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A Study to Evaluate the Usability of Online Practice Content for Care Service Disability Support Workers and Derive Improvement Plans

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ABSTRACT

The purpose of this study is to derive the usability and improvement plans for the online practice content developed to improve the professional practical skills of disability support workers in the community. For the study, a survey was conducted from March 1 to March 30, 2024 targeting 8 disability support workers and mid-level managers in institutions where online practice content lectures are operated, and improvement measures were derived by analyzing the importance and utilization. As a result of the analysis, the task with the highest average value was walking assistance in Set 1 (physical disability, brain damage, epilepsy) at 4.36, other emergency response in Set 2 (intellectual, autism, mental) at 4.32, other emergency response in Set 3 (kidney, heart, liver, respiratory, language, ostomy, urinary, face) at 4.13, and walking assistance in Set 4 (hearing, vision) at 4.40. At the end of this study, a qualitative study on learners' responses, learning, and behavioral changes was conducted, and based on these results, suggestions were made for the use of online practice content that can be used by more systematic disability support workers, and additional research was proposed.

1. Introduction

As the disabled population continues to increase, the recent National Survey on the Status of Disabled Persons in Korea (2018) showed that the disabled population reached 2,517,000, which is 5% of the total Korean population (Choi & Cho, 2023). Meanwhile, as the welfare paradigm for the disabled goes beyond deinstitutionalization and emphasizes independent living, the number of disabled people living in the community is increasing(Sim, 2017). Accordingly, the demand for welfare services for the disabled related to living in the community is also diversifying, and above all, the importance of care services required in daily life is being emphasized (Jung, Jeon, & Choi, 2019). In addition, the disability grade system, which includes care services for the disabled, was abolished in 2019. Accordingly, the application qualification for activity support services, which

had previously been limited to disability grades 1 to 3, is now given to all disabled persons(Lee & Lee, 2020). Therefore, the demand for activity support services for the disabled living in the community is expected to increase further (Jung & Seon, 2023).

As the ultimate goal of welfare for the disabled, social integration, is realized in the form of independent living, the importance of activity support services is increasing, and the qualitative improvement of activity support services for the disabled is being emphasized, and interest in the role, capacity, and qualifications of activity support workers is increasing (Kang & Kim, 2013). Currently, in order to obtain qualifications as an activity support service provider, one must complete a training course including practical training (Kang & Kim, 2013). However, there are many opinions that field training in practical education is insufficient as a practical training focused on learning activity support services systematically (Kang & Kim, 2013; Lee & Kim, 2010). In particular, in order for activity support services for the disabled to support the daily lives and social participation of the disabled, situation-specific practical training that matches the type of disability is required. However, 10 hours of field training time is not only insufficient, but also has the limitation that only service training for a single type of disability is possible (Jung & Seon, 2023; Lee & Shin, 2023). This phenomenon is evaluated as insufficient compared to the training course for long-term elderly care services that provide community care services for the elderly.

Like nursing assistants, disabled activity support workers provide services to people who are marginalized in society. Previous researches have explored various methods for supporting the work and activities of nursing assistants. However, although there have been some studies related to the rights and interests of service providers for disability support workers, there has been no research on the activity support areas divided in detail by type of disabled person. In addition, the scope of research is limited to the acquisition of theoretical knowledge, so education and research for practical skill acquisition and field application are necessary. Meanwhile, since COVID-19, the possibilities for activities and education for service providers who require actual contact with people have become narrower. For this reason, it is worth considering utilizing online content that can transcend time and space, which has become widespread since COVID-19, as a medium for providing practical content for disabled activity support workers.

In order to solve these problems, it is necessary to strengthen practical training centered on practice that can more effectively support the independent living of the disabled and provide specialized disabled activity support services. In this context, online practical training content that supports the daily life and social participation of the disabled (hereinafter, disabled care services) was developed in 2022 and 2023. The purpose of this study is to conduct a comprehensive analysis of the necessity and utilization of online practice content for disability support workers developed and distributed for educational purposes, including the need for additional practical practice.

The results of the study will be used as basic data for operating a practical education program for professional and systematic disabled activity support services. Furthermore, the study aims to contribute to improving the quality of life of disabled people by improving the professional capabilities of disability support workers in activity support services.

2. Method

2.1 Research subjects

This study recruited participants by explaining the purpose of the study to organizations for disabled people who operated online practice content for disabled people care services that had already been developed. After obtaining IRB approval from Konyang University (Approval NO: 2024-01-010-001), a survey was conducted targeting 8 middle managers among disabled people support workers who expressed their willingness to participate in this study.

2.2 Composition of online practice content

Online practice content for field application of disabled activity assistants was organized by deriving responsibilities and tasks by disability type. Disability types were classified into four types: Set 1 (physical disability, brain damage, epilepsy), Set 2 (intellectual, autism, mental), Set 3 (kidney, heart, liver, respiratory, language, ostomy, urinary, face), and Set 4 (hearing, vision). Accordingly, the responsibilities of disabled activity assistants were organized into support for regular activities, emotional labor management, safety measures, and social activity support. As for detailed tasks, 35 contents were developed, divided into conversation, walking, program activity support, appropriate response and communication techniques for violent users, coping techniques by stage and type of violence, requesting help in emergency situations, things to keep in mind when visiting homes and in person, risk detection, outing support, communication support with outsiders. Overall, the running time of each content was set to approximately 25 minutes, and each content was structured as follows: motivation - presentation of learning objectives - main learning - application to the field - summary and formative evaluation.

The table 1 below is the composition of the practical content developed for disability support workers. There are a total of 35 contents, but individual indexes were utilized so that learners can learn according to their needs. The content development staff consists of two nursing professors, two disabled support specialist professors, and two behavioral and psychological rehabilitation experts. Since the running time is approximately 25 minutes, it is expected that it will take about 2 weeks to learn overall.

Table 1. Composition of practice content developed for disabled disability support workers

Responsibility	Task	Disability types	Number of contents
support for regular activities,	conversation	Set 1, Set 2, Set 3, Set 4	12
	walking	Set 1, Set 2, Set 3, Set 4	
	program activity support	Set 1, Set 2, Set 3, Set 4	
emotional labor management	appropriate response and communication techniques for violent users	Set 1, Set 2, Set 3, Set 4	8
	coping techniques by stage and type of violence	Set 1, Set 2, Set 3, Set 4	
safety measures	requesting help in emergency situations, things to keep in mind when visiting homes and in person, risk detection	Set 1, Set 2, Set 3, Set 4 Set 1, Set 2, Set 3, Set 4	8
social activity support	outing support	Set 1, Set 2, Set 3, Set 4	6
	communication support with outsiders	Set 3, Set 4	

*Set 1 (physical disability, brain damage, epilepsy), Set 2 (intellectual, autism, mental)
Set 3 (kidney, heart, liver, respiratory, language, ostomy, urinary, face), Set 4 (hearing, vision)

2.3 Research tools

In order to derive a plan to improve the utilization of online practice content for disability support workers, the questionnaire consisted of 11 questions related to the operation of care service practice education, 45 questions asking about the importance and utilization of practice content, and the extent to which additional field practice is needed, 7 questions on general characteristics, and 15 qualitative questions on learners' responses, learning outcomes, and behavioral changes after learning through practice content. The 15-item questionnaire on the learner's post-learning response, learning, and behavioral changes was organized according to the purpose of the study according to Kirkpatrick's four-step evaluation model. The results according to the questionnaire items are presented in Table 2 for the 7 questions asking for general information, Table 3 to Table 7 for the questions asking about the importance, usability, and additional necessity of the practice content, and Table 8 for the results on additional response, learning, and behavioral changes.

2.4 Data analysis

SPSS 22 was used as the statistical program, and frequency analysis and descriptive statistics were conducted. The responses collected from qualitative questions were used to create a semantic network to examine how the co-occurrence relationship between words that frequently appeared in unstructured data on changes in skills, attitudes, and knowledge after learning care service online practice content appeared and how the words were connected. This study utilized R version 4.3.3 for analyzing unstructured Korean text data. For the unstructured Korean data, KoNLP (Korean natural language processing in Python) was used, and the SimplePos22 function, which divides the words in the sentence into 22 parts of speech for morphological analysis and tokenization, and useNIADic were used for processing the morphological dictionary. For the data analysis, nouns, verbs, and adjectives were extracted, terms such as articles and particles were deleted, and synonyms were processed to refine the data.

2.5 Data visualization

Key words were extracted from the unstructured survey data, and visualized using degree centrality, which indicates how closely the words are connected to other words, and communities, which indicate groups of nodes that are frequently connected due to close relationships between words.

In order to understand the context in which the words were used together as a visualization procedure, the frequency of co-occurrence was calculated using pairwise_count of the widyr package. Then, by extracting words that were used together at least twice in the unstructured data and expressing the co-occurrence network graph, variables were added using centrality_degree, which calculates the degree of connection centrality in the tidygraph package, and group_infomap, which finds communities (Ko, Jeon, & Song, 2023). This study utilized R version 4.3.3 for analyzing unstructured Korean text data. For the unstructured Korean data, KoNLP (Korean natural language processing in Python) was used, and the SimplePos22 function, which divides the words in the sentence into 22 parts

of speech for morphological analysis and tokenization, and useNIADic were used for processing the morphological dictionary. For the data analysis, nouns, verbs, and adjectives were extracted, terms such as articles and particles were deleted, and synonyms were processed to refine the data.

3. Research result

3.1 General characteristics of the research subjects

The study subjects consisted of a total of 8 people, 62.5% were female, 58.3% were between 50 and 59 years old, 57.1% had less than 5 years of experience, 62.5% held only one disability activity support certificate, 85.7% had 5 to 10 years of work experience, 62.5% were middle managers, and the average length of employment was 7.02±4.77 years (Table 2).

Table 2. General characteristics of the research subjects

Characteristics	Division	N	%
Sex	Male	3	37.5
	Female	5	62.5
Age	40-49 years	1	12.5
	50-59 years	6	75.0
	≤ 60 years	1	12.5
experience	1 year - 4 years 11 months	4	57.1
	5 years - 9 years 11 months	3	42.9
Status of qualifications held	Disability activity support worker	5	62.5
	Disability activity support worker, social worker	1	12.5
	Disability activity support worker, nursing care worker	1	12.5
	Disability activity support worker, youth activity support worker, youth counselor	1	12.5
Work experience	1 year - 4 years 11 months	1	14.3
	5 years - 9 years 11 months	6	85.7
Position	Business manager	3	37.5
	Middle manager	5	62.5
Average tenure (average)		7.02±4.77년	

3.2 Need for online practice content for care services, degree of utilization, and need for additional field practice

3.2.1 Physical, brain, and epileptic disorders

The 1st priority for the responsibility of the need for practice content, degree of actual utilization in the field, and degree of need for additional field practice in physical, brain, and epileptic disorders

was physical activity support, which was the highest at 4.28±0.59, followed by emergency response, health management, hygiene activity support, and housework support. When looking at the 1st priority task for each responsibility, walking assistance was the highest at 4.36±0.48 in physical activity support, 'response to falls' and 'response to other emergency situations' in emergency response, 'assistance with rehabilitation exercise' in health management, 'bathing assistance' in hygiene activity support, and 'meal preparation' in housework support (Table 3).

Table 3. Need for practical content, degree of actual use in the field, and degree of need for additional field practice

*unit: mean ± standard deviation

Responsibility	Task	Necessity	Usage	Need for additional field training	Total (average)	Task ranking	Resp-ranking
Physical activity support	Walking assistance	4.50±0.53	4.43±0.53	4.14±0.38	4.36±0.48	1	1
	Wheelchair mobility assistance	4.50±0.53	4.43±0.53	4.00±0.58	4.31±0.55	2	
	Toilet use assistance	4.38±0.74	4.29±0.76	3.86±0.69	4.17±0.73	3	
					4.28±0.59		
Emergency response	Fall response	4.63±0.52	4.14±0.90	3.86±0.69	4.21±0.70	1	2
	Other emergency response	4.63±0.52	4.14±0.90	3.86±0.69	4.21±0.70	1	
	Convulsions assistance	4.50±0.76	3.86±1.21	3.71±0.76	4.02±0.91	2	
					4.15±0.77		
Health management	Rehabilitation exercise assistance	4.25±0.46	4.14±0.69	4.00±0.58	4.13±0.58	1	3
	Preventing bedsores	4.25±0.71	4.14±1.07	4.00±0.82	4.13±0.87	2	
	Medication assistance	3.88±0.83	3.86±1.07	3.57±0.98	3.77±0.96	3	
					4.01±0.80		
Hygiene activity support	Bathing assistance	4.13±0.83	4.00±0.82	3.71±0.95	3.95±0.87	1	4
	Washing hair	4.00±0.93	4.00±0.82	3.71±0.95	3.90±0.90	2	
	Oral hygiene assistance	4.00±0.93	4.00±0.82	3.71±0.95	3.90±0.90	2	
					3.92±0.89		
Housework support	Meal preparation	3.75±1.04	3.71±0.95	3.67±0.82	3.71±0.93	1	5
	Food and utensil hygiene management	3.75±0.89	3.57±0.98	3.50±0.84	3.61±0.90	2	
	Cleaning	3.43±0.98	3.33±0.82	3.20±0.45	3.32±0.75	3	
					3.55±0.86		

3.2.2 Intellectual, autistic, and mental disabilities

In terms of the need for practical content in intellectual, autistic, and mental disabilities, the degree of actual use in the field, and the degree to which additional field training is needed, the first priority of the responsibility was emergency response, which was the highest at 4.19±0.73. This was followed by physical activity support, health management, hygiene activity support, and housework support. Among each responsibility, the first priority of the task was 'Other emergency response' in emergency response, which was the highest at 4.32±0.63, followed by 'Walking assistance' in physical activity support, 'Medication support' in health management, 'Bathing assistance' in hygiene activity support, and 'Meal preparation' in housework support (Table 4)

Table 4. Importance of practical content, degree of actual use in the field, and degree of need for additional field training

*unit: mean ± standard deviation

Responsibility	Task	Necessity	Usage	Need for additional field training	Total (average)	Task ranking	Resp-ranking
Emergency response	Other emergency response	4.50±0.53	4.57±0.53	3.88±0.83	4.32±0.63	1	1
	Fall response	4.29±0.76	4.13±0.83	3.75±0.89	4.05±0.83	2	
					4.19±0.73		
Physical activity support	Walking assistance	3.88±0.99	4.00±0.82	3.71±0.76	3.86±0.85	1	2
	Toilet use assistance	3.50±0.93	3.57±0.79	3.14±0.38	3.40±0.70	2	
					3.36±0.78		
Health management	Medication assistance	3.63±0.92	3.63±1.06	3.50±0.93	3.59±0.97	1	3
Hygiene activity support	Bathing assistance	3.75±0.71	3.57±0.53	3.43±0.53	3.58±0.59	1	4
	Washing hair	3.75±0.71	3.57±0.53	3.43±0.53	3.58±0.59	1	
	Oral hygiene assistance	3.75±0.71	3.38±0.52	3.29±0.49	3.47±0.57	3	
					3.54±0.54		
Housework support	Meal preparation	3.38±0.92	3.13±0.64	3.25±0.46	3.25±0.67	1	5
	Food and utensil hygiene management	3.38±0.92	3.13±0.64	3.25±0.46	3.25±0.67	1	
	Cleaning	3.38±0.92	3.13±0.64	3.25±0.46	3.25±0.67	1	
					3.25±0.67		

3.2.3 Kidney, heart, liver, and respiratory disorders, speech disorders, ostomy and urinary disorders, facial disorders

In terms of the need for practical content, the degree of actual use in the field, and the degree

to which additional field practice is needed in kidney, heart, liver, and respiratory disorders, speech, ostomy and urinary disorders, and facial disorders, the first priority for responsibility was emergency response, which was the highest at 4.13±0.78. This was followed by physical activity support and household activity support. Among each responsibility, the first priority for tasks was 'Other emergency response' in emergency response, which was the highest at 4.13±0.78, followed by 'Walking assistance' in physical activity support, and 'Food and tableware hygiene management' in household activity support (Table 5).

Table 5. Importance of practical content, degree of actual use in the field, and the degree to which additional field practice is needed

*unit: mean ± standard deviation

Responsibility	Task	Necessity	Usage	Need for additional field training	Total (average)	Task ranking	Resp-ranking
Emergency response	Emergency response	4.38±0.74	4.14±0.90	3.86±0.69	4.13±0.78	1	1
Physical activity support	Walking assistance	3.88±0.99	3.57±0.79	3.43±0.79	3.63±0.85	1	2
	Wheelchair mobility assistance	3.88±0.99	3.57±0.79	3.43±0.79	3.63±0.85	1	
					3.63±0.85		
Housework support	Food and utensil hygiene management	3.88±0.99	3.57±0.79	3.29±0.95	3.58±0.91	1	3
	Meal preparation	3.75±0.89	3.43±0.53	3.14±0.69	3.44±0.70	2	
	Cleaning	3.63±0.74	3.43±0.53	3.14±0.69	3.40±0.66	3	
					3.47±0.76		

3.2.4 Hearing and visual impairment

In terms of the need for practical content in hearing and visual impairment, the degree of actual use in the field, and the degree to which additional field practice is needed, the 1st priority for responsibility was physical activity support, which was the highest at 4.38±0.77. This was followed by emergency response, household activity support, hygiene activity support, and health management. Among each responsibility, the 1st priority task was 'walking assistance' in physical activity support, which was the highest at 4.40±0.73, followed by 'emergency response (auditory/visual)' in emergency response, 'cleaning (visual only)' in household activity support, 'bathing assistance' in hygiene activity support, and 'medication assistance (visual only)' in health management (Table 6).

Table 6. Importance of practical content, degree of actual use in the field, and degree of need for additional field practice

*unit: mean ± standard deviation

Responsibility	Task	Necessity	Usage	Need for additional field training	Total (average)	Task ranking	Resp-ranking
Physical activity support	Walking assistance (auditory/visual)	4.50±0.76	4.57±0.53	4.14±0.90	4.40±0.73	1	1
	Toilet use assistance (visual only)	4.50±0.76	4.43±0.79	4.14±0.90	4.36±0.81	2	
					4.38±0.77		
Emergency response	Emergency response (auditory/visual)	4.75±0.46	4.00±0.82	4.00±1.00	4.25±0.76	1	2
	Fall response (visual only)	4.63±0.74	4.00±0.82	3.86±0.90	4.16±0.82	2	
					4.21±0.79		
Housework support	Cleaning (visual only)	4.00±0.93	3.86±0.90	3.43±1.13	3.76±0.99	1	3
	Meal preparation (visual only)	3.88±0.83	3.71±0.76	3.29±0.95	3.63±0.85	2	
	Food and utensil hygiene-management (visual only)	3.88±0.83	3.71±0.76	3.29±0.95	3.63±0.85	2	
					3.67±0.90		
Hygiene activity support	Bathing assistance (visual only)	3.88±0.64	3.71±0.49	3.43±0.53	3.67±0.55	1	4
	Washing hair (visual only)	3.75±0.71	3.57±0.53	3.29±0.49	3.54±0.58	2	
	Oral hygiene assistance (visual only)	3.75±0.71	3.57±0.53	3.29±0.49	3.54±0.58	2	
					3.58±0.57		
Health care	Medication taking assistance (visual only)	3.63±0.74	3.29±0.49	3.14±0.69	3.35±0.64	1	5

3.3 Care service practice training operation

All survey respondents recognized the necessity of care service practice training. Respondents considered the educational content (50%) and educational method and form (50%) as the most important components for teaching and learning. Respondents said that the necessary institutions for expanding education should be conducted at affiliated institutions (50%), and the appropriate average number of students enrolled and average class hours were 10.75±8.55 and 8.88±12.08 hours, respectively. The preferred education cycle was 1 year (50%), and 75% of respondents answered that education operation was necessary at affiliated institutions, and 87.5% were willing to participate in the program. The utilization rate of the first-year practice training content was average at 75%, and 62.5% of participants were satisfied with the content (Table 7).

Table 7. Opinions on the operation of online practical training for care services

Contents		N	%
Need for education	Implementation required	8	100
	Implementation unnecessary	0	0
Important teaching and learning components	Training content	4	50.0
	Training method and form	4	50.0
Desired learning method	On-site lecture	3	37.5
	Lecture + experience	4	50.0
	Workshop	1	12.5
Institution for expanding education	Affiliated organization	4	50.0
	Educational institution such as school, lifelong education center	1	12.5
	National Health Insurance Corporation	2	25.0
	Other	1	12.5
Appropriate average number of students enrolled		10.75±8.55	
Appropriate average lecture time		8.88±12.08	
Education cycle	3 months	2	25.0
	1 months	1	12.5
	1 year	4	50.0
	Anytime	1	12.5
Need for education operation at affiliated institution	No	1	12.5
	Average	1	12.5
	Yes	6	75.0
Utilization of 1st year practical education content	No	1	12.5
	Average	6	75.0
	Yes	1	12.5
Satisfaction with 1st year practical education content	Average	3	37.5
	Yes	5	62.5
Willing to participate in program	Average	1	12.5
	Yes	7	87.5

3.4 Qualitative study on learners' responses, learning, and behavior changes after studying the care service practice education program

The first priority among the surveys on learners' responses, learning, and behavior changes after studying the care service practice education program was satisfaction with the content, which was high at 4.00±0.53 (based on a 5-point scale), and there were opinions that some aspects lacked realism and that users' educational practice was important. The second priority was the effectiveness of the instructor's lecture content delivery, which was 3.87±0.35 (based on a 5-point scale), and there were opinions that simply watching it on a screen had its limitations. The third priority was the appropriateness of the amount of learning covered in the program, which was 3.75±0.46 (based on a 5-point scale), and there were opinions that it was okay in terms of quantity and that it was a sufficient amount to learn in extra time. The 4th place was the level of institutional support

for operating a practical training program, with 3.71±0.76 points (based on a 5-point scale), and there was an opinion that it is impossible for many applicants to apply for the program because it is conducted during non-matching times. The 5th place was the level of improving care service capabilities after completing learning, with 3.62±0.52 points (based on a 5-point scale), and there were opinions that it is a little helpful for field application (2 cases), and that it is not clear whether it has improved because the scope of application is small (1 case). The 6th place was the institutional request for activating education operation, with 3.57±0.53 points (based on a 5-point scale), and there was an opinion that regular face-to-face education and changes in the mandatory education system are necessary. The 7th place was 3.50±0.53 (based on a 5-point scale) for the extent to which the program content is helpful in solving problems in the field, and there were opinions that it is usefully applied when similar behaviors occur, such as multi-faceted approaches, information on various types of disabilities, and precautions according to the health and disability status of users (5 cases), and that it should be accompanied by practice, and that it is theory-centered and lacks the application aspects necessary for the field (2 cases). The 8th place was 3.50±0.58 (based on a 5-point scale) for the extent to which the program forms a network with other organizations, and there was an opinion that the educational institutions are diverse and sufficient to form a network (1 case). The satisfaction survey after other practical training was 3.33±0.58 (based on a 5-point scale), the degree of hiring professional instructors was 3.00±0.00 (based on a 5-point scale), the degree of utilization of the satisfaction survey results was 3.00±0.00 (based on a 5-point scale), and the strategy for activating cooperation with local governments and other organizations was 3.00±1.00 (based on a 5-point scale). There were opinions that practical training through dispatched training and continuing education hours was necessary (2 cases) (Table 8).

Table 8. Importance of practical content, degree of actual use in the field, and degree of need for additional practical training

*unit: mean ± standard deviation

Survey items	Change Degree	Rank
Are you satisfied with the content of the content?	4.00 ± 0.53	1
Did the instructor appropriately lead the learners' participation?	3.87 ± 0.35	2
Was the amount of content covered in the program appropriate?	3.75 ± 0.46	3
Is the institution's support for the operation of the care service practice training program well-functioning?	3.71 ± 0.76	4
To what extent has the care service capability improved after completing the program?	3.62 ± 0.52	5
Are there any requests for manufacturing support for the activation of the care service practice training operation?	3.57 ± 0.53	6
How helpful was the program content in solving problems on the ground?	3.50 ± 0.53	7
Are there any networks formed with other institutions for the operation of the care service practice training program?	3.50 ± 0.58	8
Did the instructor appropriately lead the learners' participation?	3.50 ± 0.76	9
Do you conduct a satisfaction survey after the care practice training?	3.33 ± 0.58	10
Are you recruiting specialized instructors for the care practice training well-functioning?	3.00 ± 0.00	11
How do you utilize the results of the satisfaction survey after the care practice training?	3.00 ± 0.00	11
Are there any effective strategies that you have implemented or would like to implement to activate cooperation and collaboration with local governments and other institutions?	3.00 ± 1.00	12

3.5 Changes in skills, attitudes, knowledge, and actual work after studying the online practice content for care services

After studying the online practice content for care services for disability support workers, the researcher created a semantic network to check the co-occurrence relationship between words that frequently appeared in the unstructured data on changes in skills, attitudes, and knowledge. The results are as follows. When examining the results and contents of the top five co-occurring words, the combinations of words such as ‘become’-‘many things’ (8 times), ‘education’-‘user’ (7 times), ‘user’-‘become’ (7 times), ‘application’-‘site’ (6 times), and ‘content’-‘user’ (6 times) appeared. These results show that the use of online practice content for care services affects changes in perceptions of learners and the site. Next, the nodes with high degree of centrality in the network graph were ‘education (64)’, ‘field (44)’, ‘become (36)’, ‘education (32)’, and ‘many (26)’ in that order. [Figure 1] visualizes these results as a semantic network.

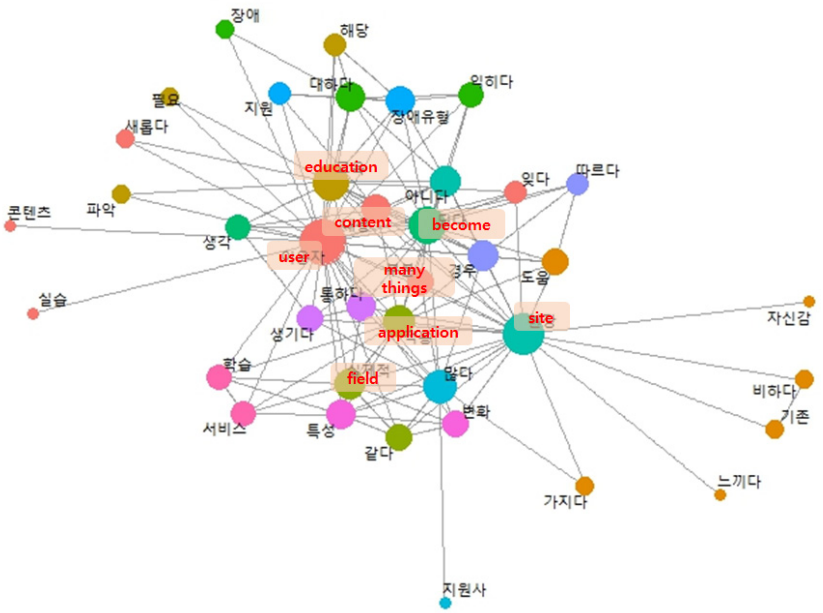

Fig. 1. Representation of degree centrality and community in network graph

4. Discussion and Conclusion

The importance, utilization, and need for additional field training for online practice content for support services for the disabled were analyzed. As a result of the analysis, in the online practice content of Set 1 (physical disability, brain damage, epilepsy), walking assistance in physical activity support was the highest at 4.36, and cleaning in housework support was the lowest. In Set 2 (intellectual, autism, mental), other emergency response in emergency response was the highest at 4.32, and

housework support was the lowest at 3.25. In Set 3 (kidney, heart, liver, respiratory, language, ostomy, urinary, face), other emergency response was the highest at 4.13, and cleaning in housework support was the lowest at 3.40. In Set 4 (hearing, vision), walking assistance in physical activity support was the highest at 4.40, and medication support in health management was the lowest at 3.35.

In addition, a qualitative analysis was conducted on the changes in learners' responses, learning, and behavior after studying the online practice content. The ranking of high-scoring items was 'Are you satisfied with the content of the online content?', 'Was the instructor's lecture content delivered effectively?', and 'Was the amount of content covered in the program appropriate?'. The ranking of low-scoring items was 'Are you recruiting specialized instructors for care practice education going well?', 'Are you utilizing the results of the satisfaction survey after the practice education?', and 'Are there any efficient strategies that have been implemented or should be implemented to activate cooperation with local governments and other organizations?'.

The results of the analysis of unstructured data showed that 'users', 'site', 'becoming', and 'education' had high connection centrality. These results showed that 'education' had a high degree of connection because it was composed of content for the site or service users.

This study analyzed online practice content developed and distributed based on high interest in improving the quality of activity support services, which are care services for the disabled, and strengthening the capacity of activity support workers, as all types of disabilities have become eligible for activity support services since the abolition of disability grades in 2019.

In this study, the following are the discussions on the results of the survey conducted and analyzed by dividing them into internal and external physical disabilities and mental disabilities. First, there is a discussion on how to establish an education system for online practice content that was analyzed as being highly important and useful for the lives of the disabled. In a survey targeting field workers who currently provide activity support services for the disabled, the content that received high scores is content that has limitations in learning through theoretical education. Specifically, in Set 1, walking assistance for the physically disabled was analyzed to have the highest score, and it was analyzed that professional practical education on walking assistance is important in cases of lower limb paralysis, wheelchairs, and brain damage with spasticity. Therefore, based on these results, there should be discussions on developing an education system on how to provide education in training and operating institutions. Second, research on disabled care in Korea has been limited to the necessity of care, socialization of care, and the role of activity support workers as care providers, and research on improving the quality of activity support services has been insufficient [9]. Therefore, since this study verified the effectiveness of the online care content developed and sought a direction for development to enhance the capacity of activity support workers, it should be possible to develop an education system that reflects this.

The limitations of this study are that the developed practice content is only used as educational materials in some regions, and the analysis of importance and utilization was conducted in a relatively narrow range. In additional research, it should be possible to specifically seek ways to utilize the practice content to improve the quality of activity support services, including the training course for disability support workers.

5. Implications

Based on the results of this study, the following are ways to utilize online practice content for disability support workers. First, it can improve accessibility to practice. Through online practice content, activity support worker applicants can participate in practice anytime and anywhere, thereby expanding opportunities for practice. Second, customized learning by disability type can be made possible. By developing online practice modules specialized for each disability type, disability support workers can develop expertise in specific disabilities. Third, it is possible to reduce practice time and costs. Online practice can reduce the burden on practice institutions and reduce the burden of education costs. Fourth, it is possible to provide continuous education, and since additional education can be received online while working as a disability support worker, it can be expanded as continuing education that can improve service quality. Lastly, the utilization of online practice content derived from this study can be developed into simulation-based learning that can provide practical experience in various situations by utilizing virtual reality or augmented reality technology. It is expected that the measures derived from this study will be able to apply online content to the field to improve the quality of education for disability support workers, improve the efficiency of the practical training process, and ultimately enhance the quality of services provided to the disabled.

Notes

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Conceptualization: JW Kim; Data collection and analysis: DY Choi; Writing original draft: DY Choi; Writing-reviewing & editing: Jw Kim

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Conflicts Interest

No author has any other conflict of interest to declare.

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