluntarily, and commentary and case examinations regarding applied behavior analysis

Each training session was to consist of two types of learning activities: knowledge transfers through lectures and dialogue between the instructor and participants and among participants (case examinations and opinion exchange), and the time for each learning activity was determined.

c. Plans to evaluate learning outcomes

We created a logical model which is how operations of Propagating TP programs would bring outcomes and how programs would work, and evaluation indicators were set. In addition to the

following evaluation indicators, we conducted interview with trainees to obtain qualitative data for evaluation.

- Increasing supporter's motivation for "TP" implementation: understanding by satisfaction questionnaire (questionnaire asking how to utilize leaning contents in future work)

- Deepening the understanding of "TP" for supporters: understanding by acquisition tests (paper tests to confirm the knowledge operability communicated in trainings by presenting fictitious cases and asking the participants to list causes and remedies)

- "TP" sharing between supporters: understanding by satisfaction questionnaire (items to confirm of intention to share learning contents with boss and colleagues)

- Active implementation of "TP": understanding by "TP" checklist (checklists evaluated by a person in charge of organization where supporters belong and practice levels (hereinafter referred to as "practice level" of "supportive behavior based on theoretical knowledge of "TP"" by set as learning goals)

- Improvement of self-efficacy of support recipients: understanding by self-efficacy scale (Narita et al., 1995) (scales to confirm if beliefs "I am in control of my actions" (self-efficacy) was strengthen of subjects who received supports from supporters who attended trainings)

B: "Develop" of Propagating TP programs

After creating training materials in accordance with the "ARCS model" (Keller, 2010; translated by Suzuki, 2010) designing learning contents from the perspective of participants' learning motivation, we confirmed that the program flow was effectively structured from the perspective of "Gagne's Nine Events of instruction".

C: "Implement" and "evaluate" of Propagating TP programs

In this research, "implement" and "evaluate" were set as one cycle, and two cycles were conducted. The first cycle was positioned as "first evaluation period" mainly to check whether the prepared evaluation indicators and measurement methods functioned as expected. The second cycle was positioned as "second evaluation period" to evaluate learning effects of training by modifying measurement method of data based on the result of the first evaluation period.

a. Participants of Propagating TP programs and implementation period

In the first evaluation period, among the organizations that responded to the research described in 6 (1) A. Program invitations were sent to 109 organizations that responded that they could respond to inquiries from person in charge of research, and 18 persons from 15 organizations requested to participate in the programs. Programs were conducted from mid-January to early March, 2021.

The second evaluation period was the same subjects as in the first evaluation period (excluding for organizations that participated in the first evaluation period and did not receive emails). The program information was sent to 90 organizations and 17organizations that cooperated in collecting case studies of practical case collections. 34 persons from 17 organizations requested to take part in the programs.

b. Evaluation of learning effects from Propagating TP programs

- The following indicated that "increasing supporter's motivation for "TP" implementation", "deepening the understanding of "TP" for supporters", ""TP" sharing between supporters", and "active implementation of "TP"" could be expected by implementing of Propagating TP programs.

- Increasing supporter's motivation for "TP" implementation: more than 90% of participants answered "I will reflect what I have learned in my work" in satisfaction questionnaire,

several participants also reported "increased motivation for "TP" implementation" in free descriptions. In addition, the interview surveys confirmed that there were organizations that consider ""TP" introduction" and "expansion of support services utilizing "TP"".

- Deepening the understanding of "TP": as a result of analyzing the change in the mass of knowledge for "TP" by the acquisition tests, there were some participants who improved the accuracy of analysis based on applied behavioral analysis after programs. In addition, it was confirmed that there were multiple participants who understood the significance of supports based on applied behavior analysis that was the basic technique of "TP" in free descriptions of satisfaction questionnaire. In addition, some participants reported that they became more aware of background factors of their behavior based on applied behavior analysis in interview surveys.

- "TP" sharing between supporters: more than 90% of participants answered "share learned contents with boss and colleagues" in satisfaction questionnaire, there were participated organizations that conducted "sharing of training contents in organizations" in interview surveys and occurred "propagation of attitudes in feedback."

- Active implementation of "TP": the practice level of "TP" checklists was significantly higher after programs than before. In addition, the practice level of items corresponding to learning contents reported in free descriptions of satisfaction questionnaires was improved for some of the participants.

- Improvement of self-efficacy of support recipients: evaluation could not be performed because there was no sufficient number of data secured.

"Presentation slides" used in programs and "instructor's guide" that summarizes the explanation points of presentation slides were published on the homepage so that Propagating TP programs could be implemented at local employment support organizations. Furthermore, "learning effect measurement tools" (consisting of satisfaction questionnaire, acquisition tests, and "TP" checklists) to evaluate learning effects was posted on "total package learning tests and Propagating TP program instructor's guide" that was deliverable of this research with "instructor's guide".

In addition, it was pointed out the documentation needs of materials that was able to combine necessary information sources according to knowledge conditions of learners and their role and function at affiliations in the process of Propagating TP programs development, learning texts for "TP" were created, and posted on "total package learning tests and Propagating TP program instructor's guide" that was deliverable of this research (Refer to Chapter 4, Section 1 of this research report for details on creating learning texts.)

(3) Conclusion

The purpose of this research was to organize challenges for promoting utilization of "TP", and consider measures of promoting utilization that "TP" could be utilized effectively. As a result of examination, we conducted as utilization promotion measures, (1) development of Propagating TP programs targeted "supporters can take advantage of theoretical knowledge of "TP" in practice", (2) creation of practical case collections targeted for "motivating supporters to introduce "TP" tools", (3) creation of learning materials that enable to learn by referring for necessary information in compliance with knowledge conditions of learners and their role and function at affiliations. In the future, it will be expected that above measures (1) through (3) are organically combined, "TP" utilization is promoted by spreading of knowledge and know-how for "TP" among various employment support organizations, and it leads to ensure and increase the quality of employment support services.
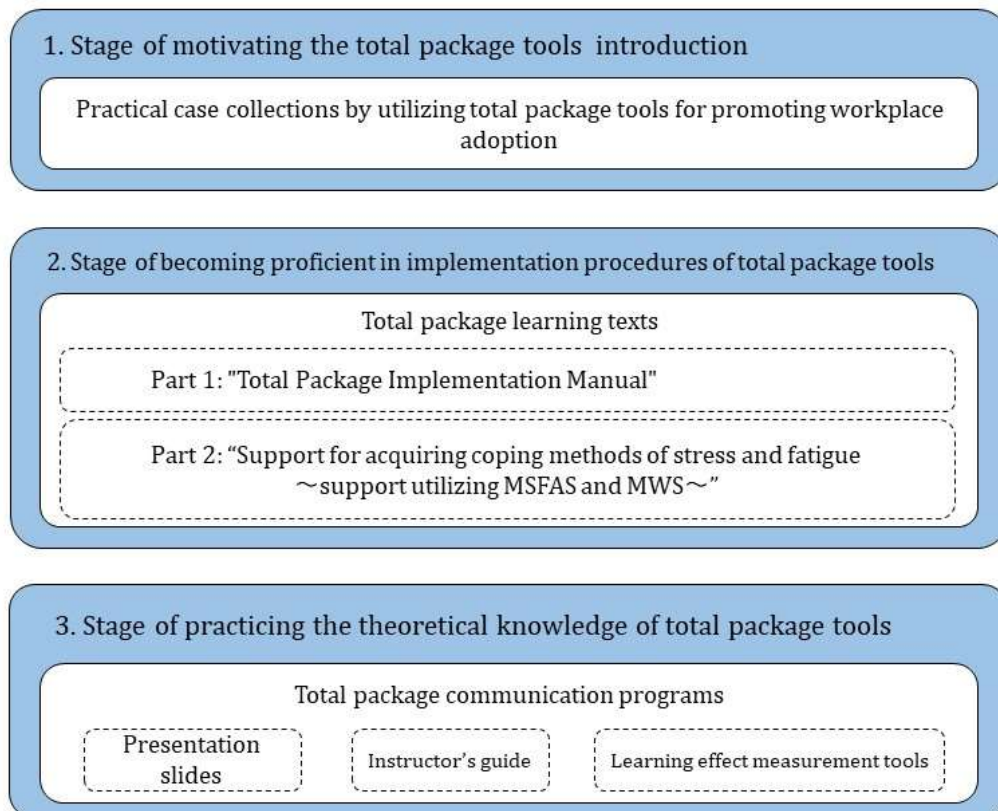
1. Stage of motivating the total package tools introduction

Practical case collections by utilizing total package tools for promoting workplace adoption

2. Stage of becoming proficient in implementation procedures of total package tools

Total package learning texts

Part 1: "Total Package Implementation Manual"

Part 2: "Support for acquiring coping methods of stress and fatigue ～support utilizing MSFAS and MWS～"

3. Stage of practicing the theoretical knowledge of total package tools

Total package communication programs

Presentation slides

Instructor's guide

Learning effect measurement tools

Chart: Correspondence between learning stage of "TP" and deliverable of this research

7．Related research products

・Total package learning texts/Propagating TP program instructor's guide, 2022

・Practical case collections by utilizing total package tools for promoting workplace adoption, 2022

・Basic survey for revision of Makuhari work sample (MWS) responding to diversification of disabilities, material series No.72,2013

・Comprehensive research (final report) for vocational rehabilitation techniques centered person with mental disabilities, research report No. 57,2004

Total package learning
texts/Propagating TP program
instructor's guide

Practical case collection by
utilizing total package tools for
promoting workplace adoption

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